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OCCASIONAL PAPER 03

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A survey of citizen-based surveys conducted by provincial and local government in Gauteng

Conducted for the Gauteng City-Region Observatory (GCRO)

by Ross Jennings

October 2012

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Introduction

Purpose

The Gauteng City-Region Observatory (GCRO) contracted Ross Jennings of African Essentials to conduct a survey of citizen-based surveys undertaken at provincial and local government level in Gauteng in order to understand the efficiencies at play with different role players conducting similar exercises at similar points in time.

Methodology

The first step was to conduct a mini-survey of all provincial departments and local government municipalities to establish whether they have conducted citizen-based surveys in the past three years – these surveys include client/customer satisfaction surveys, quality of life surveys and other specific service user type surveys. This initial mini-survey was done through web-based searches, document review and telephonic inquiries.

Based on the information gathered from this mini-survey, a specific time period of 2008 to 2010 was decided on for more detailed analysis of these surveys. This detailed analysis focused on:

- the costs incurred,
- the sampling methodology employed,
- quality control measures in place, and
- the instruments used and demographic data collected.

Overall situation

Based on the information provided, the mini-survey unearthed the following surveys across provincial and local government departments in Gauteng:

Table 1: Mini-survey of all surveys commissioned by provincial and local government in Gauteng

	Pre-2008	2008 - 2010	Planned for 2011
Provincial Government			
Office of the Premier		Annual Perceptions survey 2008/09/10	
Agriculture and Rural Development		Client Satisfaction survey 2009	
Community Safety		Community Police Forum (CPF) baseline study 2008	
		Victim Satisfaction study 2010	
Economic Development		Business Survey 2009	
Education	Various annual surveys of schools	Customer Satisfaction survey 2010	
Finance	Annual Customer Satisfaction survey from 04/05 - 08/09 (internal users only)		

Health and Social Development		Annual Client Satisfaction survey 2008/09/10	
Infrastructure Development	No surveys undertaken		
Local Government and Housing	Citizens Satisfaction survey 2005		
	Business and Citizens Satisfaction survey 2007		
Roads and Public Transport	Transport survey 2002		Transport survey
Sports, Arts, Culture and Recreation			Customer Satisfaction survey
Local Government			
City of Johannesburg		Annual Customer Satisfaction survey 2008/09/10	Transport survey - Transportation Department
City of Tshwane		Household survey 2008 (City Planning)	Household survey (City Planning)
		Customer Satisfaction survey 2009 (Customer Relations)	Resident Satisfaction survey – (Customer Relations)
		Customer Satisfaction survey 2009 (Agriculture & Environment)	
City of Ekurhuleni		Annual Customer Satisfaction survey 2008/09/10	
Sedibeng District Municipality (DM)		Joint Perception survey with Emfuleni 2010	
Emfuleni Local Municipality (LM)		Joint Perception survey with Sedibeng 2010	
Midvaal LM	No response		
Lesedi LM	No response		
Metsweding DM	No response		
Nokeng tsa Taemane LM	No response		
Kungwini LM	No surveys undertaken		
West Rand DM	No surveys undertaken		
Mogale City LM	No surveys undertaken		
Randfontein LM	No response		
Westonaria LM	No surveys undertaken		
Merafong City LM	No surveys undertaken		

For the purposes of analysis in the ensuing sections of this report, the following surveys highlighted in the above table were excluded:

- The Department of Agriculture and Rural Development's Client Satisfaction survey 2009 – this is a specific end user survey amongst groups such as farmers, livestock traders, hunters, exporters and so on that does not target the general population.
- The Department of Finance's Customer Satisfaction survey – these annual surveys target internal government departments and not the general population.
- The Department of Education's Customer Satisfaction survey 2010 – no further information was made available regarding this survey other than that it was a school-based survey.
- The Department of Health and Social Development's annual Client Satisfaction survey 2008/09/10 – this survey is conducted at provincial health facilities by departmental staff and no information was made available on the cost of conducting such work (it is a part of the overall departmental budget) or the sampling procedures followed.
- City of Tshwane's Customer Satisfaction survey 2009 (Agriculture & Environment) – this is a specific end user survey that does not target the general population.
- Sedibeng and Emfuleni's joint Perception survey 2010 – no further information was made available regarding this survey.

The findings

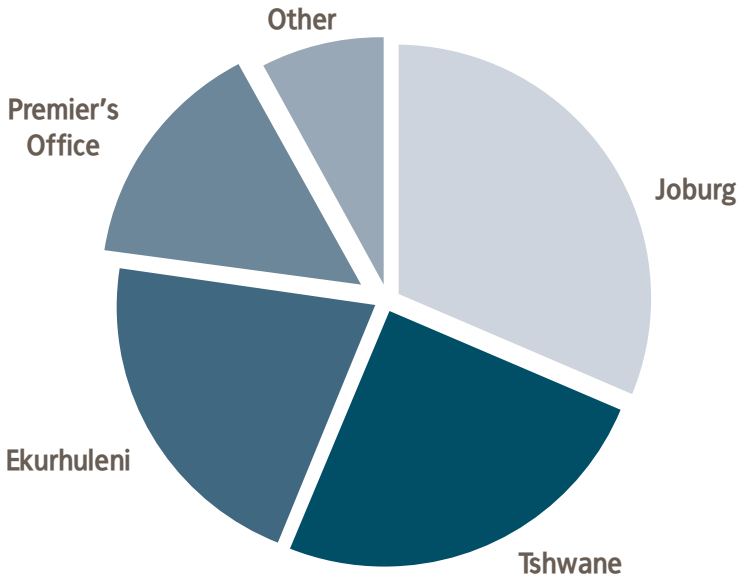
Cost of surveys

Undertaking a survey is a costly exercise. This is reflected by the finding that very few surveys are being conducted by the cash-strapped district and local municipalities in the province. Budget constraints were a major issue cited across local and district municipalities, with a common refrain being "due to limited budgets, no surveys were done".

However, the realisation of the value of such exercises as a means to elicit data for planning purposes is not lost on these municipalities. Some are doing what they can to hear the voices of their constituents, as one municipality commented that they "rely on/use information submitted by ward councillors and communities during the public participation processes." However, such processes are unlikely to result in *representative* data being gathered, further emphasising the need for citizen-based surveys in these municipalities. As one municipality put it, "we would welcome such an opportunity for a survey to be conducted from your side".

Our analysis found that a considerable sum was spent from 2008 to 2010 on citizen-based surveys across those provincial and local government structures that had conducted such surveys.

Figure 1: Proportion of expenditure on citizen-based surveys, 2008 to 2010



What is clear from Figure 1 is that the vast majority of expenditure from 2008 to 2010 was by the three metropolitan municipalities of Johannesburg (34%), Tshwane (26%) and Ekurhuleni (22%), accounting for some 82% of total expenditure. The obvious problem is that potential economies of scale – which are available in Gauteng-wide surveys – are not being realised, other than by the Office of the Premier, which commissions a province-wide survey.

Based on reported sample sizes and the reported cost for conducting each survey, we were able to compute an average cost per head of R325 for surveys conducted between 2008 and 2010.[1] At face value, it would appear that those who have commissioned these surveys are getting value for money as this figure is

[1] It must be borne in mind that this is not for fieldwork alone as the total cost includes design, analysis and reporting.

close to what large market research houses would charge for fieldwork alone. The figure would be lower if, for example, we were able to engineer a situation where one very large-sample survey covered the entire province, and reported to all cities and local municipalities, as well as the provincial government.

However, the cost per head within each survey reveals significant differences with the costs ranging from R250 to R600 per head.

Table 2: Average cost per head

Survey	Average cost per head
Office of the Premier - Perceptions survey 2010	R600
Community Safety - CPF Baseline survey 2008	R306
City of Joburg - Customer Satisfaction survey 2010	R318
City of Tshwane - Household survey 2008	R378
City of Tshwane - Customer Satisfaction survey 2009	R293
City of Ekurhuleni - Customer Satisfaction survey 2010	R254

These costs were not affected by the year in which the survey was conducted as a number of the surveys had fixed costs for a two or three-year period. They were affected by the sample size and geographic location of the survey – economies of scale assume that larger sample sizes in more localised areas would result in a lower cost per head and this appears to be the case. Those surveys conducted by the three metropolitan municipalities with sample sizes in excess of 3 000 respondents had an average cost of R303 per head as compared with the provincial survey conducted by the Office of the Premier where the average cost per head was R600.

What this analysis reiterates is that conducting a survey is a costly exercise – those commissioning these exercises need to ensure that they are getting value for money. Surveys require people to move around by day and night (to ensure that working respondents are interviewed when they return home, for example); may include expensive technology such as computerised questionnaires (CAPI) or digital pens; and in turn generate costs such as insurance, petrol and car hire, transport and food allowances for fieldworkers and back-checkers, and so on. There is no survey that is both cheap and reliable.

There is also a need to ensure equity – i.e. to make sure that smaller local municipalities are able to benefit from their own surveys, which they are currently unable to afford. The GCRO has now run two representative surveys – one across the entire city-region (which stretches beyond the Gauteng boundaries), and the second within Gauteng. This seems to be an ideal vehicle for achieving economies of scale and thus value for money, while also ensuring that all provincial and local entities in Gauteng can compare (and be compared) using the same sample frame, the same questionnaire, conducted at the same time. GCRO is known for the integrity of its data and also has representatives from both local and provincial government on its Board, thereby ensuring a degree of legitimacy, while still upholding the necessary academic distance (as a university-based centre) to undertake the work without fear or favour. A key recommendation of this report is that all provincial and local entities consider pooling their resources to support a larger sample for the bi-annual GCRO 'Quality of Life' survey.

Sampling

A crucial part of any survey is the sampling methodology employed. It is too time consuming and costly for a survey to reach all individuals within a target population, and therefore a rigorous process is required to select a sample (or subset) of that population in order to make inference about the entire population. In this regard, it is important that the sample is representative of the population.

There are a number of steps in the sampling process:

- Defining the population – in some instances this may be obvious as it includes all people within a geographic area at a given time, while for other surveys, it may include only those who access a particular service (such as a public health facility) or have been affected by a particular event (such as domestic violence).
- Constructing a sample frame – this process seeks to define the population according to known attributes. For example, a general survey of the population in Gauteng may look to define the population according to the number of people that reside in each municipality. Where the population is characterised by several distinct categories (such as race, dwelling type and so on), the sample frame may be organised into these different strata – this process is known as stratification.
- Selecting a sampling method – there are numerous approaches to sampling that can be used in the context of a survey. For the purposes of this report, we would argue that some kind of probability sampling be employed, where each individual within the sample frame (or within its strata) has an equal chance of being selected for the survey. This requires random selection at some point in the process.
- Implementing the sampling methodology – the next step in the process is the correct implementation of the chosen methodology in order to collect information from the sampled individuals. The data collection process should also be documented, noting comments and contextual events, as well as recording the level of non-responses.
- Weighting the sample – if any decisions in the sampling process have resulted in some strata or groups of individuals being over-represented in the final realised sample (for example, a decision was taken to ensure at least 200 Indian respondents in the province), the data needs to be weighted (that is, numerically adjusted) to reflect the actual distribution of these strata as per the sample frame. The data are then ready for analysis.

The analysis of the sampling methodology employed by the various citizen-based surveys relies on the information provided in the respective reports. The level of information provided varied considerably, with some reports dedicating whole chapters to sampling methodology while others dealt with the issue in an extremely superficial manner. Table 3 summarises the different approaches to sampling across the surveys.

Table 3: Sampling methodologies used across the citizen-based surveys

Survey	Target	Sampling approach
Office of the Premier - Perceptions survey 2010	• Adult in household	Multi-stage area stratified systematic sampling.
Community Safety - CPF Baseline survey 2008	• Adult in household	Ten of 25 policing precincts selected using probability of selection proportional to size of population (PPS) with 100 interviews with randomly selected adults per precinct.
Community Safety - Victim Satisfaction survey 2010	• Victims of sexual offences at Ikhaya Lethemba	No sampling conducted due to poor administrative records.
City of Joburg - Customer Satisfaction survey 2010	• Head of household • Business owners	PPS used to stratify by administrative region. Sample then further stratified by ward and settlement type, ensuring at least 30 interviews per settlement type per administrative region; telephone directories were used to randomly select households residing in suburbs and the inner city; households selected randomly in townships and informal areas.

City of Tshwane - Household survey 2008	• All people in households	A minimum of 40 interviews were initially done in each of the 76 wards, with the remaining 1 000 interviews allocated proportionally in accordance to the relative number of existing ervens (known for only 64 wards). Weighting was done based on the estimation of population from the 2001 Census in comparison with the 2007 Community Survey for the total population of Tshwane.
City of Tshwane - Customer Satisfaction survey 2009	• Head of household • Business owners • City employees • Embassies	PPS used to stratify by administrative region. Sample then further stratified by ward and settlement type, ensuring at least 30 interviews per settlement type per administrative region; telephone directories were used to randomly select households residing in suburbs and the inner city; households selected randomly in townships and informal areas.
City of Ekurhuleni - Customer Satisfaction survey 2010	• Head of household or an adult with access to the necessary information	A total of 788 enumerator areas were selected by way of proportional representation for inclusion in the study, with four households randomly selected from each enumerator area (EA). The sample was weighted using benchmarks from official statistics.

We now look at each survey in more detail.

Office of the Premier - Perceptions survey 2010

The report for this survey did not provide any detail on the issue of sampling. In fact, sampling was inadequately dealt with (in two paragraphs) and resembled more of a generic textbook approach than being specific to the task at hand:

> *"A multi-stage area stratified systematic sampling procedure was used. This means that all municipalities within the province were sampled in order to get a true representation of the entire adult population. The total sample was stratified into city sub-samples that were representative of all community types within the city. Starting points were chosen randomly from area maps. A total of 1 000 interviews were conducted.*
>
> *Sampling was based on the 2008 mid-year population estimates for Gauteng. The data for 2010 and 2011 was weighted to more closely match population demographics (based on Census and AMPS profiles). Weighted factors were by age, gender, race and lifestyle measure (LSM) group."*

Aside from the lack of detail provided, there are two issues that emerge from the above description of sampling. The first is the issue of the sample frame. The report points to the use of the 2008 mid-year population estimates as the sample frame, but then later refers to the use of the Census and All Media Product Survey (AMPS) profiles to weight the data. Any weighting of data should be according to the sample frame and given the differences between the 2001 Census and the 2008 mid-year population estimates, it is unclear why, or indeed how, such a process has taken place. Although it is beyond the scope of this report to interrogate the data emanating from the various surveys, the seemingly high levels of household income, employment and education amongst the resultant sample emphasises the need for detail around the sample frame and the distribution of those factors used to stratify (and ultimately weight) the data.

The second issue is that of stratification. The report states that the "total sample was stratified into city sub-samples that were representative of all community types within the city". The lack of any detail

provided here around what exactly a "community type" is and how the population of Gauteng (as opposed to the "city") is broken down across these types means that the reader is not able to assess what took place or whether the stratification of the sample frame was appropriate.

Community Safety - CPF Baseline survey 2008

The CPF baseline survey devised a sample frame based on information provided by the Department of Community Safety. Using a standard approach to sampling, ten of 25 policing precincts in the province were selected using the probability of selection proportional to size of population (PPS) method. The sample frame of these ten policing precincts accounted for a total estimated population of almost 7.5 million individuals. It is, however, unclear where the population estimates were derived from. Some precincts (such as Atteridgeville, Orange Farm or Katlehong) had population estimates rounded off to the nearest hundred thousand while others (such as Naledi or Sebokeng) had estimates off exact numbers within the precinct.

Within each policing precinct, the intention was to select 100 respondents by starting at a specified point on the eastern periphery of each precinct and following a pre-selected route through each precinct. The interval between households selected for the survey was ten and within the selected household, the adult respondent (aged 16 years or older) was selected by means of a Kish grid included with each questionnaire. The resultant sample was then, correctly, weighted back to the population distribution across the sample frame.

While this approach would appear to guarantee randomisation in terms of respondent selection, it is the notion of the "pre-selected route through each precinct" which needed further clarification. Exactly how this was established is critical in understanding whether each adult respondent in the precinct had an equal chance of being selected for interview. A cursory glance at the sample characteristics suggests that this may not have been the case. Given the precincts covered, one would have expected a substantial number of interviews to have been conducted in informal settlement areas. Only four interviews were conducted in such areas across the entire survey, suggesting that the pre-selected route may well have been planned in the absence of information as to where these areas were found within each precinct.

Community Safety - Victim Satisfaction survey 2010

The initial intention of the survey was to randomly select a sample of 200 victims of sexual offences from the victims that had made use of the services of Ikhaya Lethemba (a one-stop centre, providing a range of services for victims of social crime) during the 2006/07, 2007/08 and 2008/09 annual timeframes. However, a lack of accurate administrative records meant that very few victims from the earlier years were contactable and so the sample frame was increased to include the 2009/10 and 2010/11 years.

In total only 89 interviews were completed, of which 68 were drawn from the latter two years. In addition, the 68 interviews from the 2009/10 and 2010/11 were conducted at Ikhaya Lethemba amongst individuals still receiving support/services or those that were able (and willing) to come to the centre to be interviewed. The final distribution of interviews was as follows:

Table 4: Final sample realisation for Victim Satisfaction survey

	2006/07	2007/08	2008/09	2009/10	2010/11
Population	333	701	351	449	152
Sample	5	4	12	29	39

A decision was then taken to weight the resultant sample back to the sample frame because, as the report states, "on inspection of the weighted and non-weighted findings, it became clear that the applied weights had a remarkable impact on the results". This is not a valid argument – clearly the weights (which were based on the actual distribution of the population and ranged from a substantial 7.8 to 0.17) would have a substantial impact on such a small number of interviews. It would appear that the weighting was done merely to move along a pre-ordained methodological route designed (at the outset) to promote statistical significance. It would have been far more prudent, on completion of the fieldwork, to merely accept that the resultant sample was far more one of a convenience sample than a randomly selected one. While weighting of the latter is methodologically sound, weighting of a convenience sample carries very little significance and serves, especially in this case, only to further muddy the waters in terms of the skewness or bias in the sample.

City of Joburg's Customer Satisfaction survey 2010 & City of Tshwane's Customer Satisfaction survey 2009[2]

The reports for these two surveys dedicate an entire chapter to research methodology, a positive finding that must be commended and encouraged across all future surveys. In each instance, the population of the City (using official figures supplied by the respective administrations) was broken down across administrative region and the intended sample size distributed across the regions using PPS sampling. The allocation of interviews within each region was then further stratified by wards and settlement type within wards – a "judgemental sampling procedure, guided by population numbers and the geographic distribution of the ward population, was applied in awarding final sample sizes for the selected wards".

This judgemental procedure was applied, as the reports state, to ensure that "at least 30 questionnaires were completed in each settlement type per administrative region". The need for this procedure is unclear, as surely there were some administrative regions that did not contain any of the settlement types (especially, that of the inner city). In the absence of any information on how the procedure was actually used to tweak the sample it is difficult to comment further.[3] Nonetheless, the methodology outlined in terms of the allocation of the number of interviews per ward in each of the administrative regions is, largely, quite sound.

The concern that we have with the methodology is the next stage in the sampling approach, where the selection of households and respondents takes place. In both instances, two very different methods were used – in the townships and informal settlement areas, households were selected on a random basis for a face-to-face interview with the head of the household. In the suburbs and inner city areas, households were randomly selected from telephone directories for telephonic interview with the head of household. This was done because "security measures applied by residents in these areas often make personal face-to-face interviews difficult to conduct".

Access to respondents is a very real issue and is becoming more so with the proliferation of high walls and gate intercoms in these areas, not to mention the sharp rise in the number of enclosures and gated communities in the province. However, the need for different interviewing techniques in some areas does not justify the significant adjustment that takes place when the sampling frame is substantially reduced to those households with a landline in the suburbs and the inner city. Moving from a methodological approach where all households had an equal chance of selection, we are now left with a situation where you could only have been chosen if you had a landline.

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[2] These two are addressed together because they were conducted by the same service provider using an identical methodology.

[3] The City of Tshwane report states that a "minimum of 30 questionnaires were completed in each ward per region" so it is unclear if the City of Joburg report is factual or not.

One must therefore argue that this, especially in the inner city, has introduced a serious bias into the sample as many households will be excluded from the sample frame and stand no chance of being interviewed by either of the surveys. As an example, Census 2001 found that only 15% of households in Joubert Park, Hillbrow and the Johannesburg central business district (CBD) had access to a landline in their dwelling – 85% of households would therefore have been excluded from the sample frame. This raises serious questions about the representativeness of the resultant samples in each of the metropolitan areas.

City of Tshwane - Household survey 2008

The sample for this survey was allocated according to a minimum number of interviews (in this case 40 interviews) per ward with the remaining 1 000 interviews allocated proportionally according to the relative number of existing ervens per ward. However, as the report states, "information regarding the spread of land parcels across the remaining 12 wards was not available as these wards consist mainly of rural areas and/or informal settlements". What this means is that the sample frame (detailing information on only 64 of the 76 wards in Tshwane at that time) was not complete and it is not clear why this was used as the sample frame when Census 2001 could have been used. This is particularly pertinent when Census 2001 is then used as the basis to weight the resultant sample back to actual population figures.

The basic point to be made is that the sample frame should provide as accurate a definition as possible of the target population according to the various known attributes. It should provide the basis for stratification and sampling and also be used to weight the resultant sample. It is unclear in this instance whether the lack of information on 12 wards out of the 76 has skewed the sample, particularly away from those living in informal settlements. However, questions can be raised in this regard. Both the 2001 Census and the 2007 Community survey found more than 20% of the Tshwane population living in informal housing. This survey found this proportion to be just over 10%, leading it to conclude, possibly erroneously, that "the proportion of formal dwellings has increased substantially, and the number of informal dwellings is expected to decrease further".

City of Ekurhuleni - Customer Satisfaction survey 2010

The report provides very little information around the sampling methodology employed, covering it in only two paragraphs:

> *"The 2010 sample consisted of 3 152 households from the various locales within the jurisdiction of the Ekurhuleni Metropolitan Municipality (EMM). The sampling frame was developed using StatsSA official data and employed a stratified sampling design to ensure proper representivity for both households and individuals. Seven hundred and eighty eight (788) EAs were selected by way of proportional representation for inclusion in the study, with four households randomly selected from each EA. This ensured adequate coverage at the levels of Main Place and Sub-Place.*
>
> *Following the fieldwork, the obtained sample was weighted using benchmarks from official statistics. The weights applicable to the dataset were benchmarked using the integrated weighting technique. This technique, an extension of the traditional calibration technique, employs both the household and person level variables simultaneously, thereby ensuring a more accurate estimate of the total population of households as well as the total population of individuals within the EMM."*

As with the Office of the Premier's survey, these paragraphs are thin on detail and one is not really in a position to see whether the 788 EAs have been appropriately selected from the over 4 000 EAs in the metropole. Again, the point to be made is not that this survey is necessarily methodologically unsound but rather that the lack of detail means that the reader of this report is unable to judge for him/herself.

Quality control

Against the backdrop of the cost of surveys, and the need for a robust and rigorous sampling methodology to maximise the validity and reliability of the data collected, quality control during the fieldwork process is crucial. Most of the surveys pointed to the training of fieldworkers as an important aspect of quality control. This point cannot be emphasised enough and our experience shows that inadequate time is often given to the training of fieldworkers. This process, depending on the complexity of the survey design, should take place over a number of days involving group sessions, role plays where fieldworkers are both interviewed and do the interviewing, and actual pilots outside in the "real world" to ensure common understanding of the sampling procedures to be followed and the survey interview to be administered. In this regard, those fieldwork agencies that develop detailed manuals for their fieldworkers (unfortunately not the majority) should be commended.

Supervision of fieldworkers is also key to quality control, with on-site checking of completed questionnaires to make sure sampling procedures have been correctly followed and the survey has been completed appropriately. Most of the surveys under review referred to this level of quality control. A second level of control is the random back checking of a proportion of surveys once they have been returned from field. As Table 5 indicates, this level of quality control was differentially applied across the surveys, if at all.

Table 5: Quality control measures across the citizen-based surveys

Survey	Training of fieldworkers	Supervision of fieldworkers	Back checking
Office of the Premier - Perceptions survey 2010	Orientation and training workshop	Each team of five had one supervisor	30%
Community Safety - CPF Baseline survey 2008	Customised training	Not clear[4]	
Community Safety - Victim Satisfaction survey 2010	Training workshop	None reported	None reported
City of Joburg - Customer Satisfaction survey 2010	Training and survey manual	Field managers	20%
City of Tshwane - Household survey 2008	None reported	None reported	None reported
City of Tshwane - Customer Satisfaction survey 2009	Training and survey manual	Field managers	20%
City of Ekurhuleni - Customer Satisfaction survey 2010	None reported	None reported	34%

An important final aspect of quality control before analysis of the data is presented, is to reflect on the statistical significance of the final realised sample. Given the procedures followed and the experiences during fieldwork in terms of non-response rates, substitutions and so on, the reports should provide an indication of the reliability and validity of the data generated. Again, the attention given to this aspect varied considerably across the surveys. Only those surveys commissioned by the metropolitan municipalities attempted to address this issue. The point to be made is that for the average reader of a survey report, statistical detail and significance testing are not necessary. However, a note of caution

[4] The report only states that "the quality of the data collected was checked during the course of the survey and once it had been returned in the completed questionnaires".

should be sounded before the data findings are presented so that a reader is aware that the survey findings are not fact, cast in stone, but could vary between two defined levels depending on issues such as sampling error and non-sampling error.

Design of questionnaires

A survey questionnaire is a standardised, structured instrument that focuses mainly on close-ended questions and is administered in a standardised manner. The design of a questionnaire is complex – not only does one have to consider the type of questions to use or whether the questions one is asking is getting to the answers one is requiring but the grouping and order of questions is equally important. The range of question types and formats available is large and is, in part, informed by the purpose of the survey, the target audience and the type of analysis that one wants to conduct on the data.

We now look at some common pitfalls that researchers fall into when designing questionnaires by focusing on examples from the instruments used by the citizen surveys in our study.

General flow of a questionnaire

In general, a well designed questionnaire should be experienced by those being interviewed as a conversation rather than a barrage of questions with no flow or logic. Aside from the mandatory introduction explaining the purpose of the survey and assuring respondent confidentiality, each section in the questionnaire should be introduced with a short sentence regarding what is going to be dealt with. This helps put the respondent at ease and guides them through the questionnaire rather than them being unsure (and apprehensive) about what is going to be asked of them next.

The City of Joburg's Customer Satisfaction survey 2010 and the City of Tshwane's Customer satisfaction survey 2009 do not have any introduction as part of the questionnaire (one can only hope that this was provided as part of the training manual). As with most of the surveys, they also do not introduce any of the sections or what the respondent can expect in terms of upcoming questions. In fact, only the City of Tshwane's Household survey 2008 has some introductory sentences as it moves from one section to another.

Another point that needs to be stressed is that the introduction should not raise any false expectations or tell any white lies to get respondents to co-operate. For example, Ekurhuleni's Customer satisfaction survey 2010 says to respondents in the introduction that "we ask that you assist us by completing this short questionnaire". The questionnaire is then anything but short with well over 100 questions (some with multiple sub-questions) contained across 26 pages – the respondent has only to look at the wad of paper in the hand of the interviewer to know that this is not a short questionnaire. While some may be inclined to refuse to participate at the outset it is more likely that they will become increasingly restless and frustrated as the "short" questionnaire unfolds.

Closed vs. open-ended questions

The art of designing a questionnaire often revolves around ensuring that the response categories are exhaustive (or as exhaustive as possible). This often requires literature reviews to unearth similar type questions or conducting some form of qualitative research (in-depth interviews or focus groups are commonly used) to try and explore the range of possible responses to a particular question.

In the case of the 2010 Public Perception survey questionnaire of the Office of the Premier, the question around employment status serves as an example of not providing an exhaustive list of response options:

- I am unemployed
- I work part-time for a salary/wages
- I work full-time for a salary/wages
- I do piece jobs for money
- I am self-employed
- I am a full-time student/learner
- Pensioner

The response options leave no space for those who take care of the house/children on a full-time basis or those not looking to work – a simple perusal of the Census questionnaire would have helped provide a more exhaustive list in this instance.

The flip side of this is that questionnaires are designed which contain too many open-ended questions – these are questions where the respondent is asked to provide their own response to a question and this is recorded verbatim by the interviewer. This has two main shortcomings. First, the question may be worded in such a way that it generates a myriad of responses that are essentially irrelevant to what it is trying to get at. Second, the responses must be categorised and coded before they can be captured on a computer – this process (whether it happens at the point of interview or later back in the office) requires interpretation of what the respondent is saying and can lead to possible misunderstanding or bias creeping in.

An example of a poorly worded open-ended question, which could generate substantial feedback and complicate coding and capturing, is found in the Department of Community Safety's Victim satisfaction survey:

> *Based on your experience, how do you think could the services, processes and resources of the VEC that you have utilized, be improved, in order to increase levels of Victim Support in future?*

Response options are not mutually exclusive

A common error in questionnaire design involves the use of scales where the response options overlap. The Office of the Premier's survey provides an example of this where they ask a respondent when they moved in to their area and provide the following response options:

- Before 1994
- Between 1994 and 1999
- Between 2000 and 2004
- Between 2004 and 2009
- After May 2009

If one were to assume that "Between 1994 and 1999" means from the beginning of 1994 to the end of 1999, the obvious question arises where one would categorise an answer such as '2004' - as it is covered in two categories. Similarly, the final two categories also overlap and may cause confusion amongst fieldworkers and respondents alike.

The City of Tshwane's Household survey 2008 provides another example of this. In asking about the time spent on travelling per day, the categories also overlap:

- Not applicable
- Less than 10 minutes
- 10 – 20 minutes
- 20 – 40 minutes[5]
- 30 – 40 minutes
- 40 – 50 minutes
- 50 – 1 hour
- and so on.

Use of double-barrelled questions

It is important that a question explore only one concept and not two or more as it will be unclear as to which of the concepts the response relates to. In the Department of Community Safety's Victim Satisfaction survey, respondents were asked the following question which contains two aspects to it:

> *Based on your experience, how would you rate the VEC that you have visited in terms of:*
>
> *- Volunteer followed up on assistance received from the referral source and whether you was (sic) coping.*

A volunteer may well have followed up on the assistance received but not checked up on how the respondent was coping or vice versa – how does the respondent then answer in this regard? Another example is taken from the Office of the Premier's survey:

> *To what extent do you agree or disagree with the following statements about Gauteng Government:*
>
> *- The Gauteng Provincial Government is aware of my concerns and needs.*

One could argue that concerns and needs are two different things and need to be explored differently – a respondent could argue that the government is aware of the fact that s/he has no water or electricity (and that these are needs) but has never bothered to come and engage with her/him to find out about their concerns – which could be safety, job opportunities or education. Therefore they may want to agree with one part of the question but disagree with the other part.

Standardised question format

There are some who argue that a "Don't know" category is important in most questions so that a respondent does not feel "forced" into a response category while there are others who argue for "forcing" a respondent into giving an opinion rather than being able to opt out and choose the seemingly safe option. Whatever the preferred approach of a given survey, it is important to maintain that approach throughout. For example, a slate of questions in the Office of the Premier's survey on the extent to which the respondent agrees or disagrees with statements about the 2010 Soccer World Cup is followed directly by a slate of questions on the extent to which s/he agrees or disagrees with statements about the Gauteng Brand. The first slate allows the respondent to choose the "Don't know" option (as do almost all questions throughout the survey), while the next slate does not. If one has allowed the respondent to choose this

[5] Although this category should probably have been "20 – 30 minutes", it has been included as it was in the questionnaire and does not detract from the point being made.

option throughout the survey, it appears strange that they cannot choose it at this stage and it could well lead to them feeling unheard, frustrated and, in extreme cases, unwilling to continue.

Similarly, the use of scales (either 3-point, 5-point or 10-point) is common in customer satisfaction or quality of life surveys. We would argue that this should, as far as possible, be consistent throughout the survey. For example, Ekurhuleni's Customer Satisfaction survey explores satisfaction with a number of municipal services and facilities for the first half of the survey using a scale of 1 to 5, where 1 is poor and 5 is excellent. It then, on page 15, suddenly switches to a scale of 1 to 10, where 1 is poor and 10 is excellent, before going back to the 1 to 5 scale toward the end of the questionnaire. This, we would contend, is bound to cause confusion amongst respondents, particularly those less numerate.

Respondent fatigue

We have mentioned above that one of the basic elements of a well designed questionnaire is that it feels like a conversation to the respondent. This helps to minimise respondent fatigue, which occurs when respondents become tired of the survey and the quality of the answers they provide begins to deteriorate. Tired or bored respondents may more often answer "Don't know," engage in "straight-line" responding (i.e. choosing answers down the same column on a page), give more perfunctory answers or give up answering the questionnaire altogether.

The Office of the Premier's survey provides an example of the kind of design that is likely to induce respondent fatigue and affect the quality of the data gathered:

> *I am now going to read out a number of areas that the Gauteng Government is involved in and I would like you rate the Gauteng Provincial Government in terms of how they have performed on each of them. Please give your rating on a scale of 1 to 10, where 1 is very poor and 10 is excellent.*
>
> *- Promoting investment and business in Gauteng*
> *- Promoting Gauteng as a globally competitive city region*
> *- Supporting small businesses*
> *- Promoting job creation*
> *…and so on for another 41 areas!*

Not only are there almost 50 statements for the respondent to respond to under this question, but the scale from 1 to 10, for it to be properly used, requires the respondent to understand the nuance within the scale (for example, what does a 4 mean as opposed to a 6) and also to recall giving one area such a score against which to gauge his/her response to the next area. We find it somewhat inconceivable that any respondent maintained interest and focus to the end of these statements.

Demographics collected

The final point to be made around the design of survey instruments relates to the demographic data that the surveys explore. Given the costly nature of conducting surveys, and the fact that our Census is currently conducted every ten years, it is important that the data collected should have a lifespan outside of the specific purpose of the commissioned survey. Provincial departments and municipalities need to be able to track their own performance over time through these surveys suggesting the need for the continuous tracking of key performance areas and indicators. However, it is also important that these departments and municipalities are able to compare their results and findings with other surveys being conducted, particularly those conducted by Statistics South Africa which generally have large enough samples for this kind of comparison. This requires the design of instruments that take into account these factors and allow for comparisons to be made.

Our analysis suggests that the bigger picture is not always taken into account by those designing the survey instruments.

Table 6: Demographic information collected across the citizen-based surveys

Survey	Demographic information collected
Office of the Premier - Perceptions survey 2010	Household income uses own categories; own age cohorts used; no head of household data.
Community Safety - CPF Baseline survey 2008	Questionnaire not made available.
Community Safety - Victim Satisfaction survey 2010	Household income uses own categories.
City of Joburg - Customer Satisfaction survey 2010	Limited demographics of head of household - no age; education; income.
City of Tshwane - Household survey 2008	Demographics as per Census 2001.
City of Tshwane - Customer Satisfaction survey 2009	Limited demographics of head of household - no age; education; income.
City of Ekurhuleni - Customer Satisfaction survey 2010	Limited demographics – age of household head only.

What Table 6 shows is that if one wanted to construct a poverty index, for example, and track how levels of poverty influence one's opinions and experiences across the different surveys, this would not be possible as the demographic information collected differ significantly.

Recommendations

This survey of surveys has found that there are only a few provincial departments and local government structures undertaking citizen-based surveys across the province. While most acknowledge the importance of conducting such exercises, a lack of resources prevents them from doing so. As a result there are substantial areas of the province outside of the larger metropolitan municipalities that are not enjoying the benefits that such data collection exercises can provide.

Nevertheless, a considerable sum of money was spent on surveys during the three year period (2008 to 2010) across the province. While a few of the surveys were targeted interventions, seeking the feedback from a select audience, the majority of the spend was on quality of life surveys or customer satisfaction surveys which were seeking to explore similar things from similar target audiences (albeit in different locations).

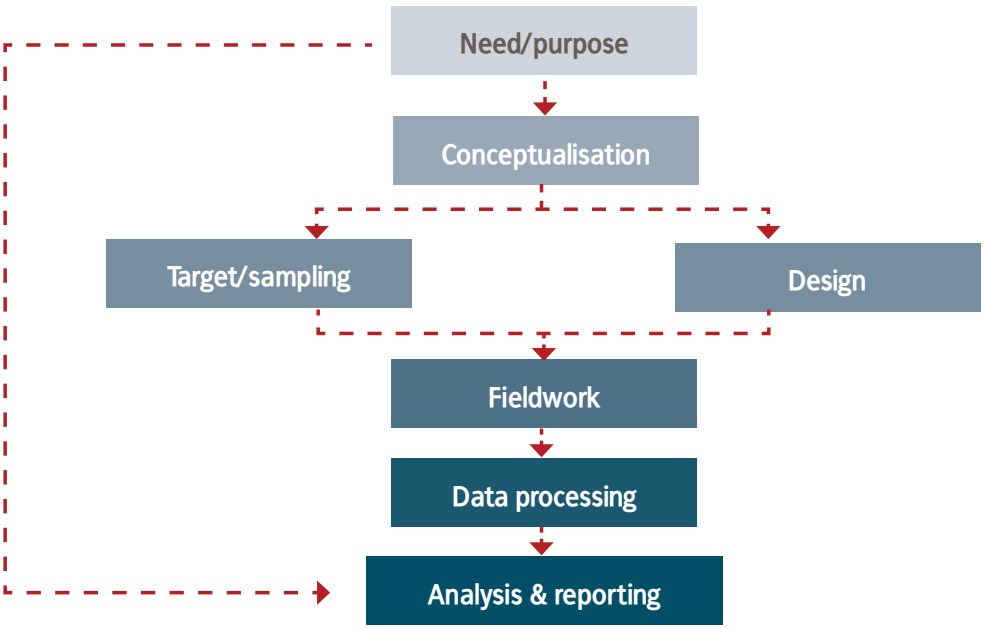
There are pockets of good surveys being undertaken (mainly within the metropolitan municipalities), although this report has identified a number of concerns with these surveys. However, there is also suggestion of poor data being generated by other surveys, where inadequate attention is being given to sampling, quality control and design.

There are two main recommendations emanating from this survey of surveys. The first looks at what should be included in any tender for a survey (a checklist for conducting a survey can be found in the appendix). The second key recommendation of this report is that all provincial and local entities consider pooling their resources to support a larger sample for the bi-annual GCRO 'Quality of Life' survey, ensuring that it is representative to ward level, and able to report to all entities whether local or provincial.

Basics of a survey tender

The findings presented in this report raise the question as to the need for a set of minimum standards for any research tenders that are to be issued, especially those that emanate from provincial government. To address the shortcomings identified in this report, a survey tender needs to be mindful of the following stages in the survey process:

Figure 2: Stages in the survey process



We now look at each stage in more detail, pointing to the type of input that the commissioning department could expect or insist on as the research process unfolds and therefore some of the elements that could go into a survey tender.

Need/purpose

This stage is fairly self-explanatory and would actually be undertaken before the issuing of a research tender. However, the tender needs to clearly define why the survey is necessary and what it is trying to achieve.

Conceptualisation

Closely linked to the need and purpose of the survey, the tender document should also give some input into conceptualising the survey. This involves identifying what it is that the survey wants to observe and/or measure. In other words, the survey tender should begin the process of specifying the meaning of the concepts and variables that are to be studied. This process could then be further expanded on by the research provider through their research proposal or an initial inception report, both of which would have to be signed off by the commissioning department.

Target and sampling

The tender document needs to identify the target for the survey – that group of people about whom the commissioning department wants to draw conclusions (this could be the general population at large or a sub-set of this population). It should then request the service providers to detail a sampling plan of how this target is to be reached. This sampling plan should include the following important elements:

- The sample frame (and the source of data for that frame) and any stratification of that frame.
- The approach to sampling to be used (from geographic location down to respondent selection), bearing in mind the need for randomisation to maximise the representativeness of the sample.
- The anticipated sample size and the statistical reliability of this sample.
- The need, or not, for any weighting of the sample after data collection.

The final sampling plan must be signed off by the commissioning department before the fieldwork can begin.

Design

This stage deals with how to measure the variables under study. In the case of a survey, it relates specifically to the design of the questionnaire. Against the background of some of the common pitfalls in questionnaire design detailed in this report, it is important to realise that no matter how carefully the questionnaire has been designed, there is always the possibility of error. To control for these threats to validity, thorough pre-testing and piloting of the questionnaire is vital. The survey tender should insist on all or some of the following during the design process:

- The service provider should submit the issues to be raised in the questionnaire to in-depth interviews with the commissioning department and key stakeholders as part of initial design workshops.
- The service provider should test the items to be used in the questionnaire through interviews or focus groups with citizens.
- The service provider should pilot the final draft version through a survey amongst respondents drawn from the sample frame.

The tender could also specify that all demographics collected should follow the format used by the Census to allow comparability.

The final questionnaire must be signed off by the commissioning department before the fieldwork can begin.

Fieldwork

This important stage involves the actual collection of the data where, typically, the commissioning department disappears into the background and lets the service provider get on with the job. We would recommend that the commissioning department try and play as big a role as possible/feasible during this stage bearing in mind the purpose of the survey and the target audience (for example, if the survey is exploring the service delivery of the department, having department officials around during the interviewing of respondents will obviously affect the quality of the data gathered).

The basic premise for this stage is that there is an agreed to sampling plan and questionnaire. To maximise the quality and validity of the data being collected requires various quality control measures and the tender document should specify the need for some or all of the following:

- Fieldworker training. This should be as in-depth as possible as a one-day workshop is not always sufficient. A training manual is a useful tool for fieldworkers as it allows them to refer back after the training. It is also prudent that the commissioning department is present at (some of) this training to explain the purpose and importance of the survey and need for quality data.
- Fieldworker supervision. The proposal should pay attention to the number and size of the fieldwork teams and clearly state how in-field and in-office supervision is to take place.
- Back-checking of questionnaires. A minimum proportion of all questionnaires (we would argue for a minimum of 20%) should be subjected to a process of back-checking, where the respondent is re-contacted (either telephonically or face-to-face) by someone other than the fieldworker to confirm that they were in fact interviewed and to check their responses to one or two randomly selected questions.
- External quality control. In some cases, depending on the nature and scope of the survey, the commissioning department may want to insist on some kind of external quality control on the service provider. This could include doing spot checks on the fieldwork teams in field to see that they are complying with the sampling approach and administering the questionnaire appropriately. Alternatively, it could take the form of an in-office check of a sample of the questionnaires to see if there are issues or problems cropping up.

The tender should insist that, as part of the final report, a detailed fieldwork report is submitted that should identify quality control issues, rates of non-response, substitutions conducted and any other important contextual information.

Data processing

This is the stage during which the data collected is transformed into a form that is appropriate and useful for manipulation and analysis – known as the dataset. The tender should specify what format that should be – typically, this takes the form of a software package such as SPSS, SAS, etc.

An important part of this stage is, if required, the weighting of the data whereby a numeric value is assigned to each case in the dataset in order to make the final realised sample reflect the sample frame. The commissioning department should ensure that this process has taken place before the analysis of the data occurs.

Analysis and reporting

The final stage in the survey process involves the analysis of the data and the reporting thereof. Our survey of surveys has seen a number of reports where very little analysis or reporting has taken place outside the production of a series of graphs or tables. It is important that the analysis and reporting is directly informed by the need and purpose of the survey.

While this stage will vary considerably from case to case, the tender specifications should lay out the minimum requirements in each case. Attention should be given to the expected report structure, report length and any other reporting requirements (such as presentations, workshops etc.).

Pooling of resources

The other recommendation emanating from this survey of surveys concerns the pooling of resources across provincial and local government to undertake a provincial-wide survey on a regular basis. We have seen above that a number of local government municipalities undertake very similar survey exercises on a regular basis, while others would be only to keen to do so if they had the resources. Similarly, certain provincial departments undertake such surveys on a regular basis while others would be interested in gaining access to certain aspects of the data were it to be available.

In this regard, it would appear prudent that a regular, large-scale survey of the province be undertaken that meets the needs of all interested parties. This is not to say that targeted surveys focusing on a particular group of people or an in-depth look at a particular topic or issue do not have their place. Instead the argument is for a regular survey that looks at issues of customer satisfaction, quality of life and the like.

Such an exercise could either be commissioned through a joint tender issued by the interested parties, or resources could be channelled through an entity like the Gauteng Planning Commission that could then be responsible for issuing the tender.

This pooling of resources would have the following significant benefits:

- Coverage of the entire province – while the more affluent local government municipalities may be hesitant to subsidise their poorer counterparts, the case is strengthened by the fact that their respective sample sizes would not be significantly affected by such an approach. For example, the City of Joburg's 2010 Customer Satisfaction survey cost R1.2 million for a sample of 3 000 individuals and 750 businesses. The current GCRO 'Quality of Life' survey across the province has a fieldwork budget of R3 million (approximately what the three metropolitan municipalities spent jointly on their last customer satisfaction surveys) and should realise a sample of 3 690 individuals for the City of Joburg.
- Consistency in terms of the design, the sampling approach used and the quality control measures in place while the data are being collected – this should maximise the reliability and validity of the data generated and increase the usability and comparability of this data.

Appendix:
Checklist for conducting a survey

Stage	Questions/issues
Need/purpose	• There are two major aspects in any research design: what one wants to find out and determining the best way to find it out. Questions which should be asked at the outset: • Is a survey appropriate to the topic? • Are there other sources of data available?
Conceptualisation	• What does the survey want to observe or measure? • Are the concepts/variables to be studied clearly defined and understood?
Sampling	• Whom does the survey want to draw conclusions about? • How will this target be reached? • What data will be used to construct a sample frame? • Is there a need for stratification of the sampling frame? • What approach will be used to draw the sample in order that all members from the target group stand an equal chance of being selected?
Design	• Do stakeholders/target group need an opportunity to input into the questionnaire design (either through design workshops, in-depth interviews, focus groups or so on)? • Has the questionnaire been piloted?
Fieldwork	• Have the fieldworkers received adequate training? • What supervision and management processes are in place during the fieldwork? • What percentage of questionnaires is being back checked? • Is there a need for external quality control measures to be put in place? • Has the service provider submitted a fieldwork report?
Data processing	• Has the data collected been transformed into an appropriate format for analysis? • Has the data been weighted (if necessary) back to the sample frame?
Analysis & reporting	• Have the reporting requirements been met? • Does the report adequately address the initial need and purpose of the survey?

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