

## Article

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Data Collection: Challenges, Achievements and New Directions

### **The Organisation of Collection Functions at Statistics New Zealand**

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## **The Organisation of Collection Functions at Statistics New Zealand**

Sarah Williams and Lyn Kaye<sup>1</sup>

### **Abstract**

Prior to 2004, the design and development of collection functions at Statistics New Zealand (Statistics NZ) was done by a centralised team of data collection methodologists. In 2004, an organisational review considered whether the design and development of these functions was being done in the most effective way. A key issue was the rising costs of surveying as the organisation moved from paper-based data collection to electronic data collection.

The review saw some collection functions decentralised. However, a smaller centralised team of data collection methodologists was retained to work with subject matter areas across Statistics NZ.

This paper will discuss the strategy used by the smaller centralised team of data collection methodologists to support subject matter areas. There are three key themes to the strategy. First, is the development of best practice standards and a central standards repository. Second, is training and introducing knowledge sharing forums. Third, is providing advice and independent review to subject matter areas which design and develop collection instruments.

Key Words: Centralisation, Decentralisation, Standards and guidance, Knowledge sharing forums, Independent review.

### **1. Centralisation versus decentralisation**

Centralisation is when a specific function is produced and carried out by a central team within an organisation. Decentralisation is when a specific function is produced by many different teams across an organisation. There are strengths and weaknesses of both structures.

When designing and developing a statistics agency's collection instruments, centralisation occurs when a central team of data collection methodologists carries out the work for all subject matter areas (SMAs) in the organisation. Decentralisation is when the SMAs are responsible for the design and development of their own collection instruments.

Advantages of a centralised approach are that the central team has more opportunity to build a critical mass of specialist skills and expertise. They are also well placed to standardise the design and development of collection functions across the organisation. Advantages of a decentralised approach include the SMAs having a more in-depth understanding of their information needs and being well placed to ensure that the survey design phase is integrated with other parts of the survey process.

In reality, many statistical agencies will include elements of both structures in the way they organise their collection functions.

### **2. Statistics NZ before 2004**

Before 2004, the organisational structure for the design and development of collection functions at Statistics NZ was centralised. There were two central teams that did all the design and development of collection instruments for the organisation. A team in Wellington designed and developed collection instruments for social surveys and the census

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and a team based in Christchurch designed and developed collection instruments for economic surveys. There was also a team in Auckland which provided technological processes to support the collection of data for Statistics NZ. This included, for example, operating a call centre and the printing and scanning processes needed for paper-based self-administered questionnaires.

**Figure 2-1**  
**The Organisation of collection functions at Statistics NZ before 2004**



This paper focuses on the changes that have occurred to the teams in Wellington and Christchurch.

Before 2004, these two teams did almost all the design and development activities for collection functions at Statistics NZ. This included the:

- design and development of data collection instruments
- development of collection strategies, project plans and budgets
- preparation of field manuals and the provision of training for field staff.

### **3. Why the structure changed**

In 2004, Statistics NZ re-organised many work area functions. A review of the design and development of collection functions aimed to address a number of factors perceived as barriers to efficient development. These included:

- the relatively high cost of survey development
- duplication of subject matter knowledge between the central team of data collection methodologists and SMAs
- a focus on quality to the exclusion of timeliness and cost.

Changes were necessary within an environment of rising costs and as Statistics NZ moved from paper-based to electronic collection tools.

### **4. New directions since 2004**

Following the 2004 review, the design and development of collection instruments at Statistics NZ became decentralised.

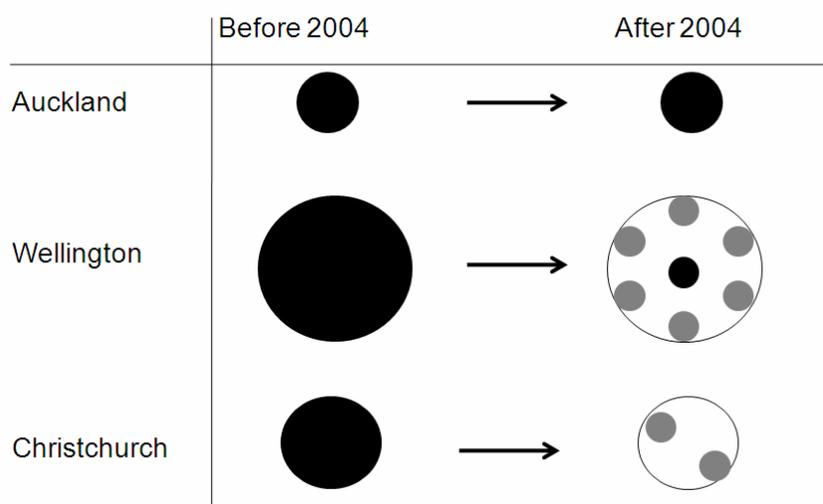
The responsibilities of the collection team in Auckland remained largely the same. However, there were fundamental changes for the design and development activities of the two teams in Wellington and Christchurch. Most notable was that SMAs, rather than the two central teams, took over responsibility for the design and development of collection instruments related to their subject matter.

Most of the staff who had worked in the centralised team moved to SMAs, where they worked on the design and development of collection instruments for specific subject areas.

At the same time, Statistics NZ recognised the importance of retaining some design and development functions centrally and these were done by a smaller central team in Wellington responsible for:

- developing standards specific to data collection methodology
- independent evaluation and advice
- research into new and emerging issues in data collection
- building and supporting SMA capability in data collection methodology.

**Figure 4-1**  
**The re-organisation of collection functions at Statistics NZ**



In the first column, the black solid circles represent the two centralised teams of data collection methodologists that were based in Wellington and Christchurch and the collection and processes team based in Auckland before 2004. There were more data collection methodologists in Wellington which is reflected in the larger circle. In the second column, the smaller grey circles enclosed by a larger circle represent how the data collection methodology expertise was transferred in Wellington and Christchurch to SMAs after 2004. For Wellington, the small black circle in the centre illustrates the smaller central team of data collection methodologists that remained after 2004.

The rest of this paper focuses on the challenges encountered by this smaller central team of data collection methodologists in Wellington and Statistics NZ more generally, since the move to a more decentralised approach. It also discusses our achievements since 2004, the key lessons learnt along the way and how this experience will impact on the organisation's future direction.

## 5. Challenges encountered

The change in the organisational structure of collection functions at Statistics NZ created many challenges, which fall within three broad themes:

- developing and maintaining capability
- building and maintaining strong connections with SMAs across the organisation

- the degree of flexibility required by staff who design and develop collection instruments.

### **Capability**

Under the new structure, it has been a challenge to develop and maintain capability in data collection methodology both for the smaller central team of data collection methodologists in Wellington and for SMAs across Statistics NZ.

The key challenge, for the smaller central team, has been developing expertise for new members. The team has shifted from work that mainly involved practical design and development to a more theoretical and facilitative role, which has focused on standards development, research and training support. Consequently, there have been fewer opportunities for new team members to gain practical experience in the design and development of collection instruments. This can sometimes create a situation where central team members are expected to provide independent review and advice to staff in SMAs who themselves have a higher level of knowledge and experience. An experienced member of the central team has generally been involved in any review work provided to SMAs; however the lack of practical experience at entry level staff can impact on the perceived credibility of the central team and can limit the interaction between groups.

For SMAs across Statistics NZ, it has been a challenge to ensure that staff build and maintain adequate skill in questionnaire design when the time available for this work is often limited by more immediate demands and a stronger focus on analysis and output. This is exacerbated by a career structure that encourages staff to gain experience in all areas of survey development. Staff turnover means that collection instruments are often reviewed and redeveloped by staff who are relatively new to data collection methodology.

Overall, the capability in data collection methodology at Statistics NZ is now spread wider amongst more staff, but in less depth compared to the pre-2004 structure. The challenge in the new decentralised environment is to find ways of building survey design capability as quickly as possible and establishing those skills as a recognised and valued skill set within the organisation.

### **Coordination**

A new and important challenge under the decentralised structure has been developing channels which will allow the central team to keep abreast of the design and development work that is taking place across Statistics NZ. The central team has invested time with SMAs to develop a work programme and to try to identify opportunities where the team can contribute knowledge and add value to the development process whilst recognising that SMAs now have the responsibility for their own survey development work. By having an overview of the survey development work, the central team can:

- identify opportunities for collaboration
- put SMAs in contact with other areas doing similar work
- ensure that survey development standards are met and applied consistently across the organisation.

However, this introduces challenges for the central team in identifying appropriate and productive ways in which they can engage and communicate with SMAs which will encourage future interactions and ongoing relationships.

### **Flexibility**

A further challenge for staff within the central team is the need to develop greater flexibility in delivering support to SMAs. The nature of support offered by the central team often needs to vary, depending on the individual requirements and capabilities of SMAs. Identifying those differences and adjusting the approach to deliver an appropriate level of support can be difficult.

Under the decentralised structure there is also an expectation that staff in the central team can dip in and out of survey development projects and offer a range of support across the survey development phase. This creates challenges for staff who need to build knowledge of the survey topic and context quickly in order to provide appropriate support.

Greater flexibility is also a requirement for staff in SMAs. They are now faced with the challenge of becoming proficient in the greater range of skills required for the complete survey design and development cycle.

## 6. Achievements since 2004

To combat the challenges discussed above, considerable effort has been made to build processes and infrastructure that support the decentralised organisational structure. They can be considered under three broad headings:

- the promulgation of standards
- providing learning opportunities to further develop capability
- identifying practical activities where the central team can add maximum value to support the design and development work done by SMAs.

### Standards

Standardisation is a key building block required to support a more decentralised organisational structure. Standards can create efficiencies and help staff do their work in a consistent way that matches recognised best practice. To encourage the use of standards at Statistics NZ, a number of initiatives have started, including:

- the endorsement of methodological standards via a Standards Governance Board
- the development of a Standards Framework database
- further development of statistical and methodological standards.

The Standards Governance Board (SGB) consists of senior managers (Deputy Government Statisticians). It provides strategic direction and decision-making for the development and implementation of standards within Statistics NZ, and for the Official Statistics System (OSS) in New Zealand. The SGB ensures stakeholder interests are considered in developing and implementing standards. It also:

- endorses the objectives for standards, their development, implementation and use
- helps resolve any trade offs that may be required between cost and business benefit
- monitors programme interdependencies and business risks.

The Standards Framework database has been developed to provide a central repository to house all standards that apply to Statistics NZ and the wider OSS. The database helps to build awareness of the standards and makes them easily accessible to staff. It also provides an open and transparent process for the development of standards. This includes drafting the content of any standard, documenting consultation with stakeholders, responding to stakeholder feedback, seeking stakeholder signoff and endorsement from the SGB.

Statistics NZ has developed and revised a number of new and existing statistical and methodological standards. For data collection methodology there are updated standards for written communication with data providers, the use of show cards and flowcharting. Further standards are being updated for the layout of self-administered questionnaires, cognitive interviewing, interviewer behaviour and question writing.

### Learning opportunities

The central team has extended the range of learning opportunities in data collection methodology. The aim has been to find innovative approaches to develop capability in data collection methodology for staff who are spread across many different SMAs at Statistics NZ.

In addition to providing formal training courses on questionnaire design and cognitive interviewing, a new initiative has been the introduction of knowledge sharing forums.

The knowledge sharing forums are an informal learning environment, and involve staff from across Statistics NZ who meet on a regular basis. They aim to:

- harness expertise from both the central team of data collection methodologists and staff from SMAs
- provide an opportunity for staff to connect and share learning with other staff doing similar work
- promote best practice methods and standards
- offer a more informal and spontaneous learning environment.

Since 2004, three knowledge sharing forums have been set up:

- a questionnaire clinic
- a survey developers network

- an InDesign forum.

The questionnaire clinic focuses on finding solutions to relatively immediate and specific practical questionnaire design issues. So far, the most effective part of the clinics has been to provide an insight to the processes involved in doing questionnaire development work; promote discussion and make progress on some of the questionnaire design issues presented to the forums.

The survey developer network focuses on sharing and building awareness of more general issues relevant to survey development.

The In Design forum focuses on developing capability in InDesign which is the software tool used to design self administered paper questionnaires at Statistics NZ.

### **Practical support to SMAs**

The central team is finding new ways to engage with SMAs and is beginning to provide more direct support to them in the design and development of collection instruments.

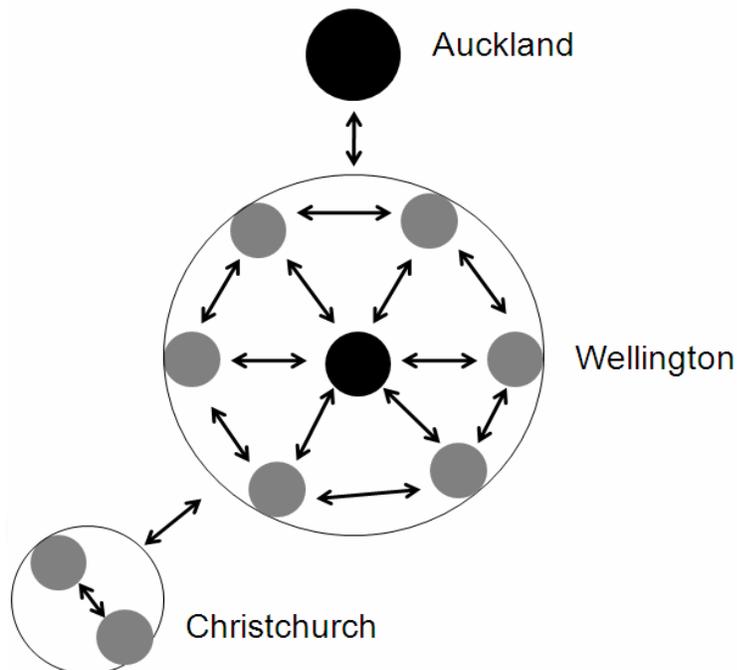
Because the smaller central team no longer has the mandate or resource to support SMAs across all subject matter data collection methodology work, the central team continues to re-evaluate and identify points in the design and development process where the team can have most impact. For example, providing independent review of questionnaires as they are developed by SMAs and cognitive interview support during pre-field testing activities. This involvement can allow the central team to remain connected with the practical work of SMAs. It also facilitates the learning and development of all staff involved, while further developing awareness for standard approaches and the need to balance methodological purity with practical requirements.

## **7. New directions for 2009 onwards**

The future focus is to further strengthen the processes that support decentralisation. Communications, coordination and standardisation of collection functions across Statistics NZ will be strengthened by:

- developing further statistical and methodological standards and ensuring they are easy to use
- further developing the knowledge sharing forums and other learning opportunities
- expanding joint working between the central team of data collection methodologists and SMAs
- collaborative research projects between the central team of data collection methodologists and SMAs.

**Figure 7-1**  
**Strengthen the processes and structures to support a decentralised structure**



The envisaged working relationships between the central team of data collection methodologists in Wellington and SMAs and between SMAs are represented by the arrows in the diagram above.

By further developing standards, joint working between the central team and SMAs and additional learning opportunities for staff, it is anticipated that we will be able to achieve a more optimal balance between methodological purity and immediate practical need in the delivery of collection functions at Statistics NZ. By understanding the relative strengths of centralised and decentralised models we hope to understand how we can best focus our resource to support the needs of a decentralised structure.

It is difficult to determine whether the cost of survey development has changed since 2004. More staff across the organisation are now involved in the design and development of collection functions but it is only part of their role. Previously, in the centralised approach there were fewer staff involved in the design and development of collection functions but they were working on these projects full time.

To fully assess the quality and cost implications of a decentralised approach we first need to adequately build the processes and structures required to enable a decentralised model to operate effectively.

Although we have made some good progress in the work done so far, further effort is still required to ensure that the decentralised structure is able to operate successfully in the Statistics NZ environment.

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