I. Introduction

1. As well as external influences such as management structure, strategic plans, and the methods and technology used to produce statistics, attitudes towards data editing affect a national statistical office’s ability to successfully adopt improved data editing processes. Research shows that employee attitudes have a significant effect on the quality of performance (Bartel et al, 2004).

2. Given the impact that attitude has on performance, overseeing culture is important to executive management. In 2011, Statistics New Zealand began an extensive work programme, Statistics 2020 Te Kāpehu Whetū, to change the way official statistics are produced in New Zealand. A key component of this is a strategy focused on building personnel capability, supporting people through change, developing strong leaders, and building a performance culture. The organisation’s vision of increased productivity by automating data processing only becomes a reality when the people, culture, and vision are aligned.

3. This paper discusses the organisation’s experiences in implementing more efficient data editing practices as part of a major business transformation programme. The focus is on organisational culture around data editing, and on the lessons learned from the experience.

4. The paper is organised as follows: Section II describes the organisation’s approach to leadership during the transformation programme; Section III discusses the challenges associated with the organisation’s transformation plan and strategies to overcome these challenges, with a focus on data editing; Section IV discusses the potential challenges arising from a comprehensive management restructure of Statistics New Zealand in 2014.

II. Leadership in uncertain environments

5. To meet the government’s expectations and improve performance, Statistics New Zealand culture must align with its vision. To achieve this, Statistics New Zealand has adopted many elements of what the literature refers to as transformational leadership as part of its leadership development and training. Employees of organisations that are undergoing significant change often experience a high level of environmental uncertainty, which warrants the use of transformational leadership (Bass, 1998). This style is concerned with driving change within an organisation by inspiring employees to pursue the organisation’s goals through a process of value and goal alignment (Burns, 1978). Transformational leadership involves developing employees’ skills and enhancing their confidence in their own abilities,
resulting in increased performance. Effective transformational leaders recognise and articulate the need for change, guide employees through the change process, and successfully embed the changes in the organisation’s culture.

6. To achieve an organisation’s goals, transformational leaders endeavour to apply the principles outlined below:

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<th>The four components of transformational leadership (Bass, 1985)</th>
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<td>(a) Intellectual stimulation – leaders support and encourage critical thinking, creativity, and innovation</td>
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<td>(b) Individualised consideration – leaders pay attention to the development needs of their staff and develop personalised relationships</td>
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<td>(c) Inspirational motivation – leaders arouse team spirit and motivation by creating and disseminating a compelling vision for the future of the organisation which aligns with employees values</td>
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<td>(d) Idealised influence – leaders serve as role models for staff, allowing staff to emulate and internalise the leader’s ideals.</td>
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7. To manage the culture of an organisation it is necessary to measure progress. Such information is important to an organisation undergoing significant transformation because it allows focused changes to be made. An initial survey of the culture at Statistics New Zealand was carried out in 2012; this will be used as a baseline against which to assess progress. Because this culture survey is also used by other New Zealand government agencies it will be possible to compare results, and progress, across agencies.

8. The survey measures outcomes at individual level (role clarity, motivation, satisfaction, intention to stay, role conflict, job insecurity, and stress), at team level (intra-unit teamwork, inter-unit coordination, and department-level quality), and at organisational level (organisational-level quality and external adaptability). The survey results illustrate the relationship between stated values (the preferred culture) and the organisation’s actual operating culture, and identify the key factors that influence that relationship (Cooke and Szumal, 2000). One key category of causal factors is mission and philosophy: the extent to which the organisation has successfully articulated its identity and values to its staff.

9. The 2012 survey results showed that the operating culture of the organisation at that time was quite conventional (Statistics New Zealand, 2012). Staff generally tried to follow good policies and practices, to conform, and to avoid taking responsibility for decisions. Yet the preferred culture of the organisation is more constructive: employees want to be able to resolve conflict constructively, help others grow and develop, take on challenging tasks, and enjoy their work.

III. Implementing transformational leadership in data editing practice

10. When implementing changes in editing practices at Statistics New Zealand, different groups in the organisation have different challenges. The following sections explore challenges and the strategies for overcoming them for editing staff, team leaders, and top-level management.

A. Top-level management

11. The key challenge for top-level management is to create a compelling vision for the organisation’s future that aligns with employees’ values. Transformational leadership behavioural training has a significant effect on the mental models of leaders (Johnson, 2008). Leaders learn how to frame situations and learn when and how to inspire others. Top-level managers are responsible for
providing employees with an interpretive frame for the organisation’s current and future states. They need to answer questions such as “Where are we?” “Why are we here?” “Why do we need to change?” and “How will we change?”. Top-level managers use the organisation’s goals to inform strategic decision-making and drive continuous improvement. In terms of editing, top-level managers are focused on the benefits achieved by implementing the new editing practices, particularly the cost-savings associated with increased automation and greater use of administrative data. They also encourage and support team leaders to understand their role in achieving these benefits.

12. Transformational leadership initiatives assume that leaders are ready for change. Change and change leadership is only effective to the extent that people and systems are willing and ready to learn. Transformational leadership is positively associated with commitment to change (Herold et al, 2008). Top-level leaders need to be willing to facilitate change. Training at Statistics NZ focuses on competencies such as adaptive leadership, coaching skills, adaptive goal setting, and communication skills. The media and messaging is important; leaders need to be able to filter information or to time the release of specific information. The extent to which top-level leaders are successful in this training and development will affect how well the organisation achieves its goals.

B. Team leaders

13. Traditionally, team leaders of editing staff aimed to deliver outputs to an agreed timetable and focus on managing a team that rarely changed in size or composition. There were instances of continuous improvement of processes and systems, but there was no systematic or organisation-wide approach. Development of editing staff was often limited to learning how to run the production system for a single output. While the methods group regularly offers training to subject matter areas in editing and imputation, time series, data integration and confidentiality, attendance was mainly limited to analysts who needed to know more about particular methods to better understand their outputs, rather than editing staff. The new production environments are very different: teams run production processes on standard platforms, where clusters of outputs are processed on the same platform using a common set of methods and tools. Increased automation has resulted in faster processing times and smaller teams, and there is a focus on developing employees. Processing staff are highly skilled. They understand the methods used in processing data and the production systems, because in many cases they have designed, built, and tested the systems themselves.

14. The two key challenges for team leaders of processing staff are: to articulate a compelling vision for the future work of the team that aligns with employees’ values, and to balance the employees’ development with the need to deliver outputs on time and to the agreed quality.

15. Team leaders are the face of management for most employees. They act as intermediaries between top-level management and employees. Team leaders need to be able to take the frame created by top-level management and reframe it for their team’s work. In other words, team leaders need to understand the connection between the goals of the organisation and the work of their team and be able to clearly articulate that connection. Team leaders of Statistics New Zealand’s processing staff understand and support the editing principles of significance, minimal change, automation, and continuous improvement. The team leader understands how these principles help the team deliver outputs that are fit for purpose, in an efficient and cost-effective way, and they can link the benefits delivered back to particular principles.

16. Successful team leaders have strong relationships with their top-level managers, and strong networks of peers. They’ll understand the relationships between the work their team carries out and the work of other teams in the organisation, and generally they have good business knowledge to inform their strategic decisions.

17. Team leaders focus on enabling employees to develop. Employees receive the type of orientation and training that encourages both their personal development and their work for the organisation. Emphasis is on Statistics New Zealand being a learning organisation, where team leaders are expected to support employees to learn new skills. In their day-to-day work, staff working on processing platforms are encouraged to challenge the status quo, to think ‘system-wide’, and to develop creative and
innovative solutions to problems. Performance is managed by aligning organisational goals with personal goals and regular feedback on performance is given.

C. Processing staff

18. Editing culture in the organisation has traditionally been a process culture, one with a strong emphasis on perfection and where all records are treated as equally important. In some output areas, every record was checked manually by editing staff, as if every record had the same value to the organisation. Over time, the editing process itself assumed a greater significance than the end product. Editing staff in this environment were managed through performance targets: staff needed to edit a certain number of records each day to meet these targets. By and large, errors in records had equal weight, whether small or large. Decisions about corrections to data could be quite subjective and could be inconsistent.

19. In the new environment, there is a focus on automation and significance. Increased automation provides greater transparency in the editing process – nothing is hidden. Paradata, such as the number of edit failures and the number of edits carried out manually, is used to understand and manage survey costs. Production systems are metadata driven and can be configured, and reconfigured, by the processing staff themselves.

20. Processing staff face two main challenges in the new editing environment. The first is for staff to internalise the editing principles of significance and minimal change; they have to recognise the difference in value to the organisation of different editing actions. The standard platforms provide standard editing methods, tools, and processes, so that editing principles are ‘built in’ to the production system as far as possible. The focus is on reviewing automated editing solutions rather than manual editing of data. Metrics about edit failures are used to monitor data editing, and add new edits, amend existing edits, or remove redundant edits as necessary. Records have significance scores that indicate the importance of records to specific outputs.

21. Processing staff are trained to use tools on the platforms, and are part of the decision-making process around the design of editing processes. They build systems based on answering questions like “Is this edit really necessary?” “How can this edit be automated?” and “What is the editing strategy for this data?”. Innovative solutions that align with the editing principles in editing system design are encouraged and acknowledged. Processing staff are able to work on other outputs processed on the same production platform, so they develop an overview of the editing strategies used across a range of outputs, which allows them to identify and challenge differences in approach. They have a line of sight from collection right through to dissemination.

22. The second challenge for processing staff is to understand the connection between the data processing they carry out and the organisation’s goals of automation, standardisation, and continuous improvement. Team leaders articulate the organisation’s vision and connect the editing staff’s work with the organisation’s goals. Editing staff need to recognise the benefits of these goals and develop editing solutions that maximise standardisation and automation, and allow continuous improvement. That editing staff are also members of the team that designs and builds new production systems helps embed these principles. It also provides editing staff with positive reinforcement of the standardisation and automation benefits. Since editing staff are also involved in evaluations that lead to decisions about continuous improvement, acceptance of the decisions is helped.

23. The organisation has not always been completely successful in the transition to the new editing environment. Theory and practice can sometimes be poles apart. Particular problems arise when implementing significance editing: it is challenging to make decisions that will significantly reduce staff numbers. The organisation is still learning how to manage teams through this process so the outcomes are good for the organisation and also good for staff.
IV. Next steps

24. In 2014 Statistics New Zealand is restructuring (termed ‘regrouping’). This aims to create a leadership structure that responds to our dual needs to drive down cost, and to provide a sound leadership platform for the organisation to be more customer-focused, effective, and efficient. The new structure will push forward our strategy to maximise the value New Zealand gains from information (Statistics NZ, 2013).

25. In terms of the Generic Statistical Business Process Model (UNECE, 2013) the new organisation design has four groups (P1 = Need, P2 = Design, P3 = Build etc)

(a) P1, P6, P7. Need, analyse, and disseminate functions are grouped in the Customer, Strategy, and Delivery group.

(b) P2, P8. Design and evaluate functions are grouped in the Architecture, Design, and Programme Governance group.

(c) P3. The Organisation Capability and Services group includes human resources, IT operations, and services and financial services.

(d) P4, P5. Collect and process functions are together in the Operations group.

26. Once the new leadership team for each group is in place (March 2014), the existing groups will be rationalised and realigned to the new structure described above. Over time a transition of activity from the Customer Strategy and Delivery group to the Operations group is expected, as the organisation’s transformation progresses and the production platforms mature. Analytical and research capability will grow in the Customer Strategy and Delivery group, and there will be a more explicit whole-of-enterprise architecture function that covers business, information, and IT architecture. Overall government ICT initiatives will reshape the functions of the organisation’s technology groups.

27. The restructure is likely to have a positive effect on editing practice and culture in the organisation. Risk management and governance of editing practice is centralised within the new Operations group. The well-known benefits of centralisation include reduced costs and increased standardisation of methods, tools, and processes. Smaller teams will collect and process all the data on a small number of standard platforms. Teams that support the platforms are composed of analysts who have built significant elements of the production systems. They are therefore well-versed in the editing methods used in particular outputs and the metrics used to enable continuous improvement. Teams are multi-disciplinary and include methodologists and subject matter experts as well as business analysts.

28. While the regrouping is likely to deliver the benefits described, organisational change programmes are challenging, particularly as they affect staff morale. Significantly changing the organisation’s structure at the same time as implementing Statistics 2020 Te Kāpehu Whetū adds an extra level of uncertainty. This uncertainty may make it more difficult to achieve effective, long-term change in the way staff think and behave. Maintaining staff morale and trust will be important for success. Discussing the changes from the employees’ point of view makes the advantages and the need for the change clear.

29. Communication about the proposed new structure was carried out as follows: a formal document outlining details of the proposed new structure was available to staff on-line and time was allocated to collect feedback. All staff were able to read the document and any who wished to could provide feedback by adding a comment to the document. Staff were able to ‘like’ comments and suggestions made by other staff. At the close of the feedback period, all feedback was collated and themes were identified. The Chief Executive responded to the themes with a decision, and explained the reasons behind her decision. This was a very successful way of engaging with staff; some changes were made to the original regrouping proposal based on the feedback. This approach probably enhanced acceptance of the vision,
as employees gained an increased understanding of the proposal’s details. The organisation’s aim, to transform to stay relevant, fits well with the principles of transformational leadership.

References


