MANAGING BY DESIGN – A CASE STUDY OF
THE AUSTRALIAN TAXATION OFFICE

This thesis is submitted in the Fulfilment of the requirements of the Degree of Doctor of Philosophy of Management

University of Canberra
Faculty of Business, Government & Law

June 2012

NINA TERREY

BBus (Finance and Marketing) (University of Technology Sydney)

© Nina Terrey 2012
Abstract

The purpose of this study is to explore the adoption and embedding of design as a management practice in the Australian Taxation Office (ATO). Management by design is a means to bring a stronger focus on the human experience with the tax system as a core component in some of its management work. This study explicates a new form of management which recognises how to address organisational problems as design opportunities which leads to more efficient operations, more effective decisions and the creation of more human-centred and desirable organisations. The ATO employs over 22,000 employees and is responsible for the administration of taxation and superannuation legislation. It is the only government organisation with which all taxpayers and tax professionals must interact to meet their obligations. The ATO is a pioneer in applying design methods to its administrative work. The application of Actor Network Theory (ANT) was used to shape this research. The case study design included exploratory interviews with designers and management in the ATO, review of organisational documents and auto-ethnographic accounts from the researcher’s own experiences as a designer in the ATO. The results from this study use ANT to draw out the importance of the human and non-human actors that make up networks of action and interaction, which over a decade have permitted the embedding of design in the management practices of the ATO. The study analyses these networks at points in time to define the embedded meaning of design and types of design problem solving histories. Using sociology of translation to explore change over time, the thesis draws out what has enabled design to ‘stick’ in the management work. This study critically contributes to a growing interest in how organisations can adopt and embed design and, in particular, contributes empirical evidence of public management adopting design which directly contributes to the growing interests in citizen-centric management practices in public management and leadership.

Key words: Managing by design, citizen-centric, Australian Taxation Office, Actor Network Theory, Participatory design, Public Sector Management
Acknowledgements and Thanks

I write this acknowledgement with a greater sense of appreciation and gratitude than I could possibly have imagined at the start of this study and thesis. No thesis is ever written on one's own and the real achievement is owed to many people – people who inspired me, people who shared their knowledge and experience, people who showed untied interest and people who supported me in the pursuit of my dreams.

I want to thank my immigrant grandmother ‘Mama’ who was never schooled and was one of the most clever and affectionate people who has graced my life. She encouraged me to learn and strive to be the best I could, and whilst she is not here to see this milestone she was in spirit a source of motivation throughout this thesis.

I thank my family who were constant sources of support and love. My mother Viorika, thankyou for always believing in me, encouraging me and being constantly delighted in my progress. My father John, thank you for your persistence in understanding what I was researching and encouraging me to keep going. My siblings – Yvette, Alexandra and Samuel, thanks for being there and gaining more excitement as the finishing line came closer.

I am grateful to my partner Danny who demonstrated patience and support throughout the time of me juggling fulltime work and studying part-time. I am grateful for the time, space and constant encouragement. The understanding of the many hours and intense periods where I was simply ‘locked away’ writing was unselfish and I am thankful.

I am indebted to John Body, ThinkPlace founder and business partner for his encouragement from the start that I should take on a research degree. His belief in me and my abilities was unwavering. I am very grateful to his interest and intellectual input every step of the way - listening patiently to my explorations, reading many drafts, challenging my thinking and offering encouragement when I needed it most.

I was blessed to have been directed to Associate Professor Anni Dugdale as my primary supervisor. Anni has been the master and I the student, diligently following her advice even if at first I had no clue to what sociology and research was about! Anni’s tutelage and ongoing guidance – tough and direct at times, was flawless in developing me into a research sociologist and writer. I also thank Associate Professor Monica Kennedy and Professor Deborah Blackman who provided guidance and support at points in my research.

I owe a great deal to my friends, research colleagues and staff of the University of Canberra throughout my candidature. The comments and questions have encouraged, supported and enlightened me – thankyou. I would also like to acknowledge the contribution of the Research Training Scholarship.

I thank those colleagues in the field of sociology, design and management who have made an effort to show interest and engage with me in the progress of this thesis. Associate Professor Sabine Junginger, thankyou for your encouragement and stimulating conversations about design and public management. Caroline Meads, fellow
researcher and designer thankyou for sharing the challenges and excitement of research and persistently asking ‘Are you done yet?’ Professor Richard Buchanan, thankyou for being part of this journey from my work in the Australian Taxation Office and for the few but important opportunities to hold dialogue about my research. Professor Fred Collopy, thank you for your interest and conversations. Professor Adele Clarke, it was an honour and privilege to discuss my research in light of applying situational analysis, it opened up my understandings and gave me the confidence I could do research. The many professors and PhD students I have met throughout the years at conferences in Australia and overseas it has been humbling and encouraging to know I am part of a wider community of passionate researchers who are doing great work in this field of management and design.

I acknowledge and thank Denis Whitfield for editing my thesis and taking the time to provide detailed notes to improve my writing. I thank my talented work colleague Sarah Forrester who took a graphic and illustrative eye to the diagrams and tables in this thesis.

Importantly I thank the Australian Taxation Office and the participants of the study for generously offering their time, thoughts and interest in my study. I dedicate this thesis to those who have the courage to “manage by design”.
# Contents

Abstract iii  
Certificate of Authorship of Thesis v  
Acknowledgements and Thanks vi

1 INTRODUCTION ............................................................................................................. 1

BEING PART OF SOMETHING EMERGENT ................................................................. 1
   A short story ..................................................................................................................... 1
   A new design project – Integrated Tax Design in the Australian Taxation Office .......... 4
   A new application of design in the public management reform context ....................... 5

THE DECISION MOMENT: THE RESEARCH OPPORTUNITY ........................................ 8
   What are the research questions? ................................................................................ 8
   Why are these questions important? ............................................................................ 9
   If these questions go unanswered, what are the consequences? ............................... 10

THE SIGNIFICANCE OF THIS STUDY ............................................................................. 11

THESIS OVERVIEW ........................................................................................................... 14

2 LITERATURE REVIEW .................................................................................................... 19

INTRODUCTION .................................................................................................................. 19

AT THE INTERSECTION ..................................................................................................... 21

MANAGING AS DESIGNING – THE PERSPECTIVE FROM DESIGN STUDIES ............... 24
   The journey of design thinking as a new management paradigm .................................. 24
   The Manager as Designer ........................................................................................... 27
   The Manager, the designer and the user ...................................................................... 28
   Design in management work – an order of design ....................................................... 29

DESIGN AND THE FOURTH ORDER – DESIGN AND ORGANISATIONAL STUDIES ........ 32
   Design and organisational innovation ......................................................................... 32
   Business strategy and design ...................................................................................... 33
   Design and organisation design .................................................................................. 34
   Design and design of social systems .......................................................................... 35

TRANSFORMING ORGANISATIONS THROUGH DESIGN .................................................. 36
   Design tools and the design process inspiring change ................................................ 36
   Cultural change and movement toward design-led organisations ................................ 37

TRANSFORMING PUBLIC ORGANISATIONS TO BE MORE CITIZEN –CENTRED – PUBLIC ADMINISTRATION STUDIES ................................................................................. 40
INTRODUCTION .................................................................................................................. 51
SEEING KNOWLEDGE AS CONSTRUCTED AND SITUATED ........................................... 52
  What is the nature of the world under study? ......................................................... 52
  What kind of theory or perspective might fit the nature of this world? .............. 53
  What are the assumptions that lie within this theory? .................................. 55
  Identifying a mode of inquiry - Actor Network Theory ................................... 56

SHAPING THE RESEARCH DESIGN .............................................................................. 58
  Postmodern Grounded Theory, Situational Analysis and Actor Network Theory package: governing choice of method ................................................................. 61
  Methods: to gather and analyse data ................................................................. 64
    Exploratory in-depth interviews ........................................................................ 67
    Organisational artefacts analysis .................................................................... 68
    Participant Observation – Auto ethnographic accounts .................................. 70
  Considerations ....................................................................................................... 73
    Access to organisational members and artefacts ............................................. 73
    Selection of organisation members .................................................................. 74
    Self as researcher: overcoming bias .................................................................. 74
    Confidentiality ..................................................................................................... 75
    Credibility and trustworthiness ......................................................................... 75

EXECUTION OF THE RESEARCH DESIGN ........................................................................... 77
  Phase 1 – Research design ....................................................................................... 79
  Phase 2 – Iterative data gathering, analysis and writing ........................................ 79
    Stage 1 – Initial exploratory interviews ............................................................. 79
    Stage 2 – Further in-depth interviews and document collection ....................... 80
    Stage 3 – Further in-depth interviews and exemplar design projects .................. 90

CONCLUSION .................................................................................................................... 91

4 INTRODUCING THE AUSTRALIAN TAXATION OFFICE ......................................... 93
  INTRODUCTION .......................................................................................................... 93
  THE TAX AND TRANSFER SYSTEM IN AUSTRALIA .................................................. 94
    Australian government or Federal Tax system ................................................. 95
    Self assessment system ....................................................................................... 96
    Cooperative and willing community of taxpayers ............................................ 97
  THE ADMINISTRATION OF THE AUSTRALIAN GOVERNMENT TAX SYSTEM ........ 97
5 INTRODUCING AND LOCATING MANAGING BY DESIGN .............. 103

INTRODUCTION .............................................................................................................. 103
INTRODUCING THE PHRASE “MANAGING BY DESIGN” ......................................... 105
LOCATIONS OF MANAGING BY DESIGN ...................................................................... 110
  Location 1: Form design with taxpayers ................................................................. 111
     Inter-relations of actors – human and non-human to create the form .................. 115
     Activities and arrangements employed in form design ....................................... 120
  Location 2: Strategic design conversation .............................................................. 121
     Inter-relations of actors – human and non-human in the strategic conversation ... 124
     Arrangements for strategic conversations .......................................................... 127
  Location 3: Translating new policy into administrative implications.................... 128
     Inter-relations of actors – human and non-human in translating new policy ...... 131
     Activities and Arrangements for translating new tax policy ............................... 133
EMERGING MEANING OF ‘MANAGING BY DESIGN’ .................................................. 134
  1. Collaborative and dialectic ....................................................................................... 135
  2. Commitment to the citizen or end user ................................................................. 136
  3. Construction of knowledge ..................................................................................... 136
  4. Creative, visual and material .................................................................................. 137
  5. Disciplined and rigorous ........................................................................................ 138
CONCLUSION .................................................................................................................. 139

6 TRANSLATIONS OF MANAGING BY DESIGN ......................................................... 143

INTRODUCTION .............................................................................................................. 143
THE PROBLEMATIZATION PHASE – OR A CASE FOR MANAGING BY DESIGN .......... 145
  Element 1 – Review of Business Taxation ............................................................... 147
  Element 2 - Establishment of Integrated Tax Design Team .................................... 148
     Addressing the lack of integration ......................................................................... 149
     User perspective focussed rather than process ...................................................... 149
     Collaborative team based instead of deskbound and individualistic ....................... 149
     Provide a framework for applying design thinking ................................................. 150
  Element 3 – Backdrop of strategic thinking tools such as Systems Thinking .......... 151
  Element 4 – Influencers from outside the organisation: consultants and design academics ... 155
  Element 5 – Influencers from outside the organisation: Tax Agents and Small Business Community ... 158
Conclusion .................................................................................................................... 159

THE INTERESSEMENT PHASE – OR THE DEVICES TO PERSUADE ............................. 160
  Strategy 1 - Self realisation “Completing the BAS form” and “The woman who cried” .... 162
  Strategy 2 – Collective learning Design Conferences 2 and 3 ................................. 165
PROBLEM OF ORGANISATION DESIGN ................................................................. 241
PROBLEM OF POOR EXTERNAL EXPERIENCES ............................................. 250
TWO COMMON CHALLENGES IN THESE PRACTICES .................................. 261
  Challenge 1: The complex and ambiguous design problem ......................... 262
  Challenge 2: Understanding the extent of engagement with taxpayers or tax professionals ...... 268
  Impediments ................................................................................................. 268
  Drivers ......................................................................................................... 272
CONCLUSION .................................................................................................. 276

9 NEW PUBLIC LEADERSHIP: THE DESIGN PUBLIC MANAGER .......... 279

INTRODUCTION ............................................................................................ 279
WHAT ARE THE TYPES OF DESIGN PUBLIC MANAGERS? ....................... 281
THE SENIOR LEADER OR DESIGN CHAMPION ......................................... 283
  A persona .................................................................................................. 283
  Network described – Strategic design ......................................................... 284
    Scene 1: Create interventions with peer senior leaders fostering design .......... 287
    Scene 2: Use existing organisational settings to inject managing by design .... 288
    Scene 3: Define and reference design scripts in speeches and communications 290
    Scene 4: As a voice of intent, participate in design projects ...................... 291
    Scene 5: Invest in design resources and design projects ......................... 293

THE DESIGN MANAGER .................................................................................. 296
  A persona .................................................................................................. 296
  Network described – Managing design ......................................................... 297
    Scene 1: Coordinating and practically engaging the community .................. 299
    Scene 2: Discerning the quality of the material or ‘design product’ in collaborative design processes.... 300
    Scene 3: Managing up and across the organisation to build an understanding of design .......... 302
    Scene 4: Building a design team ............................................................ 303
    Scene 5: Managing the work and allocation of work to a design team .......... 304
    Scene 6: Leading design projects and ensuring design is integrated .......... 305

THE DESIGNER .............................................................................................. 306
  A persona .................................................................................................. 306
  Network described – Design Execution ....................................................... 307
    Scene 1: Creating the design artefact to understand and communicate change .... 309
    Scene 2: Create the networks to enable decision making ......................... 310
    Scene 3: Learning by observation and knowledge sharing ....................... 311
    Scene 4: Working in multi-disciplinary and intra-disciplinary teams .......... 312
    Scene 5: Discerning good design from poor design in the design problem solving process .... 313
    Scene 6: Crafting design methods and processes for each design project ...... 314

CONCLUSION .................................................................................................. 315

10 CONCLUSIONS AND IMPLICATIONS ......................................................... 321
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>321</td>
</tr>
<tr>
<td>EMPRICAL FINDINGS</td>
<td>323</td>
</tr>
<tr>
<td>The embedded meaning of design in the organisation</td>
<td>324</td>
</tr>
<tr>
<td>How the organisation has changed as it has adopted design?</td>
<td>326</td>
</tr>
<tr>
<td>Embedding is not a linear process of diffusion</td>
<td>327</td>
</tr>
<tr>
<td>Embedding design practically understood as paradoxical</td>
<td>329</td>
</tr>
<tr>
<td>How design is being practiced in the organisation and the situations of action?</td>
<td>332</td>
</tr>
<tr>
<td>THEORETICAL IMPLICATIONS</td>
<td>336</td>
</tr>
<tr>
<td>CONTRIBUTION TO ACTOR NETWORK THEORY</td>
<td>341</td>
</tr>
<tr>
<td>RECOMMENDATIONS FOR FUTURE RESEARCH</td>
<td>343</td>
</tr>
<tr>
<td>LIMITATIONS OF THIS STUDY AND HOW THESE WERE OVERCOME</td>
<td>345</td>
</tr>
<tr>
<td>CONCLUSION</td>
<td>347</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>349</td>
</tr>
<tr>
<td>APPENDIX A</td>
<td>369</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td>375</td>
</tr>
</tbody>
</table>
List of Tables

Table 1 Summary of Four Orders of Design ................................................................. 31
Table 2 Research Methods addressing research questions ........................................... 66
Table 3 Ordered situational map: Elements in the case organisation illustrating management by designing ................................................................. 85
Table 4 List of interviews conducted ..................................................................... 91
Table 5 Examples of services, construction and maintenance taxes help pay for ........ 94
Table 6 Inter-relations – Human and Non-human actors in the design of the Portability Form ................................................................. 115
Table 7 Inter-relations between Human and Non-human actors in the strategic conversation ................................................................. 124
Table 8 Inter-relations between Human and Non-human actors in the translation of a new tax policy ................................................................. 131
Table 9 Summary of the meaning of design as practiced in the ATO ......................... 141
Table 10 Design Public Management roles - unique and shared characteristics .......... 316

List of Figures

Figure 1 At the intersection - diagram showing scope of literature ................................. 23
Figure 2 Design Process ....................................................................................... 28
Figure 3 Four developmental dimensions of design in organisations .......................... 38
Figure 4 Design Ladder (Christenson, 2010) ............................................................. 39
Figure 5 The research problem driving the research design ......................................... 60
Figure 6 Methods used in the study ......................................................................... 66
Figure 7 Research phases and stages ......................................................................... 78
Figure 8 Emerging themes and codes ....................................................................... 81
Figure 9 Messy map: Elements in the case organisation illustrating management by designing ................................................................. 83
Figure 10 - Design Arena Situational/Project Map ..................................................... 88
Figure 11 Scheme of the Tax-Transfer system (Source: Architecture of Australia's tax and transfer system (Treasury, 2008: 8) ................................................................. 95

Figure 12 Simplified administrative framework of the Australian Government tax system (adapted from (Treasury, 2008: 51) .................................................................................. 98

Figure 13 Regulatory Process (Source: ANAO Better Practice Guide: Administering Regulation (2007: 2) .................................................................................. 99

Figure 14 Superannuation Portability Form ................................................................. 113

Figure 15 The Design Wheel Source: (2002) ............................................................. 118

Figure 16 Example whiteboard mind-map from a design conversation (Source: Author) .......... 127

Figure 17 Example Policy Intent -artefact from the design process (Source: ATO, date unknown) ...... 130

Figure 18 Problematization – A case for design.................................................................. 146

Figure 19 Reforming the Tax Design Process: A blueprint for building an integrated tax design capability (Source: ATO 2001) .................................................................................. 150

Figure 20 Interessement phase – or the devices to persuade ............................................. 161

Figure 21 Integrated Tax Design Conference 2 (Source: ATO 2002) ................................ 167

Figure 22 ATO Design Principles poster (ATO 2002) .................................................... 170

Figure 23 The Green Book, the original guide (Source: ATO) ............................................ 172

Figure 24 The Design Wheel Source: (ATO 2002) ......................................................... 172

Figure 25 Enrolment phase – or the strategies to gain further support ................................ 175

Figure 26 Illustrative organisational picture of distributed design teams ......................... 180

Figure 27 The Guide (ATO 2002) ................................................................................... 188

Figure 28 The Guide (ATO 2004) ................................................................................... 189

Figure 29 The Guide (ATO 2008) ................................................................................... 189

Figure 30 The Guide (ATO 2002: 28) ............................................................................ 190

Figure 31 The Guide (ATO 2002: 29) ............................................................................ 191

Figure 32 Design Wheel (ATO 2002) ............................................................................ 192

Figure 33 Design Wheel (ATO 2004) ............................................................................ 192
Figure 58 Summary: Design methods used to address Drivers and Impediments to engage and design methods ...............................................................

Figure 59 Zoom 1 - Design Champion Network ........................................................................................................... 277

Figure 60 Design Champion within the design process ................................................................................................. 286

Figure 61 Zoom 2 - Design Manager Network ............................................................................................................. 286

Figure 62 Zoom 3 - Designer Network ......................................................................................................................... 293

Figure 63 The Design Public Manager Model ............................................................................................................. 298

Figure 64 Design problems situated in the Tax policy, legislative, and administrative process ................................. 308

Figure 65 Design problems situated in the Tax policy, legislative, and administrative process ................................. 318

Figure 66 Design problems situated in the Tax policy, legislative, and administrative process ................................. 324
1
Introduction

Being part of something emergent

A short story

In 2003 I was an employee of the Australian Taxation Office. I was a design facilitator. I was working on projects such as administrative responses to new tax policy, organisational change projects, and new products and system designs for staff. This involved working in core design teams which were small groups drawn from many different areas across the organisation. I was following a design methodology which was new and different for the organisation. This methodology was inspired by design school philosophy and, in particular, human-centred interaction design approaches. This approach made complete sense to me, as a marketing trained manager because it was about starting with the end user, the taxpayer, tax agent, or a superannuation firm. It required design of the changes from the human perspective ensuring that the designs of tax products and services took into account the needs of people. And that these people who would end up carrying out or living with these designed products could do so easily, usefully and satisfactorily. The explicit understanding I took in my work was that I was to drive any project I was assigned by following the design method. I relished in the permission to bring different groups of people together, like information technologists, legal specialists, communications specialists, and operations staff to debate and work through the overall design of any change to the tax system following a method that drew from a human-centred view of design and change.
This human-centred view enabled me as a designer to start a tax project with the questions like: What are we making? Who are we making it for? What difference will it make for them? How will we design this change with them? These were provocative and challenging questions to groups of people who had their own set of questions to ask which were different from this outside-in perspective. At the time I perhaps was naive and did not fully appreciate how radical this approach was in the context of the Australian Taxation Office, or in the context of a public sector organisation. I pursued it because I was in a design role, I had peers around me who were doing the same thing and there were clear supporters of this way of working through each layer of management above me, including the Commissioner of the organisation.

The realisation that perhaps what I was doing and where I was working might be interesting warranting research emerged for two reasons. Firstly, in late 2003 I was interviewed by Dr Sabine Junginger for her doctoral work on Change in the Making (Junginger, 2006b) which focussed on how design or human-centred methods were being adopted by organisations and what aspects of the organisation changed in this process. Secondly, within a few years popular media began picking up the emergent convergence of design and management. Discussions became more common of the benefits for management of adopting more design based approaches to tackle problems and innovate for organisational success in the more uncertain global contexts of the 21st century (Martin, 2005; Martin, 31 July 2006; Martin, 2007; Collopy, 2010). I was intrigued by the limited view of what design meant, and what sorts of design problems were being tackled that characterised these popular discourses. The view of design was very much product centred which enforced a strong singular end point of simple product design. There seemed a very obvious gap that public sector organisations, such as the Australian Taxation Office applying design to taxation system problems where I
worked, were not represented. Where, I thought, is the discussion of integrated sets of products demonstrating complex systems such as tax systems or organisations as design artefacts or how the organisation might galvanise around the concept of thinking like designers to design comprehensive change?

This point of unique application of design in a public sector organisation was reinforced when I left the ATO to be part of a start-up consultancy called ThinkPlace in 2007. This firm focussed exclusively on applying design methods using a process similar to the ATO working in partnership with a range of public sector clients. Its founder, John Body, was one of the design advocates and design champions in the ATO where this all began. I was struck that many of the public organisations I worked with as a consultant were a paradigm away from the design approach the ATO had developed and applied since 2001. That is, other public organisations did not conceive the user experience in their work; they lacked frameworks and common terms to discuss end users and poor abilities to collaborate. I was motivated to study my own experience as a designer and contribute not only to the field of management, design and public management studies but also to the organisation itself. It is only possible to study empirically those things that are happening, and if it were not for the innovation, foresight, and courage of the leaders and advisors to the Australian Taxation Office in late 1999 and early 2000, the current spread of design approaches engaging citizens in public sector organisational contexts would by much less likely.
A new design project – Integrated Tax Design in the Australian Taxation Office

Where to begin the story of how management by design became embedded in the ATO is likely to be contested. Here is one beginning. In late 1999, after a lengthy review of the Australian Business Tax System, the final report known as the Ralph Review (Ralph, 1998-1999) was delivered. There were eight main areas of recommendation, and the first set of recommendations, Building a Strong Foundation, addressed the following issue:

...the experience in the past has been for [tax] policy development, legislative design and administration to be done sequentially with inadequate feedback between the three stages. This has often produced unsatisfactory outcomes from one, or indeed all, of the perspectives involved (Ralph, 1999: 35)

This statement referred to inherent problems in how aspects of the tax system were designed and implemented. What was lacking according to the Ralph Review was “the articulation of the end to end design process that must link policy formulation to its execution in both law design and administrative design” (Preston, 2004: 209). The Building a Strong Foundation recommendation stated:

An integrated tax design process is proposed in order to ensure that policy, legislative and administrative/compliance concerns are all given appropriate weight and addressed in a comprehensive manner in the development of new tax proposals (Ralph, 1999: 35).

This recommendation to establish an “integrated tax design process” (Ralph, 1998-1999: Part 1 Section 1: 95) initiated the start of a project that would become my work from 2003 through to 2007.

This thesis starts from this point in the organisation’s narrative. It draws on the injection of human-centred design as central to the realisation of an integrated tax design process solution and how, under the leadership of senior tax leaders, consultants and design mentors such as Professor Richard Buchanan, former Head of School of Design at
Carnegie Mellon University, this project infused a new way of working into the day to
day management work of the ATO. And as a practice of managing by design that has
been sustained at the ATO for over ten years (Body, 2007: 56-57; Preston, 2004: 208;

At a conference I attended in 2009, Global Forum for Business as an Agent of World
benefit: Design in a Era of Massive Innovation hosted by Case Western Reserve,
Weatherhead School of Management, this project was referred to by Dr Buchanan as
“the most significant project in design in recent times” (Buchanan, 2009)\(^1\). He made
this comment because of the significant change achieved in transforming a large
bureaucratic and inherently legal and accounting based public sector organisation into
an organisation ordered around deeply embedded human-centred practices of co-design.
In other words the end user of tax laws, and tax products had been co-located at the
centre of the ATO’s decision making. This was a thoughtful and profound paradigm
shift. The shift also, according to Buchanan, was that the organisation, through
intentional change efforts, started to see that they were making complex sets of
interactions for distinct end users rather than administrating laws and rules, and then
these complex interactions had to be designed with the end user in mind and be more
participatory and collaborative to significantly benefit all parties.

A new application of design in the public management reform context

The site of this study is a public sector organisation, a large, bureaucratic government
agency. The study investigates human-centred design as a management practice in an

\(^1\) Panel discussion comment made by Dr Richard Buchanan at the Global Forum in 2009 on “Managing
by Designing”, Cleveland Ohio, Case Western Reserve University.
important situation because it draws us closer to practical applications of co-locating the
citizen/community/user inside of government decision making. This is not commonly
practiced despite widespread advocacy of participatory practices to work with the end
users of public policy and services early in the formulation phases (Pestoff, 2009;
Alford, 1998; Dunston et al., 2009). Where the balance between representative and
participatory democracy should lie is outside of this thesis. Rather the focus of this
thesis is on providing empirical evidence about how to realise the reform of public
management toward more citizen-centred approaches. In Australia public sector reform
a stronger emphasis on citizen-centred approaches is strongly supported in the literature
(Briggs, 2009; Briggs and Lenihan, 2011; Holmes, 2011; Involve, 2005; Moran, 2010c;
Moran, June 2005). How can citizen-centred practice become routinised in government
agencies achieved not merely by producing an organisational statement or a project here
and there? How can entire organisational shifts occur which have transformed the
psyche, and the overall culture performance of participatory governance management to
making it human-centred? The emphasis on performances and multiplicity of actions in
management work inherently taking a more human-centred approach is discussed and
described in this study.

The idea of taking a human-centred approach is about humanising the design of a
product. A product, real or abstract is “inherently tied to human needs and concerns”
(Hanington, 2003: 10). As expressed by Junginger:

... human-centred product development invites the organisation to see the
world differently. It introduces perspectives and experiences of “other”
people – people who are not familiar with acronyms, processes, hierarchies,
or standards created by internal [organisational] experts (Junginger, 2008:
33).

This explanation of human-centred design helps situate the place that design might have
in a public sector organisation. Firstly, everyone ‘designs’ who creates preferred futures
(Simon, 1996) but not all design approaches take a human-centred product design approach. In a public sector organisation ‘new futures’ are designed through a combination of new government policy and administration changes. These changes are rarely tackled by taking a user or human-centred or participatory approach. Secondly, this perspective of inviting the ‘other’, the end users, into the tax product design process has barriers and challenges because policy makers and public administrative managers are not known for their ‘human-centred’ approaches. Rather policy makers and public administrative managers independently craft, design and rollout their efforts to the end users. Thirdly, this use of ‘human-centred product design’ creates new boundaries around what is made and for whom. Re-conceiving a public policy or an administrative change as a product of complex interactions is a significant shift in paradigms because this frames the process of making as one that can be deeply human-based and user involving. This convergence of human-centred product design approaches and the proposition that public sector organisations could better conceive their work as participatory citizen-centred designs which are made up of complex and many interactions is at the heart of this study.

This is also a study of the changing role of managers and the evolution of a new type of manager – the designing manager (Boland and Collopy, 2004). This is interesting in this study because it is about public managers as designing managers, and this is not well researched or understood. This new role in public sector management is exciting and presents a new framework for the emerging perspective in social sciences called ‘managing as designing’ (Avital and Boland, 2008). It also helps paint an empirical view relevant to the current reform agenda in public management because it frames the situated public manager and new types of public management roles that could emerge as citizen-centric approaches are embraced by public organisations.
This study is situated amongst the cultural identity and management practices within an organisation that at first might seem diametrically opposed to the taking of a human-centred design approach. What might tax lawyers, accountants and auditors have to do with designing with end users? Why would they participate in solving problems collaboratively with non-experts, mere citizens? This study explores the elements enabling the practice of human-centred design to flourish in such an institution as the Australian Taxation Office. This is an organisational study of constant recalibration for design as a management practice to be a relevant and meaningful in the Australian Taxation system.

**The decision moment: the research opportunity**

What are the research questions?

There is little empirical evidence of how large complex organisations, like the Australian Taxation Office, take on the development of human-centred design over a long period of time and, in doing so, re-shape themselves. This thesis follows the ATO as it creates design roles and teams and places them across the organisation; self defines design methodology, and constantly performs design and tackles complex design challenges to transform the interpretation of tax policy and administrative design. This thesis inquiry asks: *how has a unique group of people, roles, practices, management approaches, and artefacts come to constitute human-centred design, and how has this become embedded in the Australian Taxation Office? What sorts of products are being designed? Who is designing and how? What has design come to mean in the ATO?* The specific research question addressed by this thesis is:

*How has design become a management practice in the Australian Taxation Office, a complex public sector organisation?*
Relevant sub-questions are:

1. What is the embedded meaning of human-centred design in the Australian Taxation Office?
2. How has the Australian Taxation Office changed as it has adopted design?
3. How are practices of design being sustained through what situations of action?

These questions reflect the exploratory nature of this research. This means that this research does not impose a hypothesis or seek to impose a theoretical framework; rather the approach is exploratory and grounded in the situation of action in the case organisation. These questions are formulated to guide empirical enquiry which is needed in this interdisciplinary area of research.

Why are these questions important?

These questions take us back to the initial discussion in this introductory chapter about new applications of design. The only way to extend what may be unique and transformative in one organisation to another is to find ways to study and understand what is going on in that unique case and then leave some general truth to others to find. This study explores and analyses the situated practices of human-centred design and organisational developments to embed these practices in the Australian Taxation Office. There is an important story to tell here, and it may be that this story holds some insight for other large complex organisations who seek to understand and embed design, to take a human-centred approach in the design of their organisation’s products and services. It is a study that presents a model for public sector organisations seeking to reform themselves with the intent of realising empowerment of citizens in their decision making processes. If public managers are to be empowered to change then the public sector organisations themselves must change!
The research questions addressed in this thesis are important because they are being asked across management disciplines and design disciplines. How can design and business work together (Martin, 31 July 2006; Martin, 2007)? How can design bring sustainable business solutions (Cooperrider, 2009)? How can managers be more like designers (Avital and Boland, 2008; Beverland and Farrell, 2007; Krippendorff, 1989)?

There is growing interest in addressing these questions. The need for case studies and real examples of design and management working together is evident in the current discourses. The organisations of today are managing complexity. To continuously respond and adjust to the complex ecologies within which today’s organisations operate, and the ability to frame right business problems and to explore how to resolve these business problems, new tools and a new sort of management is needed. This study seeks to contribute to these debates.

**If these questions go unanswered, what are the consequences?**

There are interested audiences, both academic, in fields such as management, design, organisational change and practitioners – the managers in large organisations. The consequences of not studying these research questions is that this emerging practice and management discipline will be limited by the current space occupied by design in large organisations. Current design practice is limited to well bounded areas – innovation projects driven by profit outcomes or simple product design. In either case there is no lasting structural or cultural effect on the organisation. It is not enough to talk about the design method, or the designed artefact or the designer on their own (Avital and Boland, 2008). This is a study that is about seeing the situated interaction constituting the holistic organisational rewriting required to put design or human-centred design at the centre of a very complex and symbolic government organisation – the Australian
Taxation Office. The emphasis to apply human-centred design to the ‘system’ of all interactions, like the tax system or the organisation itself, and this is a new canvas.

**The significance of this study**

The act of designing is entering a new space, designing is becoming a new way of doing management, of ordering the relationships and interactions between various elements constituting complex systems (Liedtka, 2011). Design recognises that problems and problem solutions are not technical in the sense that they can be solved by a single expert professional drawing on a bounded pre-existing knowledge of accounting, economics, law, consumer behaviour or interface design, and nor can they be solved by each of the above solving their bit of the puzzle. Design is a practice that recognises the messiness of knowledge and expertise, grasps their emergent character and can bring citizens back into the equation as authorities on their own lives or the human centred perspectives. How has this design practice come to be understood in the situation of the Australian Taxation Office and the situated interactions of the Tax system? This study is significant for the further understanding of how design might possibly be conceived as a strategy in a public sector organisation, and how it can work in a rule based, largely legalistic organisation like the ATO. This is an inherently provocative study. It provides a deep analysis of the ATO’s experience in adopting and embedding design but in doing so challenges other public sector organisations.

This study draws on a data set that includes auto-ethnographic accounts of the researcher who worked as a designer at the ATO for a period of four years between 2003 and 2007. This provides this research with data which captures ‘having been there’ and in situ. This active participation in design work directly contributes to the research theoretical position, of situated practices and constructed meaning through
action. Some research methodologists are critical of autoethnography, claiming they can be “self indulgent” (Coffey, 1999: 155) but others Ellis and Bochner (Bochner and Ellis, 2002) advocate “the researcher's own experience [is] a topic of investigation in its own right” (Ellis and Bochner, 2000: 733). The author’s experience of ‘designing’ in the ATO is balanced with in-depth exploratory interviews with people working in the ATO today who are able to reflect on their experience with design in the ATO, some over ten years, others over shorter periods, many on current practices. Moreover in addition to these personal accounts a close analysis of a range of different kinds of documents has been conducted. These three sources, autoethnography, in-depth exploratory interviews and document analysis, provide a rich data set from which to unpack the shifting meaning of design at the ATO, to understand how design has become embedded in the day to day management practice of the ATO and to describe how design is practiced in the ATO.

This study takes an actor network approach to understand and analyse the embeddedness of design in the case organisation. Actor Network Theory (ANT) is discussed further in this thesis, but here, it is suffice to say, that ANT provides a kaleidoscopic but empty grid which must be filled with the particulars of the specific case study. This approach is significant because it destroys the simplistic discourse of change being a simple linear series of events. It also challenges the notion that change occurs because of a few heroic people or events. Rather, this study embraces the messiness of change and seeks to reveal this messiness rather than disguise it with simplistic narratives. By doing this, this study contributes to a growing body of research that is showing that to embed design thinking, design approaches or design practices in organisations of any kind, is a major challenge (Heiman and Burnett, 2008). Callon’s
call for an ethnology of diffusion (Callon, 1986) has been used to organise the change narrative.

This study also contributes much needed empirical analysis to the emerging management sub-discipline of managing as designing (Boland and Collopy, 2004). The opportunity to analyse design in situations of action and highlight the materiality of these practices presents this emerging discipline with a possible new lens. This thesis attends to the situation of design performances in the Australian Taxation Office following the sociology of technology. This is achieved by mapping the actors, the non-actors, and the discursive elements to understand design in management work in the ATO. This study is inspired by the work of Clarke, and situational maps and analysis which involved:

...descriptively lay out the best one can all the most important human and nonhuman elements in the situation of concern of the research... Who and what are in the situation? What elements “make a difference” in this situation? (Clarke, 2005: 86-87)

This approach coupled with Actor Network Theory (Callon, 1986; Latour, 2005; Law, 2007) further assisted in the analysis of the nature of embedding and changing management arrangements to make space for design in the work of the ATO, as described by Clarke:

Actor-network theory initiated a much more explicit and full(er) theoretical and methodological status for the nonhuman... to study actor-networks, the analytic task (much simplified) is to follow the leaders, describe what they do (including production of and interaction with the nonhuman), how they (both human and nonhuman) interest potential allies’ needs, and then enrol them as allies in the actor-network through a funnelling process. (Clarke, 2005: 61)

This methodological /methods approach offers a descriptive contribution to emerging theories on design in organisations and design to address complex problems.
The study draws insights which positions it to appeal to a wide audience: academics in management and designers who are seeking the examination of the theory in practice; the managers and leaders in large public organisations who wrestle with the complexity of problems and how to best tackle them; and the prospective designers who look at the world as a place they can influence and shape.

This is the examination of one organisation, the Australian Taxation Office where design as a management approach is embedded into its working arrangements. It is a story of institutional change; the transformation of an inherently legalistic, technical, accounting, processing organisation to an organisation that has created space and capacity to be collaborative, participatory and designing with its end users (taxpayers and tax professionals) as ‘participatory’. The Australian Taxation Office is a good case for study because there is little doubt of its predominance in leading the application of design into its public management work of a revenue agency (Body, 2007; Collopy, 2010; York et al., 2010; Terrey, 2010a; Terrey, 2010b; Junginger, 2006b).

**Thesis overview**

The thesis is organised into ten main chapters

**Chapter 1 – Introduction.** This chapter sets up the thesis and why this study has been undertaken.

**Chapter 2 – Research at interdisciplinary crossroads.** This chapter sets out the interdisciplinary nature of this study and traverses three broad sets of literature – design studies, organisational studies and public management studies. The narrative in this chapter focuses on the movement of traditional design studies into the scholarly literature of management and organisational studies. The application of design in
management, the transformation of the organisation itself through design, and the transforming of public organisations through design is discussed.

**Chapter 3 – Research design, theory and methods.** This chapter describes the way the research was conducted. It discusses the theoretical underpinnings that have shaped the research methodology and the analysis. This includes Actor Network Theory and Adele Clarke’s situational analysis (Clarke, 2005; Clarke, 2009) as key methodological/methods package. These are outlined and key elements are discussed and how they have shaped this thesis inquiry and analysis.

**Chapter 4 – Introducing the Australian Taxation Office.** This chapter provides background for those readers who are unfamiliar with the Australian public sector landscape and the role and purpose of the Australian Taxation Office. This chapter helps situate the case organisation and the unique application of design within this type of public sector organisation.

**Chapter 5 – Introducing Managing By Design and locating it.** The main purpose of this chapter is to define ‘Managing by Design’ as the term used in this thesis to mean public management work that is performed by taking a more human-centred, participatory, visual, and physical approach to bring change and create preferred futures. This chapter presents a snapshot of locations in the ATO where this approach is used, and traces actor network elements permitting management by design. This chapter sets up the term ‘managing by design’ used in other chapters not merely as a definition but as a lived experience within the ATO.

**Chapter 6 - Translations of Managing by design.** The main purpose of this chapter is that the infusion of ‘design’ into management can be understood using the model of translation from science and technology studies as defined by (Callon, 1986);
Problematization, Interessement, Enrolment and Mobilisation. This chapter focuses on the first three phases. The chapter argues that the embedding of design into the management arrangements is the result of multiple actors, human and non-human, forming networks over a period of time. There are multiple strategies and devices used to infuse design across the organisation. This chapter sets up the explanatory framework developed in showing how managing by design has become embedded over a period of time through the constant forming and reforming of networks that involve key actors – human and non-human, whose agency is not determined but derives from their relationships to other actors in the network. This narrative is continued in the following chapter, the fourth stage of infusion; mobilisation or stabilisation.

Chapter 7 – Stabilising Managing By Design: standardised objects. The main argument in this chapter is that the different social worlds within and external to the ATO are able to adopt and participate in managing by design practices because of standardised packages of managing by design. Using Fujimura’s term standardised packages, (Fujimura, 1992), this permits collective action and a relatively stable view of managing by design to allow productive work to be done. There are three packages identified and discussed: standardised packages of design theory and methods, development and deployment of design teams, and a suite of standardised management arrangements embedding design dialogue in the organisation. This chapter completes the story of infusion from the previous chapter. It also further explores the non-human elements such as the design methods which were touched on in the first analytical chapter. This chapter sets up the space for the next chapter which takes a closer look at the types of design problems and challenges.

Chapter 8 – The Problems, Practice and Challenges of Managing By design. The main argument of this chapter is that there are many types of design problems where
managing by design is employed in the ATO. Three design problems are chosen and analysed. All design problems have different initial conditions and triggers, but all come to be defined as design problems. The chapter argues that despite the differences there are similar approaches taken and the work of designers, in establishing managing by design as a practice to solve problems, is explored. The chapter draws out two main challenges in each of these problem solving histories, firstly the complexity of the design or public management problem, and secondly the challenge of engaging end users. This chapter expands the understanding of the design practices and offers further locations of managing by design.

Chapter 9 – New Public leadership: The Design Public Manager. The main argument of this chapter is that in the course of embedding managing by design in the ATO, a variety of management roles have evolved. There are three roles identified and discussed: the senior leader as Design Champion, the Design Manager and the Designer. The chapter argues that these roles have contributed to creating obligatory passage points which in ANT terms creates network nodes in the management work which require other actors to follow certain scripts. Further, the chapter argues that to understand these roles it is not necessary to understand the intrinsic or personal characteristics of the human actors in these roles, but rather their contingent relational positions in relations within complex networks of human and material networks. The proposition is put that these three roles contribute in three key ways to managing by design in the organisation, and this is presented in “The Design Public Manager Model”. This chapter continues the ANT thread which has been used throughout this thesis to draw together a new model for public management.

Chapter 10 – Implications and conclusions. The last chapter of this thesis draws out the overall conclusions from this study. The main argument is that design as a
management practice in a public sector organisation is embraced when it is recognised as a network of multiplicity of actors and actions. The creation of this network includes many strategies and translations including: dedicated roles and routines for design to be embedded in multiple levels of the organisation, embedding scripts that are reiterated understandings across multiplicity of performances of design so that similar understandings of managing by design become clotted together. Further the application of design is extended to complex set of interactions and experiences like multiple policy changes and not just the design of individual tax administrative products like forms and websites. Managing by design sufficiently integrates the intellectual tendencies of the organisation and scripts are deeply held and re-used by designers and non-designers reinforcing the paradigm of human-centeredness in the work they do.
Literature Review

Introduction

The changes in public sector administration and management over the last few decades due to environmental, market, technological and political factors (Osbourne and Gaebler, 1992; Osbourne and Brown, 2005; Cullen and Cushman, 2000) has triggered reforms which propose new and different models for public sector management to do its work. One of these reforms has been a shift to citizen centric or community centric emphasis to encourage innovation, strengthen democracy and overall improve the effectiveness of public services. In concurrent and unrelated literature, the design studies literature models of design and design thinking have evolved to play a role in the work of organisations and public sector organisations. Junginger and Sangiorigi commented on this:

Of all organisations, government agencies are often perceived to be the least likely places for design activities (Junginger and Sangiorgi, 2011: 481)

Junginger and Sangiorigi argue that public sector organisations show “less flexibility and engrained thinking” (p481) and most of their structures are organised around the “procedural and legal demands than on the needs of the people they serve” (p481). Junginger and Sangiorigi go on to argue that the introduction of human-centred approaches is gaining application in public sector policy and management. The application of design in public sector organisations is emerging. This emerging literature is just that, emerging, so more cases need to be discussed and explored. The opportunity is to learn how and why public organisations embed design in their work.
Also to understand how design might be a plausible model in public management to achieve its innovation and public value outcome goals. The purpose of this chapter is to situate this thesis in this emerging literature and to contribute to the role design can play in public management. It is important to state at the start that this is an emerging interdisciplinary field and this means that research conducted in this area is largely exploratory as it seeks to contribute to the growing knowledge of design in organisational application. Current shifts in public sector management including a stronger emphasis on citizen centric approaches and community engagement mean that public managers are in need of practical models that can bring together diverse participants and their perspectives to best carry out the type of work where government policies are implemented effectively and efficiently because they incorporate the needs of citizens. The opportunity to define how the public manager might go about enabling productive citizen centric engagements can be seen through the vehicle of design.

Increasingly organisations are raising the question – how might a public organisation embed design? This is turning the attention not only to how to go about this work but what necessary spaces in organisations are created to ensure design is embedded in its management arrangements sustainably.

This literature review draws together three types of literature which have emerged and each of which contributes to the question of how design and management are coming together for a variety of purposes. This chapter is structured in six sections. In section one At the intersection, the scope of the literature review is presented. The emphasis is on the overlapping knowledge and disciplines that contribute to this study. In section two: Managing as designing, a brief overview of the history of design and management. It traces the argument for design into the world of management. This section explores the emergence of the manager as designer, the increasing inclusiveness of people in the
design process and the types of management problems which design has been applied to date. This movement labelled in 2002 as ‘managing as designing’ (Boland and Collopy, 2004) triggered an important turning point in the scholarship on management, organisations and design. In section three: Design and the fourth order – design and organisational studies the convergence of design and organisational topics is discussed. This extends the narrative from section two and points to the literatures which draw on organisational topics such as innovation, strategy, organisation design and social design as areas which were traditionally devoid of design thinking but are increasingly showing connections. In section four: Transforming organisations through design – design and organisational studies: explores the literature on the evolution of design in organisations and asks how the organisation itself is transformed in order to embed design in its management practice. In section six: Transforming public organisations to be more citizen –centred – governance studies: explores reported cases of design in public sector organisations in such areas as service design. This section also points to public management debates about the shift from impartial, unconnected, distant governments to increased participation, increased co-designing and a general increase in the democratisation of public policy and service design (Leadbeater, 2004). In the last section of this chapter Contributing to the intersection, the opportunities which the literature review presents and which this study has sought to contribute are summarised and presented.

At the intersection

The subject of this study is design and organisational adoption of design. Scholarship in this area by its very nature is interdisciplinary. There is thus no one discipline defining this study and that makes it both exciting and challenging. Exciting because it
contributes to the emergence of new discourses, and challenging because it speaks to
not one discipline but rather touches on many and as such can run the risk that it will
not do justice to any one of the disciplines. In addition to the literature on design and
organisational application it is also about public sector management literature because
this study is on the Australian Taxation Office (ATO) adopting and embedding design
practices. Moreover this study is an investigation of how design comes to be embedded
in a specific organisational context. This research contributes to the advancement of
academic disciplines in the areas of design, organisational studies and public sector
management.

The intersection of these three disciplines is illustrated below. It is at this intersection
where themes are emerging in the literatures that are shaping the way we think about
design in organisational settings. The literature at these boundaries is growing and
situates this study, raising questions such as: What is the meaning of design and where
have the conceptualisations of design come from into the organisational context? How
have management and design evolved? How have organisations transformed because of
design? How have public organisations and public management become a place for
design? How did design become institutionalised as a management practice?
Figure 1 At the intersection - diagram showing scope of literature
Managing as Designing – the perspective from design studies

The journey of design thinking as a new management paradigm

In 1979, in the editorial section of the first edition of Design Studies editor Sydney Gregory commented:

*Design is a skill and an activity for all people. Each has the possibility of planning something to be better arranged for his or her own purposes and circumstances* (Gregory, 1979: 2)

Gregory went on further to comment that:

*Many things which require to be designed are matters of joint concern... Design in less obvious way lies in those impersonal organizations established to provide public services of all kinds* (p 2)

The reference to design being applied in the organisational setting indicates this idea has been around for some time. One of the endeavours over the years has been to understand ‘design’. The journey of design thinking can be traced back to design studies in the 1970s and early 1980s which primarily looked at the cognitive abilities of the designer, the design process and design artefacts (Galle, 2008; Visser, 2009; Thomas and Carroll, 1979; Archer, 1979; Jones, 1979; Cross, 1984; Schon, 1983; Jones, 1992).

The movement of design into the domain and interests of management and organisations has been a growing trend. Scholars and practitioners from management and design have collaborated over the years to discuss possibilities of design and management coming together.

A seminal book, published in 2004 and based on a conference in the United States in 2002, called *Managing As Designing* (Boland and Collopy, 2004) applied design philosophy, methods, and practices to management. In the preface to this text the editors Boland and Collopy argue:
Management is in crisis... managers operate under a cloud of suspicion that self-interest, short-sightedness, and failed morals are their hallmark (Boland and Collopy, 2004: xi)

These claims that management was in crisis were founded on observations by other scholars such as Liedtka:

We stand at the frontier of a business world in the midst of fundamental change, in which much of the traditional thinking about strategy formulation and implementation seems potentially ill-suited to escalating imperatives for speed and flexibility (Liedtka, 2000: 8).

These emphases on change and pace and the ineffectiveness of management to respond was further discussed by Liedtka that ‘[only]63% of new [business] strategies promised returns that were actually delivered’ (Liedtka, 2010). Other scholars argued that the nature of the management work has changed to be more knowledge based rather than industrial and product based. For example authors Austin and Devin explored the opportunity of management being more artful, they argued that:

As business becomes more dependent on knowledge to create value, ‘work becomes more like art. In the future, managers who understand how artists work will have an advantage over those who don’t. (Austin and Devin, 2003: 2)

The proposition for a new paradigm or metaphor for management emerged:

We hope that readers.... Will adopt a design attitude toward problem solving, so that in the future more managers think of themselves as designers who contribute to human betterment (Boland and Collopy, 2004: xiii)

The emphasis on ‘human betterment’ signifies an important emphasis that the outcome of management work should improve the lives of people. The trend toward the “ends-directed, not means oriented” (Archer, 1979: 17) was to be achieved by thinking about the human needs and experience in management decision making and by designing organisational products and processes with end users in mind, “human-centred design suggests a concern for people” (Steen, 2011: 45).
Boland joined an increasing cohort of researchers and practitioners calling for new emphasis in management on a ‘design attitude’ or ‘design thinking’. A recent explanation of design thinking by Tim Brown, from IDEO is:

...design thinking taps into capacities we all have but that are overlooked by more conventional problem-solving practices. Not only does it focus on creating products and services that are human centered, but the process itself is also deeply human. Design thinking relies on our ability to be intuitive, to recognize patterns, to construct ideas that have emotional meaning as well as being functional, and to express ourselves in media other than words or symbols (Brown and Wyatt, 2010: 33)

The concepts of design thinking, design attitude and design awareness have been widely discussed within the settings of design research and management (Poulsen and Thøgersen, 2011: 30; Galle, 2008; Owen, 2006; Owen, 2001; Junginger, 2007; Mahdjoubi, 2007; Brown and Wyatt, 2010; Castellion, 2010; Collopy, 2010; Dorst, 2011; Drews, 2009; Hobday et al., 2011; Hobday et al., 2012; Vogel, 2009). Despite these discussions it is not an area that is easily reconcilable and resolved. As stated by Buchanan:

Despite efforts to discover the foundations of design thinking in the fine arts, the natural sciences, or most recently, the social sciences, design eludes reduction and remains a surprisingly flexible activity. No single definition of design, or branches of professionalized practice such as industrial or graphic design, adequately covers the diversity of ideas and methods gathered together under the label. (Buchanan, 1992: 5)

The main point is that it is not so much whether the definition of design thinking and its other derivatives have been agreed but more that the subject holds relevance in the context of management. And it is this business or management context which scholars are increasingly paying attention to or in other words design thinking happens in situ (Poulsen and Thøgersen, 2011; Brandt et al., 2008). That is, for different situations design thinking will be reinvented differently each time. The precursor to this understanding of situatedness of design has been on the manager themselves as designers.
The Manager as Designer

The increasing emphasis on the manager as designer has meant that design thinking in management has come to be known as managing as designing (Boland and Collopy, 2004). The attention to the manager in the literature attends to the executive and how they can adopt and change to incorporate design thinking in their work:

Executives should look to the concept of “design thinking” and learn how to apply it more widely to processes like strategy development and business model innovation (Roger Martin, in Leavy, 2011: 19)

Much of the literature about the manager as a designer focuses on the individual and how they can become a different kind of manager in their organisation. One strand of this literature focuses on how to use design thinking as a way to understand and tackle the complexities of problems faced by contemporary business operating in fast changing global contexts (Martin and Dunne, 2006; Hippel, 2007; Boland and Collopy, 2004; Castellion, 2010). This argument explores the idea that a design approach presents managers with ways to think and approach business problems that are different from traditional management approaches, i.e. non-analytical and abductive rather than analytical or deductive, allowing more innovative solutions to complex organisational problems (Mahdjoubi, 2007: 51; Rylander, 2008: 7-11; Martin, 2005; Martin, 2009b; Martin, 2009a; Martin, 2010; Martin and Dunne, 2006: 513; Avital and Boland, 2008: 6). This application of design thinking has been branded a new phenomenon and has emerged in this particular form in recent times (Liedtka, 2004; Eickmann et al., 2004; Martin and Dunne, 2006). This discussion has manifested from observing and understanding both the process of design and designers themselves working within the domain of organisations (Junginger, 2007; Coughlan et al., 2007; Michlewski, 2007).

Another strand in this literature emphasises the design process or methods and approaches which offer a contrast to the typical management approach (Lindberg et al.,
As an example of the design process, presented by Liedtka in her four stage model of design thinking: What is? What if? What wows? And what works? (Liedtka, 2011: 18). In this model Liedtka assigns design tools, such as visualization, journey mapping and brainstorming to illustrate how the design process can be executed:

The discussions of the manager themselves as being more like designers, and following design processes and methods has also seen another trend in the design literature around the collaborative nature of working.

The Manager, the designer and the user

The emphasis on the individual versus the collective in the design literature is well researched and there have been shifts in the collaborative role of not only the managers as designers, but designers situating and practicing collaboratively with managers and end users of products and services being designed (Visser, 2009; Steen, 2011; Sanders, 2006; Byrne and Sands, 2002). This leads to different types of people in the design process and different emphasis in design approaches. Steen discusses a variety of
human-centred design approaches such as participatory design, ethnography, lead user, contextual design, codesign and empathic design. Steen draws out differences between these approaches such that the users are drawn in for the goals of management or management is drawn toward understanding the world of users, and then if the work is about understanding today (as-is) or designing for the future (to-be) (Steen, 2011: 48). This changing landscape of the design process being more team based and participatory challenges the design process in terms of balancing multiple participant ideas (Visser, 2009: 207; Margolin, 1997), addressing changing roles of power (Sanders, 2006: 29-30) but also opens up opportunities such as new methods for all participants to play a role in the design process (Brandt et al., 2008; Binder, 1999). This increase in participatory nature of designing builds on a history of this type of design. The participatory design literature has its roots in Scandinavia from the 1970s and it initiated from cooperative design efforts as workplaces became computerised (Steen, 2011: 49). This collaborative approach also reinforces the earlier points that the nature of the management world is in need of new metaphors which embrace complexity including multiple actor perspectives, broader ecologies and the social realities into the design of new products, services and systems. This opens up the question about what types of management work has design attended?

Design in management work – an order of design

The idea of managing an organisation by design thinking is both provocative and puzzling (Buchanan, 2004: 54).

The movement of design into the management presents the question - what are the types of problems and situations now being framed as design problems? To think about the evolving world of design Buchanan suggests a typology: the Four Orders of Design
This framework, Buchanan suggests provides a:

*place for rethinking and re-conceiving the nature of design. (Buchanan, 2001: 10)*

It gives us a way to appreciate the highly diverse spaces where design is being enacted. These spaces permit design to be applied. The four orders are Symbols, Things, Action and Thought (Buchanan, 2001: 12). Overtime, these orders do have a correlation to the establishment of various design disciplines. The new form of design is called the ‘fourth order’. Buchanan argues the organisation can be considered the domain of the fourth order of design.

Buchanan describes the first order called ‘symbols’ as “the communication and use of words and images” (Buchanan, 2001: 10); this is associated with the development of graphic and communication design. The second order is called ‘things’ which is about the creation of physical and tangible objects for the consumption of various human needs; this is associated with the development of industrial design. The third order, called ‘action’, is about the action between humans and products and the extent to which products enable action; this is associated with the development of interaction design disciplines. Finally, the fourth order called ‘thought’ is “focused on environments and systems” (Buchanan, 2001: 11). The use of ‘system’, Buchanan points out, is more about “human systems, the integration of information, physical artifacts, and interactions in environments of living, working, playing and learning” (Buchanan, 2001: 12); the disciplines in this area are evolving. This territory is concerned with ‘wicked problems’ (Rittel and Webber, 1973). And according to Rittel and Webber they refer to these wicked problems as:
Wicked problems... have neither of these clarifying traits; and they include nearly all public policy issues--whether the question concerns the location of a freeway, the adjustment of a tax rate, the modification of school curricula, or the confrontation of crime (Rittel and Webber, 1973: 160)

This offers an important framing about the design space and what might be needed to enact design productively. The table below summarises the problems faced in each order of design.

<table>
<thead>
<tr>
<th>Order</th>
<th>Type of problem being addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First – Communications</strong></td>
<td>How to communicate and make effective use of words and symbols?</td>
</tr>
<tr>
<td><strong>Second – Artefacts and things</strong></td>
<td>How to make something which is useable and useful?</td>
</tr>
<tr>
<td><strong>Third – Interactions</strong></td>
<td>How do we make sure this product will work for its intended purpose?</td>
</tr>
<tr>
<td><strong>Fourth – System-wide; environments; organisations</strong></td>
<td>How do we design organisations? How do we design communities? How can we create a more sustainable environment?</td>
</tr>
</tbody>
</table>

Table 1 Summary of Four Orders of Design

The fourth order is a relatively unexplored area, as Buchanan expressed in a conference presentation, this ‘could be part of a new practice of design’ (Buchanan, 2007). This new practice of design requires study to best elucidate the qualities of designing in the fourth order. The activity of design in this context presents us with provocative questions; if design is about “giving form to an idea – shaping artefacts and events that create more desirable futures” (Boland and Collopy, 2004:92) then what sorts of ideas and practices are needed in the fourth order? What sorts of artefacts and events are being shaped? What sorts of futures are being envisaged? What sorts of designers are needed in the fourth order? What are the techniques used in this order of design? Buchanan (2009) offers a way to explore this fourth order drawing on the history of art: What is the subject? What are the methods or techniques? What goals are being sought? These questions need empirical research.
There is a body of evidence of what might constitute this ‘fourth order’. These are the design and organisational innovation; design and business strategy development; design and organisation design; and design and design of services.

**Design and the fourth order – design and organisational studies**

**Design and organisational innovation**

One strand of this literature discusses how the use of design can be applied to the problems of organisations facing innovation limitations. The link between design thinking and innovation has gained momentum in the literature (Cooperrider, 2010; Lockwood, 2010a; Martin, 2009b; Martin, 2009a; Martin, 2010; Olson et al., 2000; Owen, 2006; Brown, 2009; Brown and Wyatt, 2010; Filson and Lewis, 2000; Leavy, 2011; Liedtka, 2011; Bason, 2010; Bruce and Bessant, 2002). The emphasis in this literature is that problems with processes of innovation can be solved by taking a design approach that focuses on human-centred approaches. According to Cooper and Junginger:

*The current focus of design thinking, at least in the US, centres on innovations and business transformations that begin with people: it involves the discovery of unmet needs and opportunities, as well as the creation of new visions and alternate scenarios that reorient an organisation around the people it serves* (Cooper et al., 2010: 59)

The premise is that design thinking is an agent to foster innovation (Bertola and Teixeira, 2003). The application of human-centred design to focused innovation which better positions the organisation competitively has been discussed in the design and management literature for small medium enterprises (Borja de Mozota, 2003; Borja de Mozota, 2006; Burns, 2008) and for large organisations (Beverland and Farrell, 2007; Martin, 2009a). The literature focuses on the development of the designed artefact and
the practice to construct it (Avital and Boland, 2008: 6). This location of design in the
innovation literature has been taken up scholars Hobday, Boddington and Grantham.
They argue that design studies and innovation can be brought together more closely
(Hobday et al., 2011; Hobday et al., 2012).

Business strategy and design

Hobday et al. explored the literature of design thinking within management studies
(Hobday et al., 2012: 25-27). They argue that there is a long history of organisational
and management scholars who have viewed the world of strategy and organisations as
iterative and dynamic and less rationally based (Hobday et al., 2012: 25). The linkages
between business strategy development and design have been discussed in the literature
(Liedtka, 2000; Liedtka, 2004; Liedtka and Rosenblum, 1996; Liedtka, 2010; Dumas
and Mintzberg, 1989). In these discussions the design process which traditional
designers might typically follow could also be a productive approach for developing
business strategy. Liedtka discusses the need for business strategy to be flexible and
adaptive, and the design process as a metaphor for business strategy development.

Liedtka states:

Business thinking is predicated on assumptions of rationality and objectivity.
Its decision driver is economic logic… Design thinking assumes instead
human experience as its decision driver (Liedtka, 2010)

The argument presented is that design thinking when purposefully applied in the
business strategy context can help organisations develop strategies that are more likely
to succeed for their given context. The attention to factors beyond the rationale and
logic of management to more experiential and future oriented views means

design highlights the social and creative character of businesses and counters
dominant decision making view the firm (Hobday et al., 2012: 28).
Design and organisation design

An organisation can be considered a ‘designed artefact’ because it “mediates the demands of the outer environment through a set of operative principles in its inner environment” (Boland and Collopy, 2004:106). The subject of the organisation being the ‘product’ to design is an increasingly important theme in the literature. Design Issues (Winter 2008) dedicated its edition design and organisational change. Articles in this edition discussed the organisation as the object for design. This volume, introduced by Buchanan:

...further elevates the idea that organizations are products, as well as the idea that, like other products, organizations can be designed by intelligent forethought and appropriate action. (Buchanan, 2008: 2).

Further to this scholarship Junginger’s Change in the Making (Junginger, 2006b) argues that there is a role for human-centred design to:

...help organisations to rediscover what they are all about and assist them in re-organizing themselves in a form that enhances their customers experience. (Junginger, 2006b: 7).

In addition to customers, if the design of the organisation takes a human-centred approach, and includes the experience of staff, then staff and customers can have better experiences with organisations (Omand et al., 2009). The critical analysis in the literature is that the holistic or more human appreciation of the organisation, rather than ‘organisations as machines’ (Morgan, 1986), strengthens the viability and effectiveness of the organisation (Hobday et al., 2011: 13). This presents new aspects to what and how organisations might be designed. The emphasis on experience and human pathways (Buchanan, 2004: 54) through organisations challenges information processing, task oriented, rational understandings of organisation designs (Galbraith, 1973; Fink et al., 1983: 45-90). This emphasis in design studies aligns with
contemporary studies of the organisation (Clegg, 1990), such as understanding the social arrangements which organisations operate within (Friedland and Alford, 1991).

The emphasis to make from this convergence of design thinking in organisation design is not so much the end result, that is, the organised organisation, but rather the ‘way’ design thinking has been used to bring together people to design the organisation, and what ‘questions and problems’ have been identified by following a design process. This is further discussed in the next section.

**Design and design of social systems**

Simon in the 1960’s in his seminal work *Sciences of the Artificial* discussed the role of design in management and organisations in social design (Simon, 1996: 154). There is an increasing emphasis in the design and management literature on innovation for social value or community dividend rather than shareholders (Brown and Wyatt, 2010; Miller and Rudnick, 2011; Kimbell and Seidel, 2008; Kimmel, 1988). This trend is based on the observation that:

...[organisations in the social systems] require constant creativity and problem solving, so design thinking is a real success factor...*(Brown and Wyatt, 2010: 35)*

This literature is important to highlight because it starts to point toward public sector organisations, and where this study situates. The work of design in a complex system such as a social system is of interest to this study.

This section has traced the movement in design literature as it has converged on management. The literature broadly clustered under managing as designing highlights design studies move to occupy organisational management. It is this literature that first inspired this study providing the focus of this study on design in management. This
study is also about the inquiry into how design travels and embeds in an organisation. The literature in this area of ‘embedding’ is discussed in the next section.

**Transforming organisations through design**

In this section the trends in the literature which are explored include the impact that design has had on the organisation itself. There are two strands discussed here. The first is design inspiring change and how methods and approaches of designing facilitate organisational change. The second is the influence design has on the operations of organisations to become ‘design-led’.

**Design tools and the design process inspiring change**

There is growing literature on how different design tools can bring about organisational change. This literature draws on change literature and design thinking. In organisational change literature the approach to organisational change is premised on learning theory (Osbourne and Brown, 2005: 39), and design scholars talk about design being a learning process (Beckman and Barry, 2007; Owen, 1998). For example designers approach problems by prototyping and ‘failing’ and the process helps:

> ...reframe failure as an opportunity for learning and fostering a sense of forward progress (Gerber and Carroll, 2012: 81)

This idea of prototyping, in the context of the product development process was discussed by Coughlan, Suri and Canales as a tool to effect change in organisations (Coughlan et al., 2007). They argued that the use of early sketches, models, and physical representations of the organisational changes and solutions presents an accessible way for employees to embrace a future state. They discuss how prototyping
helps people think, learn faster through repetition and gain permission to explore new
behaviours (Coughlan et al., 2007: 128-131). Some of these new behaviours refer to
more collaborative design efforts which bring many different people in organisations
together, in temporary settings and ‘facilitate design dialogues of mutual learning’
(Brandt et al., 2008: 63). The injection of design as an inherently participatory process
provides opportunities for these broader learnings. Other examples of design and
change discuss the use of design research methods such as observations, field work, and
collaborative approaches as innovative ways to facilitate organisations to gain insights
about the products and services they offer to their customers and how to make changes
to products and services of the firm (Buchanan, 2008; Hargadon and Douglas, 2001;
Junginger, 2008; Volkoff et al., 2007).

Cultural change and movement toward design-led organisations

In the momentum of design thinking and design activities operating in new
organisational contexts there is an increased interest in how organisations might become
more design-led (Beverland and Farrell, 2007; Lockwood, 2009; Lockwood, 2010b;
Carr et al., 2010; Sato et al., 2010). One strand discussed in this literature is design
culture. For example the characteristics of the designers and how they promote a culture
of design within organisations was studied by Michlewski (2007). He discussed five
broad theoretical categories of designer characteristics based on interviews with
designers from private firms. These were ‘creating, bringing to life’, ‘consolidating
multidimensional meanings’, ‘embracing discontinuity and openedness’, ‘engaging
polysensorial aesthetics’, and ‘engaging personal and commercial empathy’
(Michlewski, 2007: 27-28). These characteristics contribute an understanding of the
design attitude within organisations. Another strand discussed in the literature is
development of design capability. For example a Finnish study looked at the
development of internal design capability in a Finland-based engineering corporation (Mutanen, 2008). Mutanen observed over a multi-year period that the capability moved from expert centred, to tool centred, to process centred and lastly as strategy-centred application of design. Mutanen used a matrix to discuss this movement (Mutanen, 2008: 502), as illustrated below:

Figure 3 Four developmental dimensions of design in organisations

Other models in the literature discussing the degree of embeddedness of design within organisations includes a model called the ‘Design Ladder’ developed by the Danish Design Centre (DDC) in 2003 as a tool to measure the level of design activity in Danish businesses. This model describes four stages: No design, Design as styling, Design as process and Design as strategy. It shows that design is largely embedded at stage 3 or process level (Christenson, 2010).
Further to this, popular press discusses how organisations can transform to do design at part of core business. Publications such as *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation* (Brown, 2009), *The design of business: why design thinking is the next competitive advantage* (Martin, 2009a) discuss how design might be placed inside an organisation for strategic competitive advantage and what steps are necessary for this to happen. These discussions tend to be simplified processes of change and pointed examples of design activities necessary in the cases discussed, but are limited in terms of the complexity of design working in situ and the necessary ongoing effort required. Lockward’s paper (2009) on embedding design simplifies the process to seven steps and this opens up a gap in the literature for more empirical research into the complexities of embedding design, and to not only research these cases with different methods other than interviews and quantitative methods, but to report these cases using more descriptive and rich narrative. The literature also
focuses on the private organisation (Sato et al., 2010), or product and profit generating business models, and falls short of public sector organisations who “deal with highly complex subject matters – federal laws and policies that have grown over time into enormous webs of rules and regulations” (Junginger and Sangiorgi, 2011: 481) as well as servicing everyday people. The limitation with these papers geared toward private business models is that they discuss firms that are most likely places for design thinking to be adapted because it is more aligned with their business model of meeting customer needs. The interesting challenge is to understand how public sector organisations, which might be less inclined to orientate themselves towards the needs of their constituents, take on design thinking in their day to day practices. What is happening in public organisations with regard to design, or human-centred approaches? There is initial work being done in the public organisation which indicates design is being enacted and discussed.

**Transforming public organisations to be more citizen – centred – public administration studies**

This section of the literature turns to the public administration and public sector management literature because this study is about the Australian Taxation Office, which is a public sector organisation. This section points at the trends in public sector management and the increasing emphasis on citizen engagement and participation in public policy and service design. The importance of discussing this literature is that this study draws some aspects of this literature closer to the design and organisational literature previously discussed. The contribution that design can make to the public management literature has significant potential. To substantiate this point this section starts with an overview of emerging service design literature in the design of public
sector services. This literature points to reform in public sector organisations which is then discussed. The trend discussed relates to the displacement of the citizen or the end user of public services from partial towards a more participatory role in the public sector management. This implicates the public sector organisation and what changes need to occur in its institutional arrangements to enable these different practices.

**Emergent practice of design and public services**

There are notable documents from the UK describing how public services and design are important concepts to draw together. In a paper authored by Parker and Heapy (2006) titled *The Journey to the Interface: How public service design can connect users to reform* it is argued that service design, which is concerned with improving and enhancing the service experience by taking a human centred or user view at the interface of services, can be productively applied to public services and in doing so “uncover the seeds of a renewed sense of legitimacy for public services” (Parker and Heapy, 2006: 16). The authors state “if applied systematically, service design can offer a vision for the transformation of public services, as well as a route to get there” (p 81).

There are movements in the public sector management literature towards participatory approaches to the design of public services, in particular emphasis in the health services area (Dunston et al., 2009; Pestoff, 2009; Rowe and Shepherd, 2002). This area is slowly gathering momentum and over the last few years, based on applied design projects in the public service, material has been documented and research conducted about the value of service design in the public service area, especially in the context of driving innovative solutions. For example the publication *Innovation by design in Public Services* (Thomas, 2008), a UK report from the SOLACE Foundation, reports a number of cases from government leaders, consultants and academics discussing “design [as] key to the challenges of public service transformation” (p 4).
The proposition that design and design thinking has a role in the transformation of public services is nested in broader public service reforms which is not only occurring in the UK but also in Europe, the US and Australia. (Wright, 7 May 2008; Moran, 2010b; Mulgan, 2007; Moran, 2009; Ackerman, 2005; Obama Administration, 2009). This reform agenda in the Australian context is discussed further below.

It is important to point out that design in the context of public sector work is not new in terms of human-computer interaction or systems design. There is extensive literature on the design in the areas of e-government and information systems development (Anthopoulos et al., 2007; Oostveen and Besselaar, 2004). This literature primarily focuses on bringing the user into focus within the product development process of electronic products e.g. online products, software, and other electronic tools. This socialisation of technology (Suchman, 1987) and the sociology of design in this literature is abundant with references about engaging with the user in the design process. This literature is based on:

...principles and practices aimed at making technologies, tools, environments, businesses, and social institutions more responsive to human needs. A central tenet of Participatory Design is the direct involvement of people in the co-design of things and technologies they use.²

The main point of raising this literature is to reflect that design does have a place in the context of public organisations. The opportunity from this literature is that the broader applications of design can be sought to enrich the understanding of design in the public sector organisational context.

² Participatory design site http://pdc2012.org/about.html sighted 6/1/2012
Public sector reform drawing the citizen from outside to within the public policy and service domain

In public management theory the discussion about creating opportunities for citizen participation in public policy and administration has been gaining momentum since the 1980s public management reforms (Osbourne and Brown, 2005: 59). The emphasis toward increased democratisation of designing public policy and public services points to more deliberative and participatory processes to engage citizens. (Osbourne and Brown, 2005: 62; Leadbeater, 2004; Leadbeater et al., 2008). This has been driven by arguments that as citizens engage in participatory processes this strengthens democracy, improves trust between community and government, maintains system integrity and builds towards consensus (Bingham et al., 2005; Dryzek and List, 2003; Gutman and Thompson, 1996; Thomas, 1995; King and Stivers, 1998; Yang and Pandey, 2011). Fung, in analysis of citizen engagements to address significant community problems in New York and Chicago concluded that:

*Engaging ordinary citizens in empowered deliberations about the operations of government can increase legitimacy, bring crucial local knowledge to bear on public action, add resources, and enhance public accountability (Fung, 2003: 33)*

In simple terms this means public managers engaging the public or the community in the process of change. These changes relate to the rules, regulations, laws, and the services whether that is payment of taxes, receiving benefits, accessing health benefits, or police services. Denhardt and Denhardt conceptualised this shift as community-centric and that:

*administrators should see citizens as citizens (rather than merely as voters, clients, or customers); they should share authority and reduce control, and they should trust in the efficacy of collaboration. (Denhardt and Denhardt, 2000)*
This view of collaboration between public administrators and citizens in Australia has been promulgated by the Moran Review, *Ahead of the Game – Blueprint for the Reform of Australian Government Administration March 2010* which proposed nine key reforms, the first of which stated ‘Deliver better services for citizens’ and the second ‘Creating more open government’. These reforms are active and deliberate attempts to change cultural features of the Australian Public Service (Christensen et al., 2007: 122). The emphasis within these reforms is on citizen-centred policy-making and programme delivery or to include citizens as “active participants” (Moran, 2010a: 38) as stated in an earlier review document preceding the Moran Review:

> …citizen centred means placing the citizen at the centre of the entire public service endeavour. This requires a meaningful commitment to actively engage and empowering people at all points along the service delivery chain—from high-level program and policy formulation all the way to the point of service delivery, and capturing feedback from the users of services. (Australian Government, 2009: 28).

This extract amplifies the relative location and relationship of the citizen with the public manager in the service delivery chain that is from the initial stages of policy through to implementation and access of public services. It also implicates the public manager and the citizens as being located much closer in proximity to each other. By location we mean the representation, the presence of the citizen in the processes, and work of the public manager. That is, the proposed citizen-centred view means the public manager takes a much closer, more considered and human reference akin to a partnership model in their work. This is different from traditional and (still quite dominant) views of the citizen as a purchaser, a removed and abstract statistic akin to a transactional model relationship. Briggs and Lenihan describe this as:

> ... a transactional relationship is essentially a one-way street. It is a means to the end of delivering something to the customer. To put this differently, in a citizen-centred approach, the relationship must be balanced. Neither the client nor the service provider should have too much influence or control. (Briggs and Lenihan, 2011: 41)
This opens up much needed debate about the role of the public manager and how they can effectively ‘engage and empower people’ in the service delivery chain. The Moran Review state that Senior Executive Service and Australian Public Service leaders at all levels need to model and drive behaviour in areas including “citizen-centred service delivery” (Moran, 2010a: 50). This further demands exploration of what is meant by citizen-centred service delivery behaviour. Bourgon in a key-note address at the national conference of the Institute of Public Administration in Australia pointed out that:

... citizen engagement includes the measures and institutional arrangements that link citizens more directly to the decision-making processes... to influence public policies, programs and services in a manner that impacts positively on their lives, both economic and social (Bourgon, 2008: 398)

The point that Bourgon makes about ‘institutional arrangements’ draws attention to people and skills, governance, design processes for change, management arrangements, and tools and technology, used to enact citizen centred philosophy. These institutional arrangements are very little discussed to date in the public management literature on citizen engagement and design of public services. This same point was raised in an Australian Parliamentary Library research paper on “Citizens’ engagement in policymaking and the design of public services” (Holmes, 2011):

... in many democracies, citizen participation in policymaking and service design has been debated or attempted, but too infrequently realised... genuine engagement in co-production of policy and services requires major shifts in the culture and operations of government agencies (Holmes, 2011: executive summary).

This last point on the culture and operations shifts is precisely the territory that needs research. This gap raises questions such as: what is the capability that public sector organisations require? What might this change in institutional arrangements look like? How long does it take? What works and what does not?
Evidence of design capability embedded in public sector organisations

The proposition stated earlier that design is ‘key to public service transformation’ raises a proposition that design as a capability might be the answer to the questions raised above about addressing citizen participation in the work of public sector organisations. There are a few cases of public sector organisations reorganising so that design becomes characteristic of how they work. The National Health Service (NHS) in the UK has adopted design into their work and called it ‘experience based design’ and:

... builds on the core principles of user-centred design and has helped healthcare staff capture effectively, and understand, the patient’s actual experience rather than relying on opinion or their interpretation of the journey taken through healthcare services (Maher, 2008: 11).

The New Zealand Inland Revenue agency has embedded a design capability in its work. Inspired by work in the Australian Taxation Office they have fashioned their own meaning of design and emphasised service design as their culture of design (McLean et al., 2008). In terms of research there is one notable design studies thesis from which this present study takes some inspiration. This is a thesis by Junginger called Change in the Making. This study, published in 2006, presented three case studies of public organisations adopting design. Junginger explores the adoption of human-centred design approaches to solve organisational problems. Junginger used a management framework by Rousseau (Rousseau, 1995) to measure the extent to which change occurred along four vectors: structure, people, resource, vision. This study shows that adopting human-centred design can change organisational elements. One of the cases in this study was the Australian Taxation Office.
Contributing to the intersection

In light of these contemporary developments, this study in some ways brings all these sorts of developments together in one case - the exploration of one public sector organisation, the Australian Taxation Office (ATO). Using this case study, this thesis explores the introduction of design into the new policy work of the ATO and how, over time, this has become a management approach applied to many types of design problems in the organisation. It amplifies what design means in public organisations and offers an applied view of design to problems which are defined as ‘fourth order’. This study offers an opportunity to explore how the organisation itself has changed to permit design to be performed in its management work. This is a case study of unique phenomena and whilst this case cannot be used to generalise the findings it does offer other public sector organisations interested in becoming design-led, ideas about how they might go about it. These aspects have not been captured before, and the Tax Office’s role in applying design to its complex problems provide fertile lessons for other organisations in their pursuit of applying design or solving fourth order problems.

In respect to the literature that has been reviewed in this chapter this thesis attempts to contribute to some of the limits and new frontiers in the literature. These are:

1. There are limited examples of organisations adopting and embedding design thinking in their organisational arrangements. Where there is evidence it is usually focussed on private organisations and not so much on public sector organisations.

2. The literature to date tends to simplify the changes which organisations need to undertake to enable design thinking to be sustained and part of the organisation. There is a gap in the description of supporting and enabling strategies to allow sustainable design attitude or design thinking to exist. There is a genuine call for
more case studies which explore and provide evidence of design in organisations (Junginger, 2006a; Johansson and Woodilla, 2008).

3. The discussions and examples of design applied to public sector problems such as new policy and administration design lack situated descriptive analysis. Opportunity exists to explore design in these contexts.

4. The ‘fourth order design problem’ can be enriched with examples such as the Australian Taxation Office and different types of problems faced and how design can be applied to create solutions in these complex contexts. This study looks at these wicked or fourth order problems as an opportunity to learn how these might be tackled using design?

5. This thesis builds on the work of Buchanan and Junginger, among others by taking a performative, situated, descriptive and networked view of how the ATO manages its structures and processes to intentionally design and take a human centred approach to its management work.

6. The public sector literature and trends of reform to be more citizen-centred and participatory require studies to elucidate what this means in practice. This study contributes firstly by arguing that design is the vehicle for productively engaging with the citizen and other key stakeholders; and secondly, that the public organisation must find ways to build capacity to take a design approach to enable public managers to perform these participatory and collaborative processes. The opportunity is to provide practical illustrations which model taking a design approach.

7. The design research focused on design processes, designer characteristics and applied design projects inspiring change are valuable however there is an increasing interest to move from small change to broader cultural change. That is, inquiry about the cultural change of organisations to become more design-led. The emphasis on private organisations in the literature points to an opportunity to understand the public organisation as a fertile organisational type for design practices.
The intent is that this thesis will contribute to the literature discussed in this chapter by exploring these questions:

- How has a public organisation defined design?
- In what ways does this case study help us understand the fourth order design problem?
- How has an organisation taken on design and embedded it into the culture of the organisation?
- In what sorts of ways has design been applied and to what problems?

These questions will be addressed in the concluding chapter.
3
Underpinning Theory and Research Design

Introduction

The shift from practitioner to researcher was a significant leap that required me to suspend my participant position, as a previous designer in the Australian Taxation Office (ATO) to become a researcher, observer and inquirer. The opportunity to research the phenomenon of design in the ATO was challenging and exciting. Early in the process of designing the research I read a text by Charmaz on grounded theory (Charmaz, 2006) and a series of questions made an impression:

*Does my analysis make sense to my participants or people who share their circumstances? Does my analysis offer them deeper insights about their lives and worlds? (pp182-183)*

I wondered whether my own experiences in the ATO might blinker me to deeply investigate and explore something that I had taken for granted. Would I be able to offer something new or insightful? My journey as a researcher is presented in this chapter.

The chapter is organised into three main sections. Section one: *Seeing knowledge as situated*, explores the epistemological and theoretical position taken in this research. This section explains the underlying guiding foundations underpinning why and how this study has been undertaken. In section two: *Shaping the research design*, the choice of research methods is described and the considerations which were taken into account at the start and throughout the research are explained. In section three: *Execution of the research*, the journey of the research is described and the iterative approach taken to gathering, analysing and writing. This section also reflects on how theory was ingested,
over time, into the research work to help shape and refine the research. The chapter concludes with the value of the research design taken and how this has addressed the research problem.

**Seeing knowledge as constructed and situated**

**What is the nature of the world under study?**

This is a study of employees in the Australian Taxation Office practicing a new form of management. Organisations are by their very nature full of multiplicity of actions and interactions. They are made up of many parts, people, roles, practices, procedures, physical locations and produce many kinds of artefacts (Law and Mol, 2006: 9; Law, 1994). Moreover, organisations interact with their environments and with many types of other collective and individual entities external to its boundaries. What was working today may well be a problem tomorrow. There is fluidity in an organisation’s way of being and there are many perspectives and debates (Morgan, 2006: 251-262). To follow this new form of managing, influenced by human-centred design practices, in the Australian Taxation Office, is not a simple or singular idea. It is a constructed idea that is made meaningful by the people in the organisation who enact it. There is no simple account of what this practice is or how it has been nurtured, managed, and used, or how it has evolved in the organisation. It is a multiplicity of actions and interactions. It is important in this study to show the “great variety of human action, interaction, and emotional responses that people have to events and problems they encounter” (Corbin and Strauss, 2008: 6). The present study is a study of the adoption and adaptation or more accurately invention of human-centred design in a specific complex organisation, the Australian Taxation Office. It is a study that follows the actors and seeks to explore
and understand how they mobilise and enact these ideas of design and have embedded these ideas in the ATO and its management practices.

What kind of theory or perspective might fit the nature of this world?

If the world that we want to study is complex and there is more than one story to be told then a theory needs to be capable of handling this mix. The theory also needs to see the importance of ‘situatedness’ of the culture and patterns of behaviour of a specific group of people in the organisation. This leads well into the constructionist view of knowing.

The constructionist view of the world suggests that meaning is constructed not discovered (Crotty, 1998: 42; LeCompte and Schensul, 1999: 48). The creation of knowledge is contingent upon the actions and interactions between people and objects in a social context. This opens up the view that there are multiple meanings constructed in any situation which are of interest to understand and analyse (Robson, 2002: 27). And it is the interactions between people and objects which is important in this study.

Blumer talks about objects being a “product of symbolic interaction” (Blumer, 1969: 10) he divides them:

- into three categories: (a) physical objects, such as chairs, trees, or bicycles;
  (b) social objects, such as students, priests, a president, a mother, or a friend;
  and (c) abstract objects, such as moral principles, philosophical doctrines, or ideas such as justice, exploitation, or comparison (pp 10-11).

This concept is important because in many ways human-centred design is an abstract concept. This abstract concept has a very specific meaning in the organisational context. This abstract concept has meaning for the people and the world in which it exists.

The constructionism and symbolic interaction theoretical perspectives acknowledge that “humans shape their institutions they create and change the world around them through action/interaction” (Corbin and Strauss, 2008: 6). The aim is to “empirically investigate
situated practices that create reality” (Marvasti, 2007: 315). This invites complexity into the research by allowing multiple perspectives to be present and acknowledges that “knowledge is not out there waiting to be found. Instead we socially construct knowledge in relationships, through formal channels… and through informal interpersonal interaction with others” (Ellingson and Ellis, 2007: 445). This view also gives attention to the local, it does not assume fixed, universal understandings, nor is it interested in the culture as a whole. Rather, this view aims to understand how actors may have different perspectives on the same subject shaped from where they are, and how the various actors enact entities in specific situations through their interactions.

This epistemological and theoretical perspective is well established in organisational studies. Holstein and Gubrium (Holstein and Gubrium, 2007) in their book, *Handbook of Constructionist Research* offer a wide array of examples in education, nursing, sociology, management, and psychology to name a few of the disciplines using social constructivist perspectives. In the chapter *Social Constructionism in Management and Organisation Studies*, Samtra-Fredericks discusses the predominance of scientific and positivist approaches in the organisational and management literature (Samra-Fredericks, 2007: 129) but points out that studies in management and organisation have become increasingly interested in taking a social constructionist approach (Alvesson, 1996; Alvesson, 2003b; Alvesson, 2003a; Alvesson et al., 2008; Prasad and Prasad, 2000). This move is associated with the act of embracing the complicated and complex realities of organisational studies and attention to dynamics of organisations and their participants, to non-static, non-linear, procedural approaches where nothing is fixed in time and place (Holstein and Miller, 1993). That organisational practice is viewed as ongoing and purposeful action directed at others and mediated by the social context (Marvasti, 2007: 318) and the investigative lens emphasises flexibility, flux and the
ways that organisations alter environments. This scholarship based on taking a social constructivist and interactionism approach gives a strong foundation for this study.

**What are the assumptions that lie within this theory?**

Within interactional constructionism the central assumption Blumer (Blumer, 1969) states is that “social objects are not inherently meaningful and secondly that social reality is made meaningful and is changed through human interaction” (Marvasti, 2007: 315), this concept can be extended to both physical or abstract concepts, because these things are always already social. Crotty, quoting Blumer (Blumer, 1969: 2) explains that this means “we act toward things on the basis of the meanings those things have for us” and that these meanings are “derived from interactions with others” and “meanings are handled in an interpretive process” (Crotty, 1998:72). To investigate this interactionism/constructivism prompts the researcher to find ways to see the participant’s view of their own actions, others, objects and broader society. The idea that one takes the very language, the communication, the interrelationships and interactions from the perspective of those being studied lies at the heart of symbolic interactionism (Crotty, 1998: 72).

A post modernist perspective based on symbolic interactionism but not claiming the mantle of science nor splitting the human interpretation from a world of external objects has been developed by Clarke (Clarke, 2005). Clarke points to symbolic interactionism as being more than symbols, meanings, perspectives, or spoken words. The things that surround us encompass the human, the nonhuman and the hybrid, we “routinely make meaning about, within and through” things (p7). This theoretical perspective emphasises the importance of social interactions and taking the perspective of those
being researched. It assumes that the researcher is capable of taking the place of the other and representing the meanings of those being studied.

**Identifying a mode of inquiry - Actor Network Theory**

To come to practical terms with constructionism and symbolic interactions the identification of an appropriate mode of inquiry was needed. As a researcher I was faced with questions such as: How might this study of the management work of an organisation be understood empirically? How might my own experiences be explored and analysed? How could I address the question of my own learning and extend participants understanding of their world in ways which could reframe and generate insight not immediately obvious? The work of Callon, Latour and Law (Callon, 1999; Law, 1999; Latour, 1999; Latour, 2005; Callon, 1986; Law, 1994; Law, 2004a) was proposed by my supervisor as compatible with the work of interactional constructionists like Clarke, and so Actor Network Theory emerged as an answer to my questions. The theoretical use of Actor Network theory was initially attractive because it provided a framework for inquiring into the interactions, the modes of ordering and the networks of human and non-human elements that stabilize and make durable scientific facts, technologies, and I hoped, the human-centred design techniques at the centre of this study.

*Actor network theory is a disparate family of material-semiotic tools, sensibilities and methods of analysis that treat everything in the social and natural worlds as a continuously generated effect of the webs of relations within which they are located (Law, 2007: 2).*

The actor network lens is not about the abstract it is about the empirical; it is about what happens in practice. It is concerned with the question of how relations assemble and to what effect (Vurdubakis, 2007: 432). It is about taking a view of the ‘local’ and following the actors around to understand these networks and the relationships between
their many elements. I adopted it as a systematic and descriptive way to describe how design was embedded in the case organisation. I did so because it embraces multiplicity and warns against simple explanations or accounts of a ‘heroic’ nature that focuses on the action of one or a small number of individuals. Rather, it emphasizes the broad spectrum of elements, both human and non-human, that make up a practice of the social. This worked well with the research intent which was to better understand design as a management practice in a large complex organisation.

The application of actor network theory in this study provides necessary scaffolding in the analysis of the management phenomenon of design in terms of adoption and innovation (Callon, 1986). By that it is meant the value of applying actor network theory to the non-human or objects including the abstract concept of design, is considered an important element requires as much attention as the human actors in this story of institutional change of an organisation transforming to be more design-oriented and participatory in its work. Latour states:

...the study of innovations and controversies has been one of the first privileged places where objects can be maintained longer as visible, distributed, accounted mediators before becoming invisible, asocial intermediaries (Latour, 2005: 80)

This emphasis on all elements significantly shifted attention from what I had always seen, having been an employee, to seeing things with a different set of lenses. The sense of complexity and the magnitude of what was there to be studied was more apparent. How the multiplicity of actors, activities, artefacts and arrangements within the case organisation came together to enact the practice of design became the way to frame the research. Focussing on the alignment of these elements shows how such alignments transform to tell compelling stories (Suchman, 2000: 317) about what this looks like in practice. The notion of a network helps point to where and how action occurs (Latour,
2010). This helps grasp and appreciate how a new way of working is adopted and embedded involves performing something new into being. The analysis of what makes up the network, exploring how this has been formed, what keeps it together, and what activities are going on and where these are located in the site organisation shaped the inquiry.

There are criticisms of Actor Network Theory including that it does not attend to the question ‘why is it there’ but this study is not concerned with the exploration of why in any deterministic sense but rather it aims to ask how it comes to be there, and how it comes to take the form it does. To address this limit, in the initial analytical chapters this thesis describes the precursor of situational elements which give space to design as a management approach in the ATO. Other criticisms include the symmetry placed between the non-human and the human in the analysis of networks (Amsterdamska, 1990); impressing limits relational power in analysis of situations. These limits are not of a concern to this study. The value of seeing the research site as a networked arrangement provides a bountiful point of inquiry facilitating methods for data collection and techniques of analysis and the writing up. This will be discussed later in this chapter.

**Shaping the research design**

“In the past two decades, research approaches have multiplied to a point at which investigators or inquirers have many choices” (Creswell, 2003: 3). This statement aptly points out the initial challenges of designing any study. In this present study the questions are focussed on exploration of a new management practice in an
organisational setting. Taking an epistemological and theoretical stance that knowledge
is socially constructed through the actions and interactions between people and objects
helps reduce this choice. The establishment of these positions provides a foundation for
the research design. The research design is based on answering Crotty’s four elements
(Crotty, 1998: 2-10) for research proposals:

- What methods do we propose to use?
- What methodology governs our choice and use of methods?
- What theoretical perspective lies behind the methodology in question? and
- What epistemology informs this theoretical perspective?

The epistemological and theoretical perspectives of constructionism and symbolic
interactionism espouse multiple social constructions of meaning and knowledge which
point to methodologies such as grounded theory, situational analysis and actor network
theory. The emphasis on the post-modern view of grounded theory and Clarke’s
situational analysis offers a contemporary view of grounded theory by exploring and
analyzing the complexities of the world through the situation and through mapping
social worlds and arenas. Situational analysis challenges the boundaries of the subject
under study and helps analyse complex situations of inquiry (Clarke, 2003: 554). The
methods which fall out of this methodology are interviews, observations of
organisational members, and analysis of organisational artefacts. The basis of these
choices stems from the research problem, as Charmaz states “let your research problem
shape the methods you use” (Charmaz, 2006: 15). This is illustrated in the figure below
adapted from Crotty’s Four Elements (Crotty, 1998-10):
How has design become a management practice in the Australian Taxation Office, a complex public sector organisation?

- What is the embedded meaning of human-centred design in the Australian Taxation Office?
- How has the Australian Taxation Office changed as it has adopted design?
- How are practices of design being sustained through what situations of action?

**Theoretical framework**

<table>
<thead>
<tr>
<th>Epistemology</th>
<th>Theoretical perspective</th>
<th>Methodology</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructionism</td>
<td>Symbolic interactionism</td>
<td>Combination of: Grounded Theory, Situational Analysis and Actor Network Theory</td>
<td>Case study – exploratory interviews, auto-ethnographic accounts, organisational artefact analysis, literature review</td>
</tr>
</tbody>
</table>
Postmodern Grounded Theory, Situational Analysis and Actor Network Theory package: governing choice of method

A postmodern take on grounded theory, situational analysis, is coupled with Actor Network Theory (ANT) as a combined methodology package helps define the strategy or the plan of action for this research. Grounded Theory, originally developed by Glaser and Strauss (Glaser and Strauss, 1967) and further developed by scholars such as Clarke (Clarke, 2003; Clarke, 2005; Clarke, 2009) and Charmaz (Charmaz, 2006) is about generating theory that pertains to a particular situation and “acknowledges the full situation of inquiry”(Clarke, 2003: 556) . The post modernist emphasis on grounded theory rather than espousing positivism takes seriously the constructionist view of knowing seeing it as integral to the research itself as well as to the social world under investigation in the research. Clarke explores this further, it is, she claims about taking multiple positions and heterogeneous representations from our studies rather than seeking homogenous representations. It is about seeking to represent complexity rather than to simplify; seeing the differences, the range of variation or positions in the data rather than reducing that variation to norms. The goal, says Clarke is to construct “processes, sensitizing concepts, situational analytics and theorizing” rather than to offer explanation based on pre-existing formal social theory (Clarke, 2005: 32). This situational processing is important to this study which is based on analytical approaches such as material constructionism; iterative gathering and analysis of the data, and situation being the unit of inquiry.

One theoretical issue concerns material constructionism which raises the importance of the material world and the meanings we construct around material things. This is extended by situational analysis by placing importance on the ‘non-human’ in the situation. This means we need to pay attention to those non-human elements such as
technology, physical items, reports, documents, systems and so forth in the situation.

Material constructionism directs both the methods used in the research, such as field work and observations and the focus of what to look for when in the situation. In this study, the non-human elements are important to locate and analyse to give a full picture of the situations of action in order to account for how human-centred design has been enacted, embedded, adopted and fashioned in the Australian Taxation Office. This is because organisations are full of non-human elements and these need to be brought to the foreground to truly understand the embeddedness of the design management approach. The creation of non-human elements, such as design artefacts, plays a significant role in this study. These elements do not talk, so somehow the study needs to be sensitive to their existence and potential role in the situation of inquiry. As can be seen using material constructionist approach to the study influences everything: the choice of methods, the sources of data required and the analysis to understand the situation.

Taking a post modern grounded theory approach means that the study is an “empirical approach to the study of social life through qualitative research and analysis” (Clarke, 2003: 557). The basic process is the researcher gathers and codes (as soon as there is data) and seeks new sources of data through theoretically sampling and intentionally gathering and analysing throughout the life of the project. This methodological approach fits this study which is exploratory because it allows the research to be refined and to identify what is important to pay attention to as the study progresses. This is extremely useful in researching the making of new knowledge and practices because there is no guiding hypothesis or theory on which to base the identification of variables.

Situational analysis is about “supplementing the traditional grounded theory with situation-centred approaches that can enrich research by addressing and engaging
important postmodern theoretical and methodological concerns about differences and complexities of social life” (Clarke, 2003: 558). By doing situational analysis there is a movement away from seeing context as separate from the topic under study, to seeing the context as the situation which is the unit of study. Or in Clarke’s words “The situation itself is a key unit of analysis” (Clarke, 2003: 559). Following Clarke’s advice, this present study was guided by this to seek a full picture of the situation. This directs us toward important choices in methods and the planning for what to look for when gathering data using these methods.

The additional application of Actor Network Theory (ANT), as previously discussed, took my situational analysis further by emphasising the co-evolution of action between non-human and human actors. ANT emphasises the methods for data gathering such as focussing on observing actions and interactions, and “following the actors themselves” (Latour, 2005: 61; Law, 1994) The application of ANT in this study joins the increasing use of Actor Network theory to study organisations and to better understand different phenomena, from information implementation, to knowledge management, to organising in general (Whittle and Spicer, 2008: 613; Orlikowski, 1996; Doorewaard and van Bijsterveld, 2001; Gherardi and Davide, 2000; Harrison and Laberge, 2002; Orlikowski, 2000). These studies have drawn on ANT similarly to what this thesis does in terms of using different ANT concepts to explain different phenomena. The contribution that this study makes by using ANT is that it takes one case study, of a public sector organisation and focuses on design as the ‘technology’ and observing a new management practice of managing by design emerge as actor networks of non human and human materiality. ANT was used as a translation theory to analyse how design thinking and methods transformed the Australian Taxation Office. This methodology with its combination of situational analysis and actor network theory
provided a useful frame for analysis and how it shaped this research is further described below.

**Methods: to gather and analyse data**

“What of a truth that is bounded by these mountains and is falsehood to the world that lives beyond?”

*Michel Eyquem de Montaigne, Essays (Crotty, 1998: 42)*

I read this statement in the early stages of designing the research approach and it gave me confidence in the value of this study as a study of one case, the singular case of the Australian Taxation Office embedding design in its management work. It is a singular case and is not seeking to generalise beyond this case. The value of this case lies in what it can contribute to an understanding of how design can be embedded in public management. It will be up to others in different situations seeking to embody design in the management practices of their organisations to judge what aspects of this case can be useful to them. By taking a single case and using a case study research design I hope to provide an enriched and deep understanding of the practice of management by design and how it might work at the organisational level.

One of the typical reasons why case study design is chosen is to ‘strive towards a holistic understanding of cultural systems of action’ (Tellis, 1997b; Feagin et al., 1991). The boundary of this study is the organisation and, in particular, the activities of design in management work. It is a unique case, and according to Yin this is also a sound reason for case study design (1985; 2003). To learn from this one case is valid given there are very few empirical research cases of large public organisations adopting and embedding design. The case study method is about in-depth investigation of a phenomenon (Tellis, 1997a; Tellis, 1997b; Feagin et al., 1991). In particular, case study design emphasises the drawing out of multiple perspectives and multiple data sources.
This multiplicity is an important tenant in this study because the guiding methodological position of situational analysis and Actor Network Theory both of which call for multiplicity approach to understand the actions and activities.

The research question is primarily concerned with ‘how’ design has become a management phenomenon and this concern is well addressed by an exploratory type of case study. Yin explains that exploratory case studies are used when a “how or why question is being asked about a contemporary set of events, over which the investigator has little or no control” (Yin, 2003 : 9). An important delineation should be pointed out; this study is not asking what effect this design approach had on organisational outcomes or community experiences with the Tax Office. Rather, it is a study that aims to describe what is, who is, and where is design being practiced in the management work of the ATO. It is providing empirical insight into the gap in the literature about complex organisations taking on a design approach and the organisational changes through which such an approach became legitimised as normal management work by allowing it to exist in organisational roles, processes, structures, projects and work.

The data on which this study draws are from a combination of methods, given:

> the task of the researcher is to understand the multiple social constructions of meaning and knowledge. Hence they tend to use research methods such as interviews and observation which allow them to acquire multiple perspectives (Robson, 2002: 27).

This study draws on the interviews, observations and organisational artefact analysis to answer the research questions. In the figure below the methods used in this research are illustrated.
These methods allow the research question and sub-questions to be answered, as illustrated in the table below.

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the embedded meaning of human-centred design in the Australian Taxation Office?</td>
<td>Exploratory in-depth interviews&lt;br&gt;Auto-ethnographic accounts (from being Participant –Observer)&lt;br&gt;Physical artefacts&lt;br&gt;Organisational documentation</td>
</tr>
<tr>
<td>2. How has the Australian Taxation Office changed as it has adopted design?</td>
<td>Exploratory in-depth interviews&lt;br&gt;Organisational documentation&lt;br&gt;Archive documents</td>
</tr>
<tr>
<td>3. How are practices of design being sustained through what situations of action?</td>
<td>Exploratory in-depth interviews&lt;br&gt;Auto-ethnographic accounts (from being Participant –Observer)&lt;br&gt;Physical artefacts</td>
</tr>
</tbody>
</table>

Table 2 Research Methods addressing research questions
The specific application and implications of using each of these methods is described below.

**Exploratory in-depth interviews**

One of the chief methods used in this study was the in-depth exploratory interview. This is an unpredictable and exciting method to use because it allows the participants to explore the topic and is very useful in early stages of research (LeCompte et al., 1999:148). It allows complete flexibility in exploring the topic (p.121). The challenge of using this approach is that it requires strong interview skills to be focussed and to keep attention on what the participant is saying, and judging which points to follow and explore. The added challenge is the participant’s own comfort and ability to articulate and explore (Creswell, 2003:186). The exploration of human-centred design and its meaning through participant’s expressions and verbal illustrations provides data to understand the embedded meaning. This approach also allows participants to recollect historical information (Creswell, 2003:186) which provides data for the second research objective; how has the organisation changed overtime.

Some of the limitations of this method are that self-reporting can mean the participant may be inclined to report what they think the interviewer wants to hear (Alvesson, 2003b:169), and there can be discrepancies between what is said/reported and what is actually done in practice (Corbin and Strauss, 2008:29). There are also the human realities; not everyone is articulate or perceptive (Creswell, 2003: 186), or consciously aware of the “subtleties of what goes on in interactions between themselves and others” (Corbin and Strauss, 2008:30). These limitations can be overcome by conducting a series of interviews over time and by building a rich and deep series of perspectives on the topic. Further, validity can be strengthened by triangulating these sources of data.
against other data sources such as observations and organisational artefact analysis is useful. In this study interviews are one source of data.

The application of the interview method is used throughout the research project. Following the grounded theory approach, an iterative approach is taken to data gathering. The research is done in phases and in each successive phase the interviews move from exploratory interviews to semi-structured interviews, as theoretical sampling guides a more structured inquiry into the study.

**Organisational artefacts analysis**

In addition to in-depth interviews this study used organisational artefact analysis to answer the second research question, about how the organisation has changed. This is by sourcing organisational artefacts both in paper and electronic form to provide data about the way the organisation has defined and made sense of human-centred design. It is about using information created and collected by others (LeCompte et al., 1999:201) and in this study the types of documents included:

- Organisational charts of the design capability over time
- Design guides, and other explanatory material talking about human-centred design
- Previous studies, reviews and reports written on the design capability
- Artefacts from the design process
- Posters and other promotional materials developed which talk about human-centred design
- Official organisational documents such as practice statements
- Informal documents such as emails, and other correspondence regarding design
- Speeches given about the organisation’s use and application of human-centred design e.g. to other government agencies and at conferences
- Letters, and other memo’s which communicate design in the organisation over time
A limitation of organisational artefact analysis is that some sources are not accessible due to security clearance requirements. In addition, the authenticity of documents can present problems and documents may be incomplete (Creswell, 2003: 187). To address these limitations the organisational artefacts were sourced through participants, with participants judgements of legitimacy and relevancy to the organisation guiding the artefact collection analysis.

Collecting and analysing organisational documents helped build a picture of the embeddedness of human-centred design, and of the language and terminology used. These documents provided evidence of the application of design and the changes in work practices and in the organisation over time. The artefacts also helped triangulate other sources of data collected. I use the word triangulate to mean increasing the complexity of data and using different sources of data to generate greater insight. This contemporary view of ‘triangulate’ is more about ensuring the data was as rich as possible and is not so much about making truth claims. In the analysis of the situation these documents became important features of the situation, taking on the non-human role in the interactions and actions between people. These objects or organisational artefacts are themselves objects of observation.

A technique used to gather some of these organisational artefacts was to use the interviews with designers to gather organisational artefacts. Participants were asked to select an exemplar design project that they were involved in, which illustrated the principles of design. Participants were encouraged to bring physical artefacts and materials with them to visually show the project design work. These artefacts were used as a way to explore and draw out what it means to practice design in the ATO. Where permission was given these artefacts were collected.
Participant Observation – Auto ethnographic accounts

A third and important method in this study was participant observation. Participant observation is considered a primary method for ethnography (Geertz, 1988; LeCompte et al., 1999; Agar, 1980; Kellehear, 1993). In this study, to properly answer the third research question – how is human-centred design being practiced, ‘being there’ is about observing the practices of design and access to activity which is not normally exposed to others outside the organisation (LeCompte et al., 1999:92). Clarke points us in the direction of going into the field as researchers to understand the situation (Clarke, 2009). This involves the study of how organisational members go about their everyday lives in their specific context (Emerson et al., 1995: 1). The data is the explicit and tacit knowledge that enables participants to negotiate and accomplish the tasks of this design sub culture in the ATO. The intent to conduct participant observation and spend extended periods of time at the ATO during the course of this study was not possible for logistical reasons and this opened the research to another strategy – drawing from my own experiences as a designer and employee between the period 2003 - 2007. My own experiences in the design sub culture provided grounds for harvesting auto-ethnographic accounts. Ellis and Bochner define autoethnography as:

...autobiographies that self-consciously explore the interplay of the introspective, personally engaged self with cultural descriptions mediated through language, history, and ethnographic explanation. (Ellis and Bochner, 2000: 742)

I adopted the position of participant observer, and this method of auto-ethnographic accounts permitted access to first-hand experiences – having “been there” (Alvesson, 2003b: 171). The writing of these accounts was an important decision, and following Reed-Danahay narrative style – “autobiographical ethnography” (Reed-Danahay, 1997: 2) because the emphasis on the personal experience injected into the cultural writing of design in the ATO is what makes up these accounts. These written accounts of
experience are based on being a designer in the ATO, and these accounts are not considered the story, but as Clifford argues these are “but a story among other stories” (Clifford, 1986: 109). I found that by reflecting and writing these accounts this enabled me to understand participants in the study as they shared their stories of designing in the ATO, Ellis calls this “heartfelt auto-ethnography” (Ellis, 1999: 669).

The challenge of recalling and reorganising these memories required several strategies, including collecting personal journals, notes, emails, design artefacts, conversations which Chang argues are legitimate means to derive data from lived experiences (Chang, 2008). Another challenge with using my own insider experience became one of making the situation strange, being able to go beyond taking things for granted and actually providing an account that sees the taken for granted as being accounted for which Fetterman argues is a risk if the “setting is too familiar…events taken for granted, leaving important data unnoticed and unrecorded” (Fetterman, 1989:46). The auto-ethnographic method demands “writing skills as crucial as the researcher’s own observation capacities” (Denzin and Lincoln, 1998:109) and these writings are usually in the form of thick descriptions (Geertz, 1973) and enable the reader to understand the meaning of what is going on. The descriptions capture the observed social activities and behaviours within a particular context (Ponterotto, 2006:543). Latour’s comment inspired me in this:

\[
\text{to describe, to be attentive to the concrete state of affairs, to find the uniquely adequate account of a given situation, I myself have always found incredibly demanding (Latour, 2005:144)}
\]

The demanding aspects of writing these auto-ethnographic accounts raised the expectations to be able to write usable data (Denzin and Lincoln, 1998:112). A strategy employed to develop usable data was to use Spradley’s nine dimensions of descriptive observation to describe space, actors, activities, objects, acts, events, time, goals of
actors and feelings (Spradley, 1980). These dimensions were helpful and allowed me to begin writing early in the stages of this study, as Wolcott suggests (Wolcott, 2001) and as the research progressed the past experiences recalled were selected in accordance with the research focus (Chang, 2006).

The auto-ethnographic method can be associated with pitfalls, and Chang (Chang, 2006) presents five pitfalls to avoid in doing auto-ethnography:

1. Excessive focus on self in isolation of others;
2. Overemphasis on narration rather than analysis and cultural interpretation;
3. Exclusive reliance on personal memory and recalling as a data source;
4. Negligence of ethical standards regarding others in self-narratives;
5. Inappropriate application of the label “autoethnography”.

The approach in this study to counter these pitfalls firstly included the corroboration of events I accounted with participant’s accounts to reduce focus on self and exclusive reliance on personal memory. For example in an account written about the design of a new organisational capability, I corroborated my account with my peer designer as well as the project sponsor, to check the data recorded from the observed event was not isolated to self but inclusive of the social. Secondly the accounts of previous design experiences were selected in line with research purposes, and therefore were not stories for stories sake (Coia and Taylor, 2006), but rather illuminated important analytical aspects of this study. For example accounts relating to how I understood design and what artefacts I used to craft my understanding of design provided data for the analysis on the embedded meaning of design as a network of human and non-human actors. Thirdly, choices were made to ensure the identity of others was disguised in the accounts to ensure confidentiality of participants was protected.
Considerations

*Access to organisational members and artefacts*

Previous employment in the organisation did not mean automatic access to people and artefacts. The strategy, once consent for the study was given by the organisation, was to work directly with a few key contacts in the organisation and through these individuals, identify others to participate in the research. The coordination of all interviews was facilitated by an organisational contact, Skye Smart and scheduling occurred directly between myself and participants. Not all participants were located in the same city. I travelled to the Brisbane office and phone interviews were conducted with participants based in Adelaide, Melbourne and Sydney. All interviews were audio recorded and transcribed.

Organisational artefact collection was difficult. Initially an hour of access was allowed in a ‘library’ room in the National Office which kept filing cabinets and shelves of design guides, design booklets, old design artefacts, videos from user testing, design mentoring sessions and other materials. It was not so much a library as a holding pen of different materials collected by the corporate design area, Business Solutions. This approach was interesting but not fruitful. There were unfinished artefacts, and it required someone from the organisation to make some sense of why these things were kept. This approach to organisational artefacts gathering was considered only marginally beneficial.

The problems with sourcing useful materials prompted the opportunity to gather artefacts as part of the interviews. This was a more useful and targeted way to gather artefacts.
Selection of organisation members

The research invited organisational members who:

1. Played a role in the initial integrated tax design project and/or in later years in the design capability in the Australian Taxation Office;
2. Were experienced in design roles in the design capability, or were involved in projects which used the Australian Taxation Office design methodology.

In the stage one of the research four key senior people in the organisation were selected for exploratory interviews. These senior people all actively played a role in the initial stages of integrated tax design as a project in the year 2000. These participants referred other potential participants. In stage two, participants identified in stage one were invited to participate in the research. LeCompte and colleagues refer to this type of participant selection as chain referral selection (LeCompte et al., 1999:241). That is “study participants suggest to the researcher the next person or set of people to be contacted, based on a set of criteria the researcher has established in advance” (p. 241). This helps ensure the data is saturated with characteristics the researcher wants to study (p. 242). In the final stage of data collection theoretical sampling was used to invite participants into the study. Use of situational analysis was a means of developing strategies for theoretical sampling as it enabled insight into new sources of data to enrich the study. This process for participant selection applied to all interviews.

Self as researcher: overcoming bias

“Researchers are obliged to be reflexive about what we bring to the scene, what we see, and how we see it”(Charmaz, 2006: 15). It is not unfamiliar territory for qualitative researchers, especially for studies following constructionist approaches, to find themselves very much in the research along with the researched. In this study a journal was kept throughout the project. This facilitated the reflexive practices which were
important in the process of going back into a familiar organisation but asking questions and listening to the answers as a researcher not a colleague or subordinate. I found the process of being aware of my feelings and reactions to my participants as I progressed through the research important to acknowledge, because as Corbin points out “researcher and participants co-construct the research together… thus examining the researcher’s influence on the research process is important (Corbin and Strauss, 2008: 31).

**Confidentiality**

In this study the identity of the organisation is known (with the approval of the organisation). The participants’ identity, however, has been disguised in the data analysis and final report. Ensuring participant’s confidentiality was maintained was a core ethical commitment.

**Credibility and trustworthiness**

To ensure credibility and trustworthiness as much as possible strategies were adapted throughout the study. These strategies followed Strauss and Corbin (Strauss and Corbin, 1990):

**Strategy 1**

Triangulate the findings about design in the organisation from multiple sources (Resnik Mellion and Moran Tovin, 2002: 118) including interviews, organisational artefacts and auto-ethnographic accounts. The iterative approach to data gathering and data analysis facilitated a triangulation process, the building of complexity and a richer data picture. For example themes about the practices of design were understood from both participant interviews and organisational artefacts. This strategy enabled findings in the research to be substantiated from multiple sources.
Strategy 2
To check initial interpretations and findings current and previous key organisational employees were engaged throughout the study. The artefacts used to mediate these conversations included situational maps, early thematic codes, and accounts of specific events which I partook as an employee designer.

Strategy 3
In vivo coding was used in the process of analysis (which is staying true to the words and references used by participants in the research). This was to ensure the research reflected the language and issues as expressed by the participants. This was particularly important for this study because it is about understating the socially constructed meanings of design in the ATO. These terms informed the themes of the analysis of the research. The strategy also included directly quoting the participants in the analytical chapters and conclusions.

Strategy 4
To ensure consistency and rigour in each phase of the study I developed a protocol to ensure the questions and the process followed was consistently applied. This was an important strategy because as the study progressed the inquiry moved from broad understandings to more specific understandings of design in the ATO. This meant the protocol in the first stage was different from the second and third stages.³

³ See Attachments for protocol examples
Execution of the research design

The study was executed over a period of five years part time. The strategy to get through such an endeavour with part time effort was to be as organised as possible and to approach the execution of the research with a healthy sense of practicality. This meant that the research design was executed over three main phases: research design, iterative data collection and analysis and writing, and thesis writing. These three phases were book-ended by a literature review. The data gathering and analysis was iterative and went through three stages. These stages moved from broad inquiry and exploration of the research questions, through to more specific questions and inquiry such as exemplar design projects and practices of design in the ATO. This is illustrated below.
A brief overview of each of the phases is described below.
Phase 1 – Research design

The research design was executed pragmatically to make best use of my time given I undertook this study in a part-time capacity. This pragmatic approach was helpful for my participants who also had limited time in their busy schedules. The research design remained open to refinement as data was collected and analysed iteratively. These stages of data collection and analysis are described below.

Phase 2 – Iterative data gathering, analysis and writing

**Stage 1 – Initial exploratory interviews**

It is not uncommon for exploratory research to go into the field early to scope out what shape the research needs to take e.g. to help decide interview questions and the research design (Tellis, 1997b). The first stage comprised in-depth exploratory interviews with four subject matter experts. These subject matter experts were senior leaders who had an active role in the early stages of the integrated tax design project in the ATO. After these interviews were completed transcripts were produced and then the data was analysed following grounded theory methods. Initial codes were organised into themes. This allowed an immediate analysis and reflection on the topic and research questions.

The research questions and the design were confirmed through this process. It was apparent that the inquiry, whilst exploratory, needed to be managed to focus on the concept of design and to get underneath the obvious and draw out more of the practice of design in management work.

This stage in the research included the development of a paper and presentation for an international conference in the area of design thinking. The process of writing ‘A
complex organisation discovering design\(^4\) drawing on the initial themes in the data from stage one helped shape the research design and questions for later stages. The activity of writing a paper offered an invaluable step in testing the currency of initial ideas with other leading academics in this interdisciplinary context.

**Stage 2 – Further in-depth interviews and document collection**

The second stage of data collection included site visits to the National Office of the Australian Taxation Office in Canberra. These visits gathered data from individuals through in-depth exploratory interviews and collection of organisational artefacts such as copies of practice statements on design and project management, speeches by the previous and current Commissioners of Taxation referring to the ATO’s approach to design, guidelines, templates, examples of design artefacts, observation of some online animated project prototypes, online design intranet sites, internal training programs, an external review written on the design capability, and a history map of the tax design capability being developed. I also wrote a number of my own accounts from working as a designer in the ATO, following the approach described earlier.

The analysis of interview data followed an approach recommended by Charmaz (2006) involving coding and memo writing from the data, iteratively and progressively. These codes built further on the themes from the first stage. As illustrated below, these processes helped shape the thinking and understanding of what was happening in the data.

\(^4\) See Appendix B for a full description of this paper, conference and publication.
What is emerging from my data analysis?

The codes listed are constructed from grouping the codes created from a "bottom up" approach. This means I started with a descriptive coding process and created free nodes for an initial set of interview data.

<table>
<thead>
<tr>
<th>Design means</th>
<th>Designer attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility to user</td>
<td>Ability to consult</td>
</tr>
<tr>
<td>New Tax System</td>
<td>Ability to judge</td>
</tr>
<tr>
<td>Design graduates</td>
<td>Ccollate knowledge</td>
</tr>
<tr>
<td>Leading and shaping</td>
<td>Conceptual thinking</td>
</tr>
<tr>
<td>Software providers</td>
<td>Creativity</td>
</tr>
<tr>
<td>Strong Executive support</td>
<td>End-to-end view</td>
</tr>
<tr>
<td>Business Solutions</td>
<td>Individual mark</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Not everyone can facilitate or information design</td>
</tr>
<tr>
<td>Cross</td>
<td>Leading and shaping</td>
</tr>
<tr>
<td>User experience</td>
<td>Love the challenge</td>
</tr>
<tr>
<td>Remind people they are designing</td>
<td>Passionate</td>
</tr>
<tr>
<td>Information design</td>
<td>Problem Solving</td>
</tr>
<tr>
<td>User walkthrough</td>
<td>Sharing understanding</td>
</tr>
<tr>
<td>Administrative systems</td>
<td>Synthesise</td>
</tr>
<tr>
<td>User expectations</td>
<td>Translate information from users</td>
</tr>
<tr>
<td>Slowing down</td>
<td>Understand the detail</td>
</tr>
<tr>
<td>Measurement and benchmarks</td>
<td>Work across disciplines</td>
</tr>
</tbody>
</table>

The players

<table>
<thead>
<tr>
<th>Actors</th>
<th>Academician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom line kind of person</td>
<td>Business Analyst</td>
</tr>
<tr>
<td>Business Process Modeler</td>
<td>Build design capability team (within Business Solutions)</td>
</tr>
<tr>
<td>Business Solutions</td>
<td>Careers into design</td>
</tr>
<tr>
<td>Commissioners</td>
<td>Consultative groups e.g. Indigenous Tax Advisory Group</td>
</tr>
<tr>
<td>Community</td>
<td>Community of Practices</td>
</tr>
<tr>
<td>Core design team</td>
<td>Core design</td>
</tr>
<tr>
<td>Design capability</td>
<td>Design Manager</td>
</tr>
<tr>
<td>Design Champion</td>
<td>Design Facilitator</td>
</tr>
<tr>
<td>Design community</td>
<td>Design graduates</td>
</tr>
<tr>
<td>Design Manager</td>
<td>Designer</td>
</tr>
<tr>
<td>Distributed design areas</td>
<td>Experts</td>
</tr>
<tr>
<td>Experts</td>
<td>Funds</td>
</tr>
<tr>
<td>General designers</td>
<td>Information Designer</td>
</tr>
<tr>
<td>Information Designer</td>
<td>Intermediaries</td>
</tr>
<tr>
<td>Intermediaries</td>
<td>Leadership</td>
</tr>
<tr>
<td>Leadership</td>
<td>Model office team</td>
</tr>
<tr>
<td>Model office team</td>
<td>Project Managers</td>
</tr>
<tr>
<td>Project Managers</td>
<td>Other designers</td>
</tr>
<tr>
<td>Other designers</td>
<td>Senior designer</td>
</tr>
<tr>
<td>Senior designer</td>
<td>SimCentre</td>
</tr>
<tr>
<td>SimCentre</td>
<td>SharePoint providers</td>
</tr>
<tr>
<td>SharePoint providers</td>
<td>Treasury</td>
</tr>
</tbody>
</table>

The practice of

<table>
<thead>
<tr>
<th>Administrative systems</th>
<th>Allocating work to designers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocating work to designers</td>
<td>A lot of changes improved</td>
</tr>
<tr>
<td>A lot of changes improved</td>
<td>Bit disjointed</td>
</tr>
<tr>
<td>Bit disjointed</td>
<td>Business as usual projects</td>
</tr>
<tr>
<td>Business as usual projects</td>
<td>Cross-walking</td>
</tr>
<tr>
<td>Cross-walking</td>
<td>Design artifacts</td>
</tr>
<tr>
<td>Design artifacts</td>
<td>Design conversations</td>
</tr>
<tr>
<td>Design conversations</td>
<td>Design farms in front of them</td>
</tr>
<tr>
<td>Design farms in front of them</td>
<td>Design methodology</td>
</tr>
<tr>
<td>Design methodology</td>
<td>Design Managers meetings</td>
</tr>
<tr>
<td>Design Managers meetings</td>
<td>Design questions</td>
</tr>
<tr>
<td>Design questions</td>
<td>Design team core skills</td>
</tr>
<tr>
<td>Design team core skills</td>
<td>Design to the constant</td>
</tr>
<tr>
<td>Design to the constant</td>
<td>Design resource centre (online)</td>
</tr>
<tr>
<td>Design resource centre (online)</td>
<td>Doing design without breaking it</td>
</tr>
<tr>
<td>Doing design without breaking it</td>
<td>Fix fundamentals in working</td>
</tr>
<tr>
<td>Fix fundamentals in working</td>
<td>Forms</td>
</tr>
<tr>
<td>Forms</td>
<td>Implementation of design Information design</td>
</tr>
<tr>
<td>Implementation of design Information design</td>
<td>Lead times</td>
</tr>
<tr>
<td>Lead times</td>
<td>Mentoring days</td>
</tr>
<tr>
<td>Mentoring days</td>
<td>Multiplesages</td>
</tr>
<tr>
<td>Multiplesages</td>
<td>New projects</td>
</tr>
<tr>
<td>New projects</td>
<td>Not one size fits all</td>
</tr>
<tr>
<td>Not one size fits all</td>
<td>Modelisice</td>
</tr>
<tr>
<td>Modelisice</td>
<td>Over mechanics</td>
</tr>
<tr>
<td>Over mechanics</td>
<td>Paper products</td>
</tr>
<tr>
<td>Paper products</td>
<td>Pathways</td>
</tr>
<tr>
<td>Pathways</td>
<td>Policy driven</td>
</tr>
</tbody>
</table>

The shift in culture

<table>
<thead>
<tr>
<th>Advocates for design</th>
<th>Birth of design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth of design</td>
<td>Design initiatives</td>
</tr>
<tr>
<td>Design initiatives</td>
<td>Design events</td>
</tr>
<tr>
<td>Design events</td>
<td>Ease of applying design method</td>
</tr>
<tr>
<td>Ease of applying design method</td>
<td>Empathy with impacted third parties</td>
</tr>
<tr>
<td>Empathy with impacted third parties</td>
<td>Faith in the process</td>
</tr>
<tr>
<td>Faith in the process</td>
<td>Feedback and discipline</td>
</tr>
<tr>
<td>Feedback and discipline</td>
<td>Major shifts in the organisation</td>
</tr>
<tr>
<td>Major shifts in the organisation</td>
<td>Metaphor Cowboys</td>
</tr>
<tr>
<td>Metaphor Cowboys</td>
<td>Metaphor Spider web</td>
</tr>
<tr>
<td>Metaphor Spider web</td>
<td>Listening environment</td>
</tr>
<tr>
<td>Listening environment</td>
<td>Listening to the community</td>
</tr>
<tr>
<td>Listening to the community</td>
<td>Passover your culture</td>
</tr>
<tr>
<td>Passover your culture</td>
<td>Previous design experience</td>
</tr>
<tr>
<td>Previous design experience</td>
<td>Reminder people they are designing for humans</td>
</tr>
<tr>
<td>Reminder people they are designing for humans</td>
<td>Rules based organisation</td>
</tr>
<tr>
<td>Rules based organisation</td>
<td>Senior leader core group</td>
</tr>
<tr>
<td>Senior leader core group</td>
<td>Shifting culture</td>
</tr>
<tr>
<td>Shifting culture</td>
<td>Strong Executive support</td>
</tr>
<tr>
<td>Strong Executive support</td>
<td>They knew nothing</td>
</tr>
<tr>
<td>They knew nothing</td>
<td>The way things were &quot;like everyone is evil&quot;</td>
</tr>
<tr>
<td>The way things were &quot;like everyone is evil&quot;</td>
<td>Tinkering</td>
</tr>
<tr>
<td>Tinkering</td>
<td>Transformative learning</td>
</tr>
<tr>
<td>Transformative learning</td>
<td>Trigger for shift in philosophy on design</td>
</tr>
<tr>
<td>Trigger for shift in philosophy on design</td>
<td>Wrap pad up in own jargon</td>
</tr>
<tr>
<td>Wrap pad up in own jargon</td>
<td>Write from Tax Act</td>
</tr>
</tbody>
</table>

Challenges

<table>
<thead>
<tr>
<th>Collaborating with users</th>
<th>Collate user and organisational</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Collate user and organisational</td>
<td>Design by lowest common</td>
<td></td>
</tr>
<tr>
<td>Design by lowest common</td>
<td>denominator</td>
<td></td>
</tr>
<tr>
<td>denominator</td>
<td>Design difficulties</td>
<td></td>
</tr>
<tr>
<td>Design difficulties</td>
<td>Design is the non technical journey</td>
<td></td>
</tr>
<tr>
<td>Design is the non technical journey</td>
<td>Design rehashed by IT</td>
<td></td>
</tr>
<tr>
<td>Design rehashed by IT</td>
<td>Fails through the cracks</td>
<td></td>
</tr>
<tr>
<td>Fails through the cracks</td>
<td>Frustrations</td>
<td></td>
</tr>
<tr>
<td>Frustrations</td>
<td>Gap in middle management</td>
<td></td>
</tr>
<tr>
<td>Gap in middle management</td>
<td>Leadership</td>
<td></td>
</tr>
<tr>
<td>Leadership</td>
<td>Lip service</td>
<td></td>
</tr>
<tr>
<td>Lip service</td>
<td>Maintain relevance</td>
<td></td>
</tr>
<tr>
<td>Maintain relevance</td>
<td>Measurement and benchmarks</td>
<td></td>
</tr>
<tr>
<td>Measurement and benchmarks</td>
<td>Missing fire in the belly</td>
<td></td>
</tr>
<tr>
<td>Missing fire in the belly</td>
<td>More binned</td>
<td></td>
</tr>
<tr>
<td>More binned</td>
<td>Refute and add-on</td>
<td></td>
</tr>
<tr>
<td>Refute and add-on</td>
<td>Review effectiveness of design</td>
<td></td>
</tr>
<tr>
<td>Review effectiveness of design</td>
<td>Staying down</td>
<td></td>
</tr>
<tr>
<td>Staying down</td>
<td>Strong foothold</td>
<td></td>
</tr>
<tr>
<td>Strong foothold</td>
<td>Timeframes</td>
<td></td>
</tr>
<tr>
<td>Timeframes</td>
<td>Trust</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>User design challenge example</td>
<td></td>
</tr>
<tr>
<td>User design challenge example</td>
<td>User expectations</td>
<td></td>
</tr>
<tr>
<td>User expectations</td>
<td>Visibility</td>
<td></td>
</tr>
<tr>
<td>Visibility</td>
<td>Wear-out users</td>
<td></td>
</tr>
</tbody>
</table>

Accessibility to resources

<table>
<thead>
<tr>
<th>ELSS project</th>
<th>Entrepreneurs Tax Offset policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurs Tax Offset policy</td>
<td>New policy process</td>
</tr>
<tr>
<td>New policy process</td>
<td>New Tax System</td>
</tr>
<tr>
<td>New Tax System</td>
<td>Super Guaranty system</td>
</tr>
<tr>
<td>Super Guaranty system</td>
<td>System in operation</td>
</tr>
<tr>
<td>System in operation</td>
<td>TFpsory</td>
</tr>
</tbody>
</table>

Other

Note 1: Take time to write memo’s of such things as “This project was important because...”; “This way of thinking was important because...” “This external group played a role because...”

Note 2: Some themes could end up and being papers.
This was coupled with taking another analytical approach called situational analysis. This approach, developed and refined by Clarke (2005), enabled visualisation of the key elements in the research to be drawn and explored. This meant the creation of abstract situational maps. These are maps of both messy and ordered styles including “all the analytically pertinent human and nonhuman, material, and symbolic/discursive elements of a particular situation as framed by those in it and by the analyst” (Clarke, 2005: 87).

This was a very important moment for me as a researcher because I started to see my data differently; in fact I started to look at the organisation and the case study with fresh eyes. I recall a moment that I recorded in my journal about the experience:

“The “design arena” is made of many actors and actants. It appears to have complex negotiations and connections – between organisations, and within organisations. The ATO is the primary actor with established design community, non-human elements in place and a commitment to ongoing interactions between many types of worlds….The “work” of the design arena is broader than the ATO itself.

In some ways this broader map of the situation could tell us about the embedded nature of design in the ATO. It’s a bit of a paradox – to embed design in an organisation you need to embed it outside (First? Or at least in parallel?). An interesting question to ask maybe is how the ATO went about/goes about establishing/maintaining this design psyche outside of the organisation? Does this in fact create a sort of equilibrium which the organisation is now nestled – design based from the inside, and design based from the outside? I may need to go and interview some of these other players in the design arena to get a perspective on this point.5

To demonstrate this ‘ahah’ moment I will illustrate the analysis process and show how these maps assisted critically in this stage of the research. The situational mapping/representation was important for two reasons. First, to identify management-by-designing as a management practice there was no one single representation or story to capture all the elements (Simon, 1996: Chapter 6). Second, the maps illustrate the collective picture of ideas from all participants’ narratives and bring into focus those

5 Personal journal notes
elements which are absent from accounts provided by participants. These absent elements include aspects of the practice of design that are so taken for granted that they almost fade into the background. For instance, in this study several phenomena were present in the situation of design but were absent from participant accounts including accessibility of resources, the ubiquity of citizen-attended workshops as a means to design, assumptions about who should be involved in design workshops, and discussion of the artefacts routinely produced as a means of articulating between design workshops and the endpoints of design practice.

The mapping began with messy mapping which acts as a placeholder map for any ideas of important elements of management-as-designing in the ATO.

![Figure 9 Messy map: Elements in the case organisation illustrating management by designing](image)

The power of the messiness is to begin to grasp the complex roles, activities, spaces and artefacts involved in the design social world that has become an integral part of the
ATO and to enable the exploration of relations between these elements. For example what is the relationship between ‘design facilitator’ and ‘core design team’?

There are many actors in this messy map which tell a story of the creation of new roles in the ATO in its development of citizen-centric design practices. These roles created space for the organisation to model a new way of working. The roles such as design facilitator, information designer and user researcher situate themselves in many areas across the organisation, thereby creating not one but many design teams acting to drive participatory design processes. The design roles aggregate to form collectives in communities of practice enabling knowledge sharing and development of participatory practices.

Non-human elements such as design manuals, design practice statements and new templates for documenting design activities empower the designers to act and add value to the work of the ATO. These elements translate the participatory design practices and work across the organisation to communicate the impacts of the designers’ work.

The mapping can take a more structured approach and, following a framework developed by Adele Clarke (2005), a second stage situational map was produced using signposts and categories for situational elements such as individual and collective human actors, implicated silent actors, discursive constructions, political elements, spatial elements, major issues and debates, to create an ordered situational map.
<table>
<thead>
<tr>
<th>Organised element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INDIVIDUAL HUMAN ELEMENTS/ACTORS</strong></td>
<td>Academics, Business Analyst, Business Process Modeller; Commissioners; Design Champion; Design Facilitator; Design graduates; User researcher; Design Manager; Designer; Experts; Information Designer; Leaders; Project Managers; Privacy Commissioner; Tax Agents; Fund members; Taxpayer; Consultants</td>
</tr>
<tr>
<td><strong>COLLECTIVE HUMAN ELEMENTS/ACTORS</strong></td>
<td>Build design capability team (within Business Solutions); Business Solutions; Consultative forums for taxpayers, business, tax professional and other intermediaries; Community; Community of Practices (within ATO); Core design teams; Design capability; Design community; Distributed design areas; Design Centre; Superannuation Fund Organisations; Intermediaries; Model office team; Other agencies; Sim Centre team; Software providers; Treasury; Third Parties; ax Agents Board; Health of Design Forum; Design Managers Forum</td>
</tr>
<tr>
<td><strong>NONHUMAN ELEMENTS/ACTANTS</strong></td>
<td>Intranet site (design site); computer software (to model and map designs); design artefacts: reports, blueprints, pathways; design principles (poster); design methodology, rapid design methodology; design practice statements; Technology (testing labs, online resources); Design resources such as rooms, paper, printers, pin board areas, wall space, whiteboards, pens markers lots of stationary; design manuals; design skill builders; design training</td>
</tr>
<tr>
<td><strong>DISCURSIVE CONSTRUCTION OF NON-HUMAN ACTANTS</strong></td>
<td>Speed of design; lead time needed; end to end picture of the solution; user impacts; takes time; tick and flick; design happens in front of them</td>
</tr>
<tr>
<td><strong>DISCURSIVE CONSTRUCTIONS OF INDIVIDUAL AND/OR COLLECTIVE HUMAN ACTORS</strong></td>
<td>Design champion; designer stereotypes; designers helps us think; community consultative groups; trust them; design makes sense; Bottom line kind of person; Career into design; General designers; Senior designer;</td>
</tr>
<tr>
<td><strong>MAJOR ISSUES/DEBATES (USUALLY CONTESTED)</strong></td>
<td>Focus on method/process versus outcome; fuzziness of design; who can design?; true community engagement vs. experts; Design takes time; more than the user-efficiency of design solutions; users are not designers;</td>
</tr>
<tr>
<td><strong>RELATED DISCOURSES (HISTORICAL, NARRATIVE, AND/OR VISUAL)</strong></td>
<td>Public service reform; media coverage of designing as managing; design strategy; business/management education and design; design studies; design and organisational change/transformation; Participatory design in public systems e.g. NHS in UK; user based design discourses (usually technology based); emergent fourth order design discourse (Buchanan); co-production</td>
</tr>
<tr>
<td><strong>OTHER KINDS OF ELEMENTS</strong></td>
<td>Key events whilst studying: change in design leadership; design being taken on and developed in other commonwealth agencies; Tax Review (2008); Australian Public Service Review (2009)</td>
</tr>
<tr>
<td><strong>POLITICAL/ECONOMIC ELEMENTS</strong></td>
<td>Australian Tax Reform politics (ongoing); Tax simplification agendas (reducing the complexities of complying with tax law); Concepts of community consultation, collaboration and co-design (recommendations from reviews); cost of compliance with Tax law;</td>
</tr>
<tr>
<td><strong>SPATIAL ELEMENTS</strong></td>
<td>Multi-site (running design activities); Tax offsite site and user or community site; physical spaces workshop rooms, user testing facilities</td>
</tr>
<tr>
<td><strong>TEMPORAL ELEMENTS</strong></td>
<td>Tax Reform (1999, 2000, 2008); Commissioner of Taxation vision; Senior design leadership (explicit role); Global financial crisis – impacts on new policy agendas, mentoring days</td>
</tr>
</tbody>
</table>

Table 3 Ordered situational map: Elements in the case organisation illustrating management by designing
The previous table illustrates the variety of properties and features in the ATO’s approach to management by designing. It raises important questions such as: who and what things matter in the practice of design and driving citizen-centred approaches in the ATO? What debates are present in the situation which shape the way design is practised? What economic, political and temporal conditions affect how citizens participate in designing processes and products in the tax system? What do the non-human elements tell us about the effort to ensure design practices are enacted effectively? If we take the collective list, a story emerges. There are many collective actors involved, including third parties such as the Tax Agents Board, software providers, and superannuation funds who act as intermediaries between the ATO and taxpayers and citizens. This also includes the citizen or community and other actors such as consultants and academics. Within the ATO there is a design community that shares people, practices and non-human elements created by organisational members such as the user pathways created with citizens participating in design workshops. There are many consultative forums established by the ATO including Personal Tax Advisory Group (PTAG), Commissioner’s Small Business Consultative Group (CSBCG), Cash Economy Advisory Group (CEAG), Large Business Advisory Group (LBAG), Charities Consultative Committee (Charities CC). These forums have representatives from various community organisations who are involved in participatory practices of design with the ATO. All of these groups participate in the design of tax products and services through workshops and other participatory activities such as prototypes with people from the ATO.

The long list of human actors, both individual and collective, led to an important insight; there was more than one social world in this study of design. In other words the design social world of the ATO was not contained within the organisation and required
the making of interactional spaces and porous boundaries between the ATO and its ‘outside’. Figure 6 attempts to show this broader arena through which ‘design’ has become embedded in the ATO. This map is an analytical representation and was produced by applying Clarke’s method for mapping of the collective social action to design in the ATO (Clarke, 2005:114).
Producing this series of situational maps led to the emergence of an understanding that would remain central to this thesis that, the ability of the organisation to create and sustain a management practice embodying a design approach is based on the multiple actors and activities located in the organisation. A multitude of the organisation’s management and team roles are formally dedicated to design (e.g. design managers, design teams, user researchers, information designers, design facilitators, and general and senior designers). There is overt activity supporting and developing designers (including mentoring days, design manager meetings, and established communities of practice). The non-human elements play a key role in enabling design practice to be enacted (e.g. a simulation centre to test products; a model office to simulate change by role playing tax service experiences for leadership and stakeholders; technology to support the practice such as the online resource centre). The artefacts from the practice of designing (such as representations of the pathways of taxpayers experiencing change, rapid solution design methodology manuals, user walkthroughs to help citizens describe in detail their business transactions with the ATO) and other design artefacts such as blueprints (documents that describe the design of a new tax product or service) are important objects that move within this arena and act as tools of negotiation and design.

These maps together with the coding facilitated the art of research analysis and directed theoretical sampling for the next stage. Again in this stage of data collection and analysis a paper was developed and presented at an international conference on designing as managing. This opportunity focussed on discussions related to the situational mapping analysis. This helped with converging on important findings in the
data from the process of interrogating the data through the use of situational maps and, in particular, social worlds and arena maps.\textsuperscript{6}

This stage opened up the data and identified theoretical sampling, pointing to new sources of data needed for the research.

\textbf{Stage 3 – Further in-depth interviews and exemplar design projects}

In this final stage of data collection the emphasis was on understanding performances of design in the ATO. Actor Network Theory (ANT) was increasingly ingested into this study and literature using ANT (Fitzpatrick, 2003; Law, 2004b; Law, 2006; Kraal, 2007; Mol, 2002) helped me draw out and analyse design in management at the ATO as performance. ANT required an understanding of the data that emphasised the local. This stage involved participants bringing to the interview an exemplar design project and these projects were explored generating a narrative of the participant’s role, and of the design processes and performances constitutive of design practice in the ATO. I also wrote a number of my own accounts from working as a designer in the ATO. I drew from diaries and project files which I created when I was in the ATO as a designer. These accounts were narrative autobiographical descriptions of my role, the design activities and the interactions that were at play. These were corroborated with other organisational members who were participants in these projects.

The analysis involved further coding, memo writing, thematic analysis and situational analysis approaches. Importantly, in this stage I applied the sociology of translation (Callon, 1986) to understand the movement of design into the ATO. This lens shaped the design and analysis of the analytical chapters. The interpretation of the research

\textsuperscript{6} See Appendix B for a full description of this paper, conference and publication
subject as a network of human and non human actors offered a significant and powerful approach to creating this thesis of managing by design.

The final list of interviews listed below, in some cases multiple interviews were conducted (*):

<table>
<thead>
<tr>
<th>Role in organisation</th>
<th>Reference</th>
<th>Stage of research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Leader</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2*</td>
<td>1 &amp; 2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Senior Manager</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Manager</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Design Manager</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Designer</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4 List of interviews conducted

**Conclusion**

This is a study of a single case and was designed within the theoretical framework of constructionism with its roots in symbolic interactionism. These traditions are interpreted in ways that go beyond linguistic and narrative approaches attending not merely to the meanings generated by humans and applied to things but to any
meaningful sequence in which humans participate and to all the elements constitutive of meaningfulness. The thesis uses a combined theory/methods package of Grounded Theory, Situational Analysis and Actor Network Theory in a case study design. This a unique case study offering empirical data and analysis on this phenomenon of design in the management practice of a complex public organisation, the ATO. My journey as a researcher through this process evolved over time and by staying with the data as long as possible and paying attention to the silences and to the elements of the situation as networks the research questions were answered progressively. The opportunity to refine and test the emerging analysis and themes provided important encouragement and motivation to stay with the subject and pursue analytical insights.

The case study design executed over the course of this study is presented as making an earnest contribution to understanding how complex public sector organisations can employ design to contribute to public values and making a worthy addition to the interdisciplinary field of design, organisations and public management literatures.
Introducing the Australian Taxation Office

Introduction

The opening comments in a speech made by the current Commissioner of Taxation, Michael D’Ascenzo to the Institute of Chartered Accountants of Australia, National Tax Conference were:

...notable American, Benjamin Franklin, penned: "In this world nothing can be said to be certain, except death and taxes" (D'Ascenzo, 2011)

This chapter looks at the organisation that makes this certainty a reality. The purpose of this chapter is to provide an overview of the case study organisation, the Australian Taxation Office (ATO). This overview is important to establish because it enables an appreciation of the organisation’s context and role to situate the significance of design being embedded in management. This will help contextualise the rest of the thesis. This chapter is organised into three main sections. The first section discusses the tax and transfer system in Australia - the operational context of the ATO. The section highlights the broad and complex operating environment in the context of government and society in Australia. The second section discusses the administration of the federal taxation system. This section zooms in on the tax policy, legislation and administration design process. This is discussed because it situates the role of the ATO and is an important boundary of the case study. The third section discusses the ATO itself. This section paints a picture of role, size, magnitude of work and the philosophical values of the organisation which again are foundational to this case study thesis.
The Tax and Transfer system in Australia

The operating context of the ATO is known and the “Tax and Transfer System” (Treasury, 2008). According to the Australian Taxation Office website:

There are three levels of government in Australia - local councils, state government and the Australian Government. Each level of government is responsible for different activities and each collects and uses different taxes (ATO, 2012c)

These funds are re-distributed through transfers through government programs and organisations for the benefit of society e.g. welfare payments, roads, hospitals, and schools. This is illustrated in the table below sourced from the Australian Taxation Office website (ATO, 2012c):

<table>
<thead>
<tr>
<th>Level of government</th>
<th>Services, construction work and maintenance taxes pay for include…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>• garbage collection</td>
</tr>
<tr>
<td></td>
<td>• sporting fields</td>
</tr>
<tr>
<td></td>
<td>• parks</td>
</tr>
<tr>
<td></td>
<td>• libraries</td>
</tr>
<tr>
<td></td>
<td>• kerbs and gutters</td>
</tr>
<tr>
<td>State</td>
<td>• water</td>
</tr>
<tr>
<td></td>
<td>• power</td>
</tr>
<tr>
<td></td>
<td>• health care</td>
</tr>
<tr>
<td></td>
<td>• education</td>
</tr>
<tr>
<td></td>
<td>• transport</td>
</tr>
<tr>
<td></td>
<td>• police</td>
</tr>
<tr>
<td></td>
<td>• extra money for local government budgets</td>
</tr>
<tr>
<td>Australian</td>
<td>• defence</td>
</tr>
<tr>
<td></td>
<td>• immigration</td>
</tr>
<tr>
<td></td>
<td>• trade</td>
</tr>
<tr>
<td></td>
<td>• communications</td>
</tr>
<tr>
<td></td>
<td>• currency</td>
</tr>
<tr>
<td></td>
<td>• extra money to state and local government budgets</td>
</tr>
<tr>
<td></td>
<td>• running of the Australian Public Service, including the ATO</td>
</tr>
<tr>
<td></td>
<td>• social security and welfare</td>
</tr>
</tbody>
</table>

Table 5 Examples of services, construction and maintenance taxes help pay for

To illustrate this multiplicity of activity the figure below from a paper prepared by the Commonwealth Government’s Architecture of Australia’s tax and transfer system (Treasury, 2008) illustrates the individual taxpayer nested between the federal tax system and the state and local governments in which they reside. The location of
businesses as taxpaying entities tends to operate across these often multiple state tax systems and many local governments and the Federal system (Treasury, 2008: 8). The right hand box titled “Federal” is where this thesis situates. This is where the Australian Taxation Office operates. This is illustrated below.

Figure 11 Scheme of the Tax-Transfer system (Source: Architecture of Australia's tax and transfer system (Treasury, 2008: 8))

**Australian government or Federal Tax system**

The Federal Tax system is the Australian Government’s primary tax collection system; it collects over 80% of all tax revenue. The evolution of the federal tax system began a few years after the federation of Australia in 1901. Significantly, in 1915 income tax was introduced at the federal level (Reinhardt and Steel, 2006: 7) and progressively over the century other taxes were added increasing the revenue base for the Australia. In a paper written by the Australian Treasury for an APEC Finance Ministers’ Technical Working Group Meeting in 2006 the history of the federal tax system is described in two distinct periods:

*Developments in federal taxation can be broadly classified into two periods. Up until the 1970s, the focus of significant changes to the tax system was on*
expanding the revenue base to fund expenditure programmes. Since the 1980s, increased attention has been paid to reforming the tax system to improve equity and efficiency and, more recently, to reducing tax system complexity (Reinhardt and Steel, 2006: 10)

The emphasis in the latter period on reducing system complexity, and in particular on improving the taxpayer experience in this federal tax system, is an important contextual factor which has shaped the way the Australian Taxation Office has evolved its strategic position. To illustrate this complexity “Australians pay at least 125 different taxes each year” (Treasury, 2008: 10). According to OECD reports, Australia is the eighth lowest taxing country in the OECD – 99 of them are federal or commonwealth taxes, 25 state taxes, and one local government tax, and 90% of all tax revenue is raised through the largest 10 taxes. (Brumby and Lenders, 2008; Treasury, 2008: xii). The perspective from an individual or a business is one of potential ambiguity and complexity in their dealings with the tax and transfer system. This complexity makes it harder for people to understand their obligations and entitlements and impacts the fairness and equity of the system. In particular, the small business community in Australia has raised concerns in recent years about the compliance burden placed on them to meet their obligations within the tax system (Treasury, 2008: 305). Complexity has driven much of the reform agenda in the last decade (Henry, 2009; Wilson, 2008).

Self assessment system

The Australian tax system is a self assessment system, whereby taxpayers lodge their tax returns with the ATO each year and then the ATO issues a notice of assessment stating whether the taxpayer owes money, is entitled to refund, or no money exchange is required. In practice in Australia “a significant majority of taxpayers engage professionals to work out their tax obligations” (Treasury, 2008: 52) and according to the ATO, in the 2009 tax year 71% of taxpayers used tax agents to prepare and lodge
their returns (Australia, 2010). This sets up an important characteristic of the Australian Tax system and that is the role of tax agents and tax professionals who are critical actors in the effectiveness of the operation of the system.

Cooperative and willing community of taxpayers

In a speech delivered by the Commissioner of Taxation, Michael D’Ascenzo, “the ATO is fortunate in working with a community that is predominantly cooperative” (D'Ascenzo, 2010b). That the community in Australia - the average taxpaying citizen, the business community small and large and the professional community such as tax agents - are willing participants in the tax system means that there are high levels of compliance with tax and superannuation obligations. One interpretation is that this shows that the majority of the community understands why they pay tax. D’Ascenzo quoted previous Tax Commissioner Michael Carmody “…taxation is the price we pay for a civilisation…” (D'Ascenzo, 2011) which encapsulates a well formed view that taxation is what enables a functioning society.

The federal tax system is a complex set of laws, rules and obligations which are designed, implemented and managed by the government. The taxpayer in Australia is typically compliant and understands the value in paying their fair share of taxes. The functioning of this complex system is important to this thesis because it is in the administration that the ATO plays its role.

The administration of the Australian Government tax system

The administration of the Australian Government tax system is defined by a framework of policy, legislation, administration and review. Policy and legislation set the rules; the administration is about implementation and management of these rules, and review is
the ongoing assurance that the rules and administration work in practice. Across this framework there are many government organisations at all tiers of government operating, the critical area of interest for this thesis is development of Australian government tax policy, law and administration. There are two main organisations in this mix, the Australian Treasury and the Australian Taxation Office, as illustrated:

![Figure 12 Simplified administrative framework of the Australian Government tax system (adapted from Treasury, 2008: 51)](image)

This simple diagram implies that the Treasury operates in policy and legislation and the ATO operates in the administration and review only. However, in practice this relationship is far more complex. One of the important functions of this relationship is the identification of tax changes and the design of new taxes policy, law and administration. In simple terms this is illustrated in the following figure, showing the high level process of policy, law and administration design and how it flows in terms of change.
The relationship between the ATO and the Treasury is important to explain because this relationship is at the boundary of this case study. What this means is that this thesis does not explore the tax policy and legislation process although it touches at the interface when the tax policy design process moves into the ATO or the administrative tax design process. There is an existing protocol between the ATO and the Treasury. An excerpt explains the relationship:

_Treasury, through its Revenue Group, has primary responsibility for advising on tax policy and the design of tax laws. The Commissioner of Taxation, as statutory head of the Tax Office, is responsible for the interpretation and administration of tax laws. Treasury and the Tax Office will work cooperatively to provide high quality advice to the government on tax system issues, consistent with the integrated design approach outlined above. Subject to government and legal requirements, both agencies will share information at all stages of the process._ (February 2009: 1)
The ATO works within this protocol and, in particular, the ATO sees its role as ensuring the part they play takes a consultative and co-design approach as stated by the Commissioner in a speech “While the ATO does not determine tax policy, that being a matter for Treasury and Government, the importance of [the ATO] is reflected in our corporate value of consultation, collaboration and co-design” (D'Ascenzo, 2010b: 4). In effect this means the ATO makes deliberate effort to ensure the users of the tax system are accounted for in the tax design process (underlined for emphasis):

*The objectives of the tax design process are to provide the government with the best possible advice for making tax policy decisions, as well as producing law and administrative products that give effect to the policy intent set by the government in a way that meets the needs of users of the tax system.*

*Tax policy, legislation and administration are integrally related and interdependent. Recognising this, the tax design process aims to ensure that the administrative, compliance and interpretive experience of the Tax Office fully contributes to those policy and legislation processes and that there is a high level of integration across the policy, legislative and administrative aspects of tax changes.* (February 2009: 1)

This role and explanation of the process and interaction is important to highlight because this is where this thesis starts its analysis – how the ATO invented a design based approach within its management arrangements to ensure it could act faithfully to this protocol as well as increase its ability to engage with the taxpaying community.

**The Australian Taxation Office – an overview**

The Australian Taxation Office’s primary function is to administer tax and superannuation legislation. To do this the ATO develops

*administrative arrangements to implement tax law, educates and advises taxpayers about their rights and obligations, collects tax revenue, and ensures compliance with the law. It is the only agency with which most taxpayers and tax professionals interact in fulfilling their tax obligations (Treasury, 2008: 52).*
In the delivery of this purpose the ATO employs over 21,000 people (2010a: vi), operates from over seventy locations across Australia (2010a: 380) and it is organised into five sub-plans: Compliance, Enterprise Solutions and Technology, Law, People and Place and Operations (2010a: 142). The magnitude of administrative work equates to approximately 14.4 million returns, of which 84.9% are individual lodgements (2011: 10). A total of 762,442 companies lodged returns (2011: 39), 360,374 superannuation funds lodged returns (2011: 56), 393,727 business partnerships lodged returns (2011: 68), and 663,392 trusts lodged returns (2011: 76). The Australian Government’s annual tax collection AUD338.9 billion (approx. USD 314.2) in the 2008-09 financial year (2010b), representing 26.9% of the national GDP (TaxationInfonews.com, 2010).

Most importantly, the ATO has a firm position as a responsive regulator of taxation and in the words of the Commissioner in 2010, the ATO’s centenary year, “The gold standard for a modern tax administration is one which is increasingly service-oriented, and citizen-centric” (D'Ascenzo, 2010b: 4). He further makes this point by stating “Agencies need to create and support a customer journey that is as short and smooth as possible and so improves voluntary compliance” (4). The philosophy of the organisation is to ensure “broader community ownership of Australia’s tax and superannuation systems” (D'Ascenzo, 2010a) means that the ATO is a unique case of a large public organisation that fundamentally believes its role is to work with the community. This is a significant contextual foundation for this thesis. This is because this journey of embracing the community in its day to day work is the result of at least the last decade of strategy and intentional effort by the ATO. It positions this tax administrator in juxtaposition to the tradition tax administrator “Traditionally in many countries tax has been collected under a command and control model” (D'Ascenzo, 2010b: 2) The thesis takes us back in time, to the early 2000’s and explores the path of
the organisation making space for this citizen-centric paradigm/psyche. It is discussed in the public management literature that “public administrations are vehicles for expressing the values and preferences of citizens, communities and societies” (Bourgon, 2008: 390) and this case organisation is a good example of that.

**Conclusion**

The Australian Taxation Office is the regulator of tax and superannuation legislation in Australia. It is the only organisation with which all taxpayers and tax professionals must interact to meet their obligations. The inquiry of design in the management work of the ATO is nested in this context of the tax and transfer system, the tax design process, and the administration of tax and legislative law. This chapter lays the foundations to help situate the findings discussed further in this thesis.
5

Introducing and locating Managing By Design

Introduction

The public managers studied in this research practise design in their day to day work and this is both provocative and puzzling, as Buchanan would say (Buchanan, 2004: 54) because public management and design is an elusive concept. The Australian Taxation Office (ATO) is a provocative organisational setting to discuss the concept of design and public management because the purpose and nature of the organisation - focussed on taxes and revenues - might seem an unlikely partnership with design. Instead we do find actions which can be defined as public management and design partnering. The purpose of this chapter is to establish a definition for design in the public management context.

The chapter is structured in three sections. Section one: *Introducing the phrase "Managing By design"* discusses the concept of ‘design thinking’ as an emerging union of management and design disciplines and discourses by drawing from growing scholarship on design thinking being practiced in management schools, design schools and other academic contexts. In this context the foundational term of this thesis, ‘managing by design’ is presented and defined. It is defined as a network of actors, activities and arrangements in the ATO. The network emphasis underpinning this phrase extends design thinking from a concept, or a process or a set of attributes held by a designer, to a series of situated elements in an organisational context. It is about
acknowledging the public managers situation and how design is practiced within this situation.

Section two: *Locations of Managing by Design* zooms into the case organisation and, as if looking through a pair of binoculars, describes several locations where claims are made that managing by design is occurring. To grasp the qualities of managing by design at each of the locations, the network elements are described which show empirically managing by design is performed as a distinctive management practice. These descriptions answer two clusters of questions. Firstly, who and what are the human and non-human actors involved in the activities constituting managing by design? What are their roles and purposes? What is present for the work to occur? What artefacts are produced and act as devices of translation of knowledge between actors? Secondly, what are the activities, routines or practices which these actors take part in that is associated with managing by design?

Section three: *Emerging meaning of Managing by Design* draws out thematic elements of the managing by design network and show how it situates in the public manager’s work practices. The themes are drawn from the locations performing managing by design. These themes are based on the premise that they are only realised through performances reinforcing the view that managing by design is a network building activity and therefore its meaning is fluid and constantly being defined. This is important because managing by design is contingent on the network and interaction of actors not on some predetermined static elements. Further to these themes this section discusses the point that in the context of public management work, work that deals with change or uncertainty, is best dealt with using managing by design processes.
Introducing the phrase “Managing by Design”

A conference in 2002 titled *Managing as Designing* held at Case Western Reserve University is a firm place-marker where the proposition of managing as designing emerged. This conference sought to “stimulate change in management practice and education” (Boland and Collopy, 2004:xii). It brought together scholars, managers and practitioners in design and organisations. It included a design champion from the ATO, Dr Allan Preston who presented the initial story of design thinking being adopted by the organisation. The conference provocatively placed management and business, alongside design and creative industries, to debate whether managers could be inspired by designers and adopt design thinking and design attitudes to positively affect their work and organisational results. This was a very exciting moment and many scholars and practitioners contributed to this debate. The debates proposed differences between managers and designers in how they tackled their respective work and challenges. Never-the-less the claim was made that management could do more to meet its own demands by incorporating a design lens into the work. The conclusion at the time was that there was merit in the exploration of what it meant for design to be translated into the management vernacular. Now, ten years later, there is a coalescence of design thinking, design attitude and management in practical terms. There is evidence of this when we look at the management and design school courses in prestigious universities such as Stanford- dschool\(^7\), Rotman University business design initiative\(^8\) - Rotman DesignWorks\(^9\), Case Western Reserve Weatherhead School of Management MBA programs such as *Manage by Designing*\(^10\), and Lancaster University postgraduate

---

\(^8\) [http://www.rotman.utoronto.ca/businessdesign/default.aspx](http://www.rotman.utoronto.ca/businessdesign/default.aspx) accessed 19/11/2011  
\(^10\) [http://design.case.edu/how/](http://design.case.edu/how/)
design and management programs such as MA Design: Management & Policy\textsuperscript{11}. All of these take the elements of general design processes, methods and approaches into the problem spaces of organisations and problems tackling large societal challenges. These educational reference points provide a basis for the contribution to this discourse of the present study. There are three reference points; first the extension of the traditional views of product design to broader dynamic systems, such as organisations design as defined by the Weatherhead School of Management:

\begin{quote}
A major challenge of integrating design and management is expanding the application of design beyond the familiar domains of a firm’s products and ubiquitous information technologies to include the design of services, processes, structures and environments across all functions of the organization.\textsuperscript{12}
\end{quote}

This definition applies in this thesis in that it is about the application of design to larger systems, and problems such as the tax system and the organisation. The second reference point is the design process articulated by Stanford dschool as a process that draws together multiple disciplines in the process of immersive learning experiences:

\begin{quote}
[A] methodology for innovation that combines creative and analytical approaches, and requires collaboration across disciplines. This process—which has been called design thinking—draws on methods from engineering and design, and combines them with ideas from the arts, tools from the social sciences, and insights from the business world.\textsuperscript{13}
\end{quote}

This definition applies to this thesis in terms of the practices and evidence of how design is performed.

The third reference point is at the designer level; in terms of design thinking exhibited by designers themselves described by Charles Owen, Distinguished Professor Emeritus at the Institute of Design, Illinois Institute of Technology (IIT) in Chicago. Owen ascribes designers with fifteen qualities of design thinking characteristics (Owen, 2006)

\textsuperscript{11} http://www.lancs.ac.uk/fass/lica/postgraduate/DMAP/ accessed 19/11/2011
\textsuperscript{12} Site reference http://weatherhead.case.edu/departments/information-systems/ accessed 19/11/2011
such as a sense of conditioned inventiveness which refers to the propensity to create new things from existing conditions. They also take a strong human-centred focus throughout the process of solving problems. Buchanan reinforces this point by arguing that designers bring a more empathetic dimension and human-to-human interaction of understanding (Buchanan, 2010). Designers also have a strong ability to visualise the work through different mediums and to bring others along with them in this process. They bring tempered optimism drawing from the perspective that there is a solution to be found to whatever problem is faced and it is not uncommon for designers to be associated with the ability to generate energy and galvanise commitment from others to find solutions. They also hold a systemic vision for the solution and see that problems are part of broader systems and those systemic solutions are more desirous. They have an inclination and affinity for teamwork as this relates to the integrative nature of design thinking integrating many sources of views, experiences and ideas. Another view is that design thinking is a process of creative and critical thinking that allows information and ideas to be organized, decisions to be made, situations to be improved, and knowledge to be gained (Burnette, 2005). These references to design thinking could be viewed as pointing to a way of working, a process, a mindset, a distinct pattern of working that produces new forms of materiality and form.

In many ways these three reference points give us a definition of the type of design problem or product (from physical to the larger system), the design process (multidisciplinary, immersive etc), and the designer behaviours. I agree with all of these perspectives, but where I want to extend the attention is to the situated practices of design and management and what term can be ascribed to this set of activities?

The proposed phrase used in this thesis is ‘Managing by Design’. These words have been chosen carefully to reflect the way this research has progressed and developed its
arguments, as well as to align to post-conventional views in public administration. The word ‘managing’ has been chosen because it is about public managers “managing” rather than “administrating” which supports the literature that discussed the shift from rule following bureaucracies to more entrepreneurial, knowledge building management action (Clegg et al., 2011: 492-512). It is a verb, a doing word which means multiple actions and activities interacting with many elements in their situation. This choice of “managing” is also used in the public sector innovation literature, Osbourne and Brown (Osbourne and Brown, 2005) for instance refer to the shift in accounts of the public sector as a movement from accounts emphasizing public administration (i.e. hierarchical rule following) to accounts emphasizing innovative management practices often drawn from private sector organisations. The shift in terminology from public administration to public sector management is reflected here by this choice of term,” managing”. The words ‘by design’ have been chosen because this is about the many elements which the three reference points refer to, such as design problem, and design thinking, methods and processes. In other words the phrase ‘managing by design’ focuses on how design practices are being employed in the work of public management. Managing by design is about the shift from public managers following rules to taking a human-centred and designerly view of their work, and seeks to institute participative and collaborative practices of managing through designing. This thesis fits in the new paradigm of public sector management. In the public management context, public managers do many types of work. One aspect of their work is about making change and creating preferred futures. It is this type of work for which design methods, standardised practices, and design people can be usefully employed.
Therefore ‘managing by design’ occurs when management work is performed by taking a more human-centred, participatory, visual and physical approach to bring change and create preferred futures.

The management work which this definition refers to is the management work of public sector managers, public managers in the ATO. This attention to the work of public sector managers and when and how design is used, and what managing by design looks like in practice is a critically important area to research. The work of public sector managers that can be described as more human-centred, participatory, visual and physically engaging is a phenomena described in this thesis through specific accounts to illustrate how managing by design is enacted and realised. This thesis does not attempt to describe management per se but rather it points to the aspects that have been managed by design within public sector management.

This thesis is not a singular or micro analysis of managing by design but rather it is a meso analysis emphasising the collective elements in the case organisation which create and enable the performance of managing by design. This collective view of interactions and translations is achieved by calling into action the analytical framework of Actor-Network Theory. Actor-network theory looks at all the elements, human and non-human, that are necessary for managing by design to work at different locations in the organisation. The analysis of the important actors and the interactions at the local level assimilates the practical aspects of managing by design at the whole or meso level (Latour in Law and Hassard, 1999:17). It means a closer look at the interactions between actors and what resources (non-human actors) are needed to accomplish the work. These resources include artefacts, tools, materials, and mechanisms (Fitzpatrick,
The coming together of different actors is a fluid process to accomplish work and is a process of transformation (Latour in Law and Hassard, 1999:22). Latour states:

*actors know what they do and we have to learn from them not only what they do, but how and why they do it* (Latour in Law and Hassard, 1999:19)

It is about paying attention to all the elements and to ask questions like who is doing it and how is work organised? What is constructed as necessary to do the work; what are the intended products and for which consumers or uses; what interpretations do participating actors construct over the course of the work (Clarke and Fujimura, 1992:5). By taking a look at the locale, managing by design is defined. These locales provide empirical evidence of design in management work in the ATO and help answer the question *how has managing by design become embedded as a management practice?*

**Locations of Managing by Design**

The metaphor of looking through a set of binoculars is a good way to view how this chapter describes managing by design. The chapter looks through these binoculars at different locations and at a point in time and observes managing by design practices in different social settings. The locations chosen offer a variety of practices in the ATO. These are not the only locations but they provide a starting point to describe the meaning in this large public sector organisation.

In the first location the process of translating taxpayer and tax law needs into a new form is discussed. At this location of managing by design practice a design manager discusses taxpayer engagement in the design of a new superannuation ‘portability form’. This account describes a series of collaborative design workshops engaging taxpayers and subject matter experts from government. The spaces created by the
Design Manager and the constituency of various actors in these spaces of design activity result in iterative form prototypes to eventually construct a new form.

In the second location the process of exploring alternative courses of action by senior leaders dealing with an organisational design challenge about off-site/remote management is discussed. The strategic design conversation as a practice of managing by design is an auto-ethnographic account from the researcher who acted as facilitator of this corporate design event. This account describes a day-long collaborative workshop called the Corporate Design Forum. It highlights the dialectic nature of managing by design and the role of the designer as facilitator. Further the nature of the event illustrates collaboration between management following an exploratory, hypothesis generating, solution generation, decision-making resistant process.

In the third location the process of translating a series of proposed tax law changes into administrative implications for tabling to the Treasury is discussed. A designer discusses the process of translating a series of proposed new tax policies into implementation design plans for the organisation. This account includes the interactions between the designers, the business subject matter experts and the policy setters. This account discusses how design practice translates complex tax policy into practical terms from an end-user or taxpayer perspective and from the administration required by the ATO. This account points to the influence of the design artefacts produced by designers and managers in the ATO in the tax design process.

In each of the locations an account is given to provide evidence of that location practicing managing by design and is followed by a description of the management work being done and the important elements on which managing by design is contingent.
Location 1: Form design with taxpayers

This account of managing by design is from the perspective of a Design Manager engaged in the design of a new superannuation form. This form allows taxpayers to shift funds between superannuation accounts. In this account the designer raises the engagement with the taxpayer as a critical constituency in this project.

Design Manager: "Well, the Portability Form. I’ll use that as a benchmark because I think it’s one where we truly were able to engage. We went through a very thorough process. We didn’t do very much user research up front but if you’ve got to pick which activities you do I always go for the collaborative bit in the middle, developing the prototypes with the users. But ideally of course you do your user research and then you do testing at the end. It doesn’t always happen but we got to do the collaborative design and the usability testing. So we collaborated, and when I’m using those terms, we collaborated with the Minister’s office and with Treasury to develop the Straw Man prototype and within our own organisation we had a number of areas. Then we brought in users over a period of four weeks and we got them to go through a number of scenarios, interacting with the prototype and iterating the prototype after each session. And we then collaborated with MCL, so the marketing and education people who turned it into a proper, final prototype, and then we usability tested it with the users. [Interview, Design Manager # 3, 2009]"
The work described in this account refers to the design of a form. It could be simply seen as an example of product design but this is a product within an administrative system - the superannuation system. By taking this view it means we can see the form

---

Figure 14 Superannuation Portability Form

The work described in this account refers to the design of a form. It could be simply seen as an example of product design but this is a product within an administrative system - the superannuation system. By taking this view it means we can see the form

---

as more than the data fields laid out in aesthetically usable ways but as a translation of superannuation policy i.e. the effective and efficient management of superannuation funds. The ‘portability form’ allows a taxpayer to transfer superannuation benefits between funds.

The design manager’s primary focus is citizen engagement in the design process of the new superannuation portability form. The designer, through negotiations, successfully engages citizens in the mid and later stages of the project. The engagement also includes subject-matter experts in the organisation and the policy agency. This underpins the collaborative team-based ethos in this account. The designer plays a role planning, coordinating and facilitating these collaborative activities. These collaborative activities are organised, professional and deliberate.

The coming together produces prototypes of the new form. The production of the new form places the actors in positions of co-designing. The goal is very contained and specific – a new form. This method of co-designing with non technical citizens is an illustration of the new positions for citizens in the design of government processes and products. The prototyping process sees multiple versions of the form being produced over the course of the design activities. These prototypes embody a story of the breakdown in bureaucratic administrative power and the privileges of knowledge from administrative public servants by sharing of the responsibility of designing the form with the citizen. This opens up new expectations of the citizen as not just consumers of public services but co-designers. The iterations of the form suggest these prototypes are small but effective ways for the citizen to influence the tax system.

The actions of the designer constitute facilitation of collaborative dialogue between all actors, drawing out important differences from all participants whether they are the
public manager or the citizen and then representing these differences in the changes to
the form design. The designer also invents various games and role plays to engage the
citizen in the prototyping of the form. They provide an environment which permits an
equal playing field for all participants. The form design results in meeting user needs
and gives effect to the right result (in tax policy and intent terms) or product efficacy.

**Inter-relations of actors – human and non-human to create the form**

The work of form design calls on many types of actors to enable the work to happen.
The types of actors present in this account are listed below:

<table>
<thead>
<tr>
<th>Human Actors</th>
<th>Non-human actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Department of Treasury</td>
<td>1. Design Methodology and Design Principles</td>
</tr>
<tr>
<td>3. Community</td>
<td>3. Organisational Practice statement on Design and projects</td>
</tr>
<tr>
<td>4. Subject matter experts (from Treasury)</td>
<td>4. Space or location for workshops</td>
</tr>
<tr>
<td>5. Subject matter experts (within the ATO)</td>
<td>5. Invitations and emails</td>
</tr>
<tr>
<td>6. Design Manager</td>
<td>6. Paper form prototypes</td>
</tr>
<tr>
<td>7. Designers</td>
<td>7. Written scenarios</td>
</tr>
<tr>
<td>8. Taxpaying citizens</td>
<td>8. Paper, markers, materials, whiteboards</td>
</tr>
</tbody>
</table>

Table 6 Inter-relations – Human and Non-human actors in the design of the Portability Form

The importance of articulating the human actors involved in this account is that it
provides us with a point of understanding of the extent of commitment and participation
in managing by design.

a) **Subject matter experts from the ATO:** These people work in different business areas
in the organisation and they are responsible for the delivery of policy intent. This is
achieved through design and implementation of administrative products, such as
forms. They seek to ensure these administrative products work with existing
business processes, legal boundaries, branding standards, and operational
requirements. These people play a role in the interpretation and administration of
tax laws\textsuperscript{15}. These people are aware of the design process and participate in the
collaborative design of the new form. They form part of the team that the design
manager leads.

b) \textit{Subject-matter experts or colleagues from Treasury}: These people represent the
Treasury, and have primary responsibility for advising on tax policy and the design
of tax laws\textsuperscript{16}. As defined in standing protocols between the Treasury and the ATO
there is:

\begin{quote}
...recognition that tax policy, legislation and administration are integrally
related and interdependent. Recognising this, the tax design process aims
to ensure that the administrative, compliance and interpretive experience
of the Tax Office fully contributes to those policy and legislation processes
and that there is a high level of integration across the policy, legislative
and administrative aspects of tax changes. (ATO (Last Modified: Tuesday,
24 February 2009). ATO - Treasury protocol)
\end{quote}

In this same protocol it is stated that the Treasury and the Tax Office will work
cooperatively. This form design account provides evidence of this cooperative
intent between the different social worlds of policy and administration. With this
protocol an important non-human actor defines a shared purpose and commitment
thereby enabling participation in managing by design.

c) \textit{The taxpaying citizen}: Participating in the collaborative sessions are representatives
of the citizenship or taxpaying population who qualify as potential users of the
portability form. They play an active role in the design of a prototype form. They
offer their lay perspectives on the usability of the form and this in turn tests the
policy in terms of ease of understanding and when this might be applicable to them.

They are expected to act as an ordinary taxpayer and are not expected to understand the design process other than by seeing different versions of the form being developed as a result of their input and the designers’ actions.

d) The designers including the Design manager and her team of designers: the design manager and the design team have the role of leading the form design through the design process that results in the design of a new form. The design manager and the design team use specialist skills to design the form with the engagement of all the relevant stakeholders and, in particular, the taxpaying citizen. The designers ensure adequate user engagement and provide prototypes. The design manager has the authority to recruit and enrol participants in the design process. There are implied negotiations and recursive processes to reach agreement between the designer, the Treasury representatives and the organisation subject matter experts.

The design manager facilitates practical implementation of the superannuation policy by galvanising various actors around a shared goal. The goal is to develop a form design that is usable and useful. This goal is shared by the other actors. In this account, for example, the Treasury representatives want to ensure the form works so taxpayers can manage their superannuation as easily as possible and the taxpayer benefits from simplicity and ease of use in the form design. The importance of shared goals is a characteristic of managing by design.

These human-actors also interact with not only themselves but with other non-human actors which constitutes managing by design. The non-human actors that are important elements in this account are:

a) The Design Process. In this account we have the design manager talking about the design of a form. The design process in the account draws us to an important non-
human actor. This is the ATO Design Method. The ATO has documented a tax
design process. This is commonly referred to in the organisation as the ‘design
wheel’. This is illustrated in the figure below. This is the articulated design process
which acts as an important stabilising device in the networks of managing by
design. It provides an understanding of the phases of design and a common
language which actors use to communicate. The design process has six main
phases and this account can be located in phase three, ‘Design products’. This is
illustrated below and refers to the design of tax products, such as a form.

Figure 15 The Design Wheel Source: (2002)

Another non-human actor which couples closely with this design wheel is a list of
design principles. These are documented statements which provide guidance on the
important values underpinning managing by design. These principles include such
statements as:

*We are committed to taking a user-centred approach creating products and
services that are easier, cheaper and more personalised; making the*
emerging design visible early through documentation and prototypes that focus dialogue, sustain energy and facilitate co-design (2001)

Both of these non-human actors will be discussed in the chapter in “Stabilising Managing by Design” as important devices or strategies to embed managing by design.

b) *The Location or space for design.* The physical site where the actors come together is an important non-human-actor to discuss because the physical spaces help us understand the way work is organised. The work of design is through collaborative design sessions. These sessions were run in rooms accommodating up-to 10 people sitting in arrangements around tables. There was no prominence given to hierarchy of role or position because everyone is seated around the tables. In this account the design managers talks about “bringing in” taxpayers. One such location used was a purpose built testing room at the offices, the simulation centre where this design manager works. This is a physical arrangement of three rooms, one of which is organised to represent a context similar to the taxpayers context e.g. lounge room, or office; another room represents a tax office context e.g. call centre; and a third room offers space for general observation. This is an artificial arrangement instituted by the ATO and provides a space that is conducive for interactions with taxpayers.

c) *The paper form prototypes.* The paper form prototypes are central non-human actors in this account because the production of artefacts can be associated with managing by design. These non-human actors represent knowledge production. That is, knowledge production of policy interpretation and user requirements. The on-going iterations of form prototypes gradually embody progressive knowledge about the usefulness and usability of the form. The process of constantly refining the product through visual and tangible approaches is facilitated by the designer.
This means the designer is comfortable with ambiguity and constant change since this is inherent in the nature of prototyping. This constant change is managed by the designer and occurs between multiple actors including the final end user. This implies that the designer manages ambiguity and change through techniques such as prototyping with many actors.

**Activities and arrangements employed in form design**

There are two more important elements worth drawing out from this account. One of these is the collaborative design sessions as a method of managing by design. This provides us with a practical understanding of the behaviours associated with designing such as multiple actors coming together, bridging multiple social worlds, and sharing purposes and problems. The other aspect is the organisational arrangements such as the organisational structure of the design manager and the team and the temporary core design team that comes together to design the form. These arrangements offer a clue as to what space has been given to the roles and the structures for managing by design in the case organisation.

Firstly let us discuss the collaborative design sessions. One of the core design activities is collaborative workshops where multiple actors come together. The collaborative workshop is considered an important design research technique (Laurel, 2003) for generating solutions. In this account it is the main design engagement strategy. The series of collaborative workshops engage the actors in a transparent process. This transparency is facilitated by the design manager and the design team. Facilitation skills are essential to the design process because they enable the dialogue and appropriate contribution by all participants. It also demonstrates the ability of the designer to be a generalist: that is the ability to interact with a broad range of people from quite technical subject matter experts through to the lay person or the citizen (Owen, 2006).
These collaborative sessions implicate other activities which are often silent work done outside of the sessions, such as preparation for the workshops, recruitment of the participants, management of communication about the work being done, production of the collaborative session prototypes and distribution of these prototypes. This implies that there are many specific tasks which the designers must attend to as part of managing by design and it also means the organisation supports and enables them to complete this silent work.

Secondly, the organisational arrangements for managing by design are represented by standardised arrangements. These arrangements include the design manager and the dedicated team of designers. The design manager and design team are full-time dedicated to design work. They report to a senior leader who is accountable for the design team. This team is one of many such design teams distributed across the ATO. This will be further discussed in the chapter *Translations of Managing by Design*. The team is expected to work on the projects that fall within the business function for which they are funded. This same team creates temporary design teams which are called ‘core design teams’. In this account they create a temporary team of subject matter experts and taxpayers to design the form. This organisational arrangement to create a core design teams is associated with managing by design. There are inherent rules of behaviour implied when actors are grouped into a core design team. There is commitment and support provided by the respective managers of the actors participating and there is a finite amount of time expected from this commitment.

**Location 2: Strategic design conversation**

This next location involves senior leadership of the case organisation. This is an auto-ethnographic account when I facilitated a strategic design conversation with a group of
sixty senior leaders from the ATO. This is about defining the dialectic nature of managing by design.

Observation note\textsuperscript{17}.

\textit{It was a Wednesday, and we were off-site at a venue in Canberra. The purpose of the day was to run the Corporate Design Forum (CDF), a one day workshop. The room was set up for the top three management tiers of the organisation. About 60 people were distributed between 8 tables. The groups were randomly organised and each table was equipped with flip chart paper, markers, sticky notes, and a folder holding relevant background material on the topic for the day. The topic sponsor for the event gave an introduction to the forum, explaining why the topic had been chosen. It was more of an opening than a presentation. Then once this introduction was complete I was given the floor to take the group into the first stage of the conversation. I directed the group to work at their small tables and to brainstorm the topic of remote management and identify what they felt needed to be addressed or explored. They talked at their small tables. They self organised at their tables: some tables were role oriented someone grabbed the marker and acted as a scribe; other tables talked and debated ideas openly and random people marked up a comment on the flip chart paper; some other tables only talked. After 20 minutes I pulled the group up and asked them to report back on the three main points discussed in each of their groups. Some of the points raised included local issues requiring local solutions, small highly dispersed teams and their sense of team and overall effectiveness of a leader's time to manage dispersed workforce. These points I mind-mapped onto the whiteboard. In the process of mind mapping the main points from across 8 tables, it was apparent that there were many possible ways to tackle the problem at hand. The group debated as a whole where it might be useful to invest their time. After some time the Commissioner, [the head of the organisation] voiced what he heard as the core hypothesis. He simply said “what if we said that local issues need local management/leadership. What would that mean?” I noted this statement on the board and I tested it back to the room asking for views on this proposition. The group focussed on the proposition and agreed it was worth pursuing. This meant the dialogue shifted into a designing and making session about how to answer the proposed hypothesis. At tables in groups they developed ideas to answer this proposed hypothesis. Some groups developed diagrams about what was needed to be done and how different elements might work, others listed points of view and bullet pointed the approach. After presentations from each group we were near the end of the workshop. There was no process of formal action items; rather the forum was closed by the sponsor. Thanks was given and a commitment made by the sponsor to carry on this work which the CDF started.

I recall 6 months later I read an article in the online weekly staff newsletter that a new initiative had been piloted in one of the regional sites about improving local management arrangements. In this article it referred to the CDF that was run and that this was an idea that germinated from those

\textsuperscript{17} Source: Author Auto-ethnographic account 1
discussions. It highlighted that a strategic conversation on the right topic, sponsored by the right group and debated with the right questions and process could result in tangible difference to the organisation and its staff.

The work described in this account is that of senior management raising and exploring a core business issue. The organisational problem is the responsibility of the corporate Human Resource Management function. The management work is not just the responsibility of the corporate area but the approach to problem solving is extended to include the breadth of senior management.

This work is organised in a collaborative dialectic problem solving process in the form of a workshop. The actors come together around this issue. The collaborative approach means different actors from across the organisation are engaged and entangled in an organisational issue. The process of a strategic dialogue between these managers is facilitated by the design facilitator.

The design facilitator is managing a process of dialogue across a large group. The work of the designer is about building progressive knowledge from the room throughout the workshop in forms of visual maps and verbal summaries. The designer does not control the dialogue but shepherds the conversation towards designing solutions to the organisational problem. The design facilitator is an active listening and synthesiser of the dialogue. The reflective practice of the design facilitator aids the group to progress its own thinking.

The account picks up on concepts such as ‘brainstorming’ and ‘hypothesis’ identification. These descriptions assign a sense of creativity and exploration to managing by design. The associated brainstorms are usually about being open minded, building on others ideas, quantity and no judgement. The brainstorming forms a part of this account but it is not the whole account; rather it initiates the strategic conversation.
The identification of an idea or proposition in the form of a hypothesis becomes a defining moment in the workshop. This formulation of a hypothesis is part of managing by design in that it permits progressive action by focusing on a core idea. The account shows how the use of the hypothesis was a way for the large group to productively work through the organisational issue. It opens the group to a mode of thinking that moves to designing not deciding. The function of the hypothesis opens the dialogue to ‘how might we?’ rather than a binary decision of ‘should we – yes or no?’ This is a feature of managing by design.

The other aspect of this account is that it is not modelled by a hard agenda or a set of management actions at the end; rather it is an expression of ideas and propositions that are taken away and further explored and developed by the sponsoring group.

**Inter-relations of actors – human and non-human in the strategic conversation**

The work of the senior management addressing a core organisational problem illustrates interplay between a defined set of human and non-human actors. These are:

<table>
<thead>
<tr>
<th>Human Actors</th>
<th>Non-human actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Senior leaders</td>
<td>1. Strategic design conversation</td>
</tr>
<tr>
<td>2. Commissioner</td>
<td>2. Mind-maps and visualisations</td>
</tr>
<tr>
<td>3. Topic sponsor</td>
<td>3. Space or location</td>
</tr>
<tr>
<td>4. Design Facilitator</td>
<td>4. Invitations and emails</td>
</tr>
<tr>
<td></td>
<td>5. Topic materials</td>
</tr>
<tr>
<td></td>
<td>6. Paper, markers, materials, whiteboards</td>
</tr>
</tbody>
</table>

Table 7 Inter-relations between Human and Non-human actors in the strategic conversation

These definitions of the human-actors involved in this account as given by the design facilitator can be synthesized in the following manner:
a) **Senior leaders.** The senior leaders act as participants in the workshop process. They each bring experience and knowledge to the topic under discussion. They each bring different perspectives and knowledge which produces new forms of possibilities to the topic. They produce ideas and contribute to understanding of the problem and how it might be able to be best solved. They understand behaviours of collaborating and understand what it means to enrol in the process of dialogue.

b) **Commissioner.** The leader of the organisation is the chief sponsor of these events. As the chief sponsor the commissioner participates in the process. The commissioner acts as a participant not as a director or decision maker and does take on the role of articulating the hypothesis which provides a focus for the workshop. This could be seen as a process of steering the conversation toward designing. The Commissioner is interested in harvesting the collective knowledge in the organisation to tackle important strategic issues.

c) **Topic Sponsor.** The topic sponsor is there to generate interest and gather ideas to solve the problem for which they have responsibility. They provide the materials to focus the conversation. They act as bookends to the strategic conversation. They open and set the scene and then they close the workshop and take away the ideas.

d) **Design facilitator.** The design facilitator manages the day in terms of starting broad, diverging the dialogue, and progressing the dialogue. The design facilitator is an agent who gathers, synthesises and produces knowledge about the topic under discussion. The design facilitator brings to the process observation skills in group behaviour and dynamics, verbal and visualisation skills, and an ability to rapidly shape and steer the conversation as it evolves.

The interplay between the actors in this design forum presents some rules of behaviour associated with managing by design. The behaviour of the actors in small and large groups demonstrates that the collaboration is a way of working and there is an acceptance of this way of working on organisational problems. It suggests the bureaucratic lines of control and management are suspended whilst the team is engaged in the design conversation. The problem and the process of dialogue come to the foreground rather than the politics of the organisation hierarchy.
The notion of a strategic conversation acts as an important non-human actor because it is an embedded concept of working in the ATO. And the practice of strategic conversations is a form of managing by design. And part of this is the production of mind maps and other images to visualise the strategic conversation.

a) The strategic design conversation is an important feature of practicing managing by design in the ATO. The emphasis on dialogue and conversation is evident throughout the organisation. This non-human actor, called the strategic conversation, moves the concept of designing away from hard tangible products like a form in the first location to something more elusive such as organisational management issues and alternative futures (York et al., 2010:417). The concept of the strategic conversation rests on conceptual thinking and is mediated through dialogue (2010:419). The presence of the most senior people in the organisation engaging in such actions provides a central focus that managing by design is dialogue based, and is inherently collaborative in the ATO. This is an important quality of managing by design to pinpoint because the bureaucratic tendency of government organisations is to tackle problems through rational thought and the process of decomposition and resolution of the component parts (Simon, 1997) rather than through a collaborative and creative problem solving process based on dialogue and debate.

b) Mind-maps and other images developed by the facilitator. The construction of mind-maps and other visualisations of the dialogue are necessary for the work of managing by design. The process of the design facilitator follows stages of learning (Schon, 1983) which are sensing and making sense i.e. turning the chaos of the dialectic thinking into chunks and modelling these chunks to formulate hypotheses or iterations of the problem or issues, or new packages of knowledge. This helps focus the conversation on what this new knowledge may mean and then pushes toward converging into solutions and some form of closure. The construction of these mind-maps happens in the moment in front of the actors as they interact. They act as devices for recognising existing knowledge and brokering new knowledge in the group.
Arrangements for strategic conversations

Finally, the organisational arrangement in this account worth drawing attention to is the Corporate Design Forum (CDF). This is an organised arrangement of senior leaders. This forum comes together every quarter and focuses on shared strategic organisational issues. It is a feature of the organisation managing by design. It transforms the idea that the organisation manages key strategic issues in isolation or only within boundaries of organisation function. Earlier discussed was the idea of the strategic conversation as an important non-human actor in managing by design. The CDF acts as a governance arrangement to ensure strategic conversations are held by the most senior organisational leaders. The task cannot be delegated. It is something that senior leaders commit to attend.
Location 3: Translating new policy into administrative implications

The third location to discuss the work of managing by design is a proposed new tax policy\textsuperscript{18}. The excerpt is a conversation between the researcher and the designer giving an account of the experience of translating a new policy into the work practices of the ATO and the role managing by design had in the process.

\begin{quote}
Designer: There was a whole raft of measures... We spent probably about three months working with the business area that owned them, and by the time we worked out a comprehensive document basically we went through each of the measures, outline how we thought it would work, what the problems were with it. We had a user pathway in it and alternative solutions. We made this monster document and sent it back to Treasury and it was really well received.
\end{quote}

\begin{quote}
Researcher: So when you worked through those measures how did you do it?
\end{quote}

\begin{quote}
Designer: We just sort of went through each one [policy measure] and worked up a document.
\end{quote}

\begin{quote}
Designer: We worked with technical experts in the business line... phone hook-ups and a couple of one day workshops... a big part of our role is influencing, not just government but also business [lines in the ATO]
\end{quote}

\begin{quote}
Designer: “For each of the measures ... we created a picture to show how it would affect market segments and this kind of stuff. We looked across the measures and mapped the cumulative impact. Then we went through each measure. So Measure A, what is it? How does it work and what are the issues? These are some of the [administrative] options... It was an A4 document ... each page had all the information you needed for that measure. [Interview, Designer #5, 2009]
\end{quote}

The management work here is typical of an administrative organisation in government and that is the translation of new policy to be implemented. In this account the designers were involved in the process of translating more than one new policy proposal or measure. This account echoes the description from location 1 about the role of the Treasury and the ATO in the tax design process. The ATO and Treasury protocol on the tax design process states (underlined for emphasis):

\textbf{The new tax policy topic is not given for confidentiality reasons.}
The Tax Office contributes its views and experience to all stages of the tax policy and legislation design process. To meet this accountability and role in the law design function, the Tax Office will provide advice to Treasury on:

- the administrative and interpretive aspects of tax design

(ATO, Last Modified: Tuesday, 24 February 2009)

This account discusses the advising role to Treasury on the administrative and interpretative aspects of tax design. It is the front end of the tax design process, the policy formulation and refinement stage.

The work being done is described as a collaborative effort between the business area responsible for the new measures and the designers. The work being done here follows the early stages of the design method in the ATO as the designers go through a process of understanding the policy intent and the impacts of these new measures. The production of a statement of intent is a critical artefact, see below example:
The designer represents the taxpayer experience by using imagined scenarios and by creating rich pictures of their pathways. The analysis and interpretation that is led by the designers is based on the impacts both on the taxpayer and on the administrative effort.

The questions that the designers ask at this stage of new policy design reflect a wider, systems view of the new measures. They discuss locating the taxpayers in these new measures by creating user pathways. These are visual representations translating the experience of the new measure into terms used by taxpayers. In this account the designers create a document that tells collective stories of taxpayer experience with the proposed measures. There are also interpretations and representations of the administrative implications to the ATO to deliver these measures.
The process of interpreting new policy measures is described as a process of ‘influencing’. This suggests that to manage by design is to shape outcomes in a role that creates space for influencing and changing what might at first seem imposed changes.

This not a simple space and many actors are involved. Moreover the situations are highly politically sensitive. But this account provides important ways of working that aid in the sharing of knowledge between actors and the use of design artefacts as tools of negotiation and influence.

**Inter-relations of actors – human and non-human in translating new policy**

The work described in this location focuses strongly on the role of the designers. It does point to a critical set of actors in the situation:

<table>
<thead>
<tr>
<th>Human Actors</th>
<th>Non-human actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Designers</td>
<td>1. Collaborative design workshops</td>
</tr>
<tr>
<td>2. Business Unit Experts</td>
<td>2. Design document</td>
</tr>
<tr>
<td>3. Business Unit Manager</td>
<td>3. User Pathways</td>
</tr>
<tr>
<td>4. Treasury policy makers</td>
<td>4. Policy documentation</td>
</tr>
</tbody>
</table>

Table 8 Inter-relations between Human and Non-human actors in the translation of a new tax policy

These definitions of the human-actors involved in this account as given by the designer can be synthesized in the following manner:

*a) Designers.* The designers in this account are dedicated to working with the business area that is responsible for the new measures. The designers are focussed on the overall interpretation of the new measures. They are brokers of new knowledge by leading the process to interpret the new measures. They act as facilitators to bring business experts together. They translate these workshop conversations and produce design documents. They position the new measures collectively and integrate different information into coherent design artefacts. This work is similar to location 2 in that the managing by design work is about interactions, experiences, and
organisation or administrative designs. It is less tangible and more conceptual. The designers bring tangibility through their design documents which capture the cumulative knowledge generated through collaborative design process.

b) *Business Unit experts.* The business unit experts provide the business knowledge and technical knowledge about the administration of the implied tax system in these new measures. These actors come from a variety of business units across the organisation. These actors are interested in transferring their knowledge and experience into the tax design process. They work with the designers and contribute to the understanding of the implications of the proposed new measures. They participate in the collaborative processes that the designers lead.

c) *Business Unit Manager.* This actor might be viewed as the designer’s client. The expectation is that the designers work with the Business Unit Manager to help in the process of tax design. This actor’s interests are to make sure the business area they are responsible for can effectively deliver on the proposed policy intent. They want to ensure the administrative experiences and knowledge is built into the design process.

d) *Treasury policy makers.* This actor was described in location 1. The difference in this location is that they are not present in the designers’ workshop process, but rather they receive the design product that results from the managing by design efforts. This highlights that this role is somewhat periphery to the managing by design process. The non-human actor - the design artefact - is a key actant influencing their decision making process.

The two non-human actors which are interesting in this account are the design document and the user pathway. These are constructed as part of the work.

a) *Design document.* This is an important non-human actor because it carries accumulated knowledge about the new tax policy from the managing by design process. It is an important boundary object that works across the social worlds of ATO business unit lines, and the Treasury department. The creation of this document is actually the product of the managing by design process. Compared to location 1, where the product was a form, in this account it is the conceptualisation
of tax policy in action. It is also created through the methods of collaborative dialogue. The production of this artefact is iterative and each time it is refined to tell a story of the expected impacts of the new measures it translates. As human-actors - the designers and business experts - come together the design document holds the translation of knowledge. This document travels between actors and acts to stabilise the interpretive process. The designers are the owners and creators of this product. They provide the skills to visualise and organise the information that flows in this process.

b) User pathways. The creation of user pathways is a common tool which the case organisation uses to locate the taxpayer in the management work and it allows the designers to communicate an outside-in perspective on changes such as new policy measures. This is about taking a human-perspective. The location of the taxpayer, rather than the direct engagement with the taxpayer, is a challenge faced in the managing by design process. This is further expanded in the chapter on The Problems, Practices and challenges of Managing by Design. The artefacts that discuss the points of attraction that the taxpayer has with the tax system are a powerful mechanism that hallmarks managing by design in the ATO. In this account the user pathway pictures travelled through to the policy makers. These too act as boundary objects. They present different ways to digest information. They are not text based but rather diagram based.

Activities and Arrangements for translating new tax policy

The practices highlighted in this account are practices of tax policy design and the work which the designers play in their vital role of translation and building of knowledge.

The activity of creating a narrative of what the tax policy may do in practice is a critical practice exhibited here. This practice emphasises the process of questioning and modelling the potential futures from tax law changes.

a) Translation and knowledge building. The work of designers in this account sits at the fuzzy front end of an instance of tax policy design. The word fuzzy is used because proposed changes in a government system like the tax system are not simple cause and effect. The tax system is complex. The role of the designers in
this account is to help translate or project what some of the potential complexity may be as a result of proposed tax law changes. The activity of drawing together expertise within the organisation starts the translation and knowledge building process. The designers use their design method and principles to guide them in the work of organising what is important. For example, they take a range of user perspectives. In this account the designer refers to the process where they translated what the new measures may mean for different market segments, and from this they constructed user pathways. This is part of the translation and knowledge building process.

The organisational arrangements in this account refer to the team effort of the designers and how they come together with other experts in the organisation. There is a clear assignment between the designers and the business area. The notion that the Business Unit Manager is a client may be a useful lens to help build this account of managing by design.

b) **Design teams have clients.** In this account the designers work intensely with a business area for a few months. The concept is that the Business Unit Manager is a client of the designer’s team. This sets up an organisational arrangement that is temporary and bounded by some sort of contract of work. This relationship could be considered a contemporary notion in this large bureaucratic organisation. The client–designer relationship is fluid and not permanent. There is commitment to work together. There are shared goals between the actors. The organisation manages to accommodate this fluid arrangement since it disbands the design team and the business team after the translation of the new policy in the form of the design artefact is delivered to the Treasury department.

**Emerging meaning of ‘Managing by Design’**

The views through the binoculars showed three different locations of actions and interactions between many actors all performing managing by design. In these locations the meaning of managing by design is inherently made in situ. The designers, the
business areas, the external groups (such the Treasury), the citizens, the senior leaders, the materials, the design artefacts, the prototypes and the mind-maps collectively make managing by design. That is, situated action throws light on the emergent meanings. Therefore, how might we consider these meanings? One way is to view the locations as grounds for thematic analysis and by drawing out what constitutes managing by design across the locations. There are five thematic meanings discussed: collaborative and dialectic, commitment to the citizen or end user; knowledge construction; creative, visual and material; and disciplined and rigorous. These 5 themes present unique characteristics that importantly are different to traditional bureaucratic management styles, and these differences will be discussed. The final comments draw out the context of the public management work and how managing by design is situated.

1. Collaborative and dialectic

At the core of the performances of managing by design there is this coming together of many actors. There is the collaboration between actors around common goals. Whether the goal is to make an administrative product or resolve an organisational issue, the managing work is done with others. The emphasis on working with others includes crossing boundaries within the organisation and outside. The outside includes the end user or the taxpayers as important constituents in designing the organisation’s processes and products. The collaborative characteristic of managing by design is intentional and is contingent upon key actors in the organisation. The role of ‘design facilitators’ in the case organisation provides a mechanism for members of the organisation and other key actors to effectively collaborate. The interactions are inherently actor to actor and dialogue is the non-human actor. The importance of dialogue between multiple actors is a present feature in the ATO when managing by design.
2. Commitment to the citizen or end user

The recognition and commitment to consider the taxpayer or the end user is fundamental to managing by design. The commitment to bring the voice of the users of the tax system as both active participants in designing products as well as locating them conceptually in exploring impacts of new policy design is an important feature of managing by design. The introduction of the end user was a symbolic shift from the expert to the lay man or woman. This helped shift the view from internal tax law, policy and rules to an emphasis on the interactions between tax products and end users. The notion of the product and the interaction is a fundamental meaning of design in the ATO. This means that there is a deep psychology of human-centeredness which juxtaposes the traditional tax accounting and legal position which is inherently about the policy, the law, the rules, and the processes. This means that managing by design is inclusive of the broad spectrum of impacts – including the legal and internal view - but with attention on the translation and impacts for end users or taxpayers. This gives managing by design a unique and localised position in the work of the ATO, because it complements the work of the organisation.

3. Construction of knowledge

In the cases described and in other examples, managing by design occurs in situations where there is a need to produce new knowledge. The production of knowledge is apparent because managing by design is employed in situations of new ideas, and changes to existing practices, processes or products. It is performed through processes of translation and invention by actors who play different design and management roles. This meaning connects to the previous meaning of ‘collaboration’ because the situations of knowledge construction are in most cases multi-actor: multi-organisational unit;
multi-tax system role; multi-tax payer; and multi-organisational perspective. The important productions of non-human objects such as design product prototypes (such as forms or design documents that describe how the change to the tax system will be experienced by taxpayers) are evidence of new knowledge. The other important knowledge package is the understanding of actors in the tax system and their experiences with the tax system. The remarkable point in this knowledge is that the understanding of experience is generated from the process of managing by design, not just a survey or a market research approach where knowledge sits in a report often generated by external research companies. In managing by design the knowledge is created in the process of designing and the tacit knowledge rests across all actors involved in the process.

4. Creative, visual and material

The production of knowledge is done in particular ways in the practice of managing by design. The actors involved use materials in different ways from traditional management in that they use diagrams more often than lots of words. They create physical examples of products or prototypes and use these as means of interacting with other actors. They sketch and draw the problems and use whiteboards and large sheets of paper to visualise their work. There are actors who have skills in visualisation called ‘information designers’ and the design facilitators visualise conversations through mind-maps and models of conversation as actors collaborate, or as one participant expressed design emerges in front of their eyes. This way of working is distinct as managing by design. The performances of creativity, visualisation and materialising design are exposed by using rooms dedicated to designing. For example, in the ATO, early on when managing by design became a distinct practice in the organisation, a physical area was established that removed all the desks and created an open space.
Large pin boards were brought in. Tables with wheels for easy reconfiguration, large printable whiteboards on wheels for ease of use, and a plotter printer that printed large pages for diagrams and other visualisations made up the design space. These changes to the physical elements of the organisation created physical spaces for managing by design to occur. These are symbolic changes to the organisation that create meaning for managing by design.

5. Disciplined and rigorous

The accounts describe disciplined performances ranging from engaging taxpaying citizens in designing new products, or disciplined conversations amongst senior leaders through facilitated conversation, and disciplined exploration of changes to the tax system from proposed new policy changes. These disciplined practices are seen as a distinct quality of managing by design in the ATO. When the design of administrative products take a participatory approach, that is by designing with end users, according to one senior leader he saw managing by design as … a commitment to client consultation which allows us to get, in a less scientific way, feedback as to their client aspirations and frustrations and also allows us to get feedback from them on the usability of various ideas and products… one of the things that’s very good about the design science that’s been brought to the ATO is this more scientific approach to design… The emphasis on ‘scientific’ can be interpreted as meaning managing by design is systemised and helps build knowledge. The basis of this systemised approach will be discussed in later chapters.

The five themes discussed above offer an important point of reflection between these observable management traits of managing by design and traditional bureaucratic management styles. It is true that organisations have always been “designed” in some
way, e.g. the structures, and these “design” practices are often driven by management research which would provide the knowledge to design the best structure (Galbraith, 1973). This is based on pre-determined expert knowledge. But what I explore and discuss in “managing by design” is a different sort of design, design that assembles people and things to create new knowledge, and this is generated through participatory practices. So instead of making internal decisions, where “design” of for instance the structure of an organisation was assumed to be able to be grounded in expert knowledge, taking a managing by design approach is more multifaceted and multi-perspectival, and involves coming together through collaborative practices to define the new structures. Expert knowledge may be part of the mix but is recognised as partial. By taking a managing by design approach it encourages the organisation to break away from the “silo” mentality where each person contributes their expert knowledge in a sequentialised break-down of the task. In post structuralism, knowledge is contested, it is in all areas, knowledge is partial, and shaped by the groups and cultures that make it. There is no universal set of known things, of ways of organising or an a priori, certain knowledge that can be learned in universities then applied in management. What comes to count as knowledge is created by the circumstances of how it is produced – this is recognised in this case study. These are new approaches to management work.

**Conclusion**

In the thematic ‘construction of knowledge’ section, managing by design is employed in situations of new ideas, changes to existing practices, processes or products. This is a particularly important point to highlight because this situates managing by design. This reference to new or changed management situations is important to acknowledge because in the public management context, public managers do many types of work,
and not everything is about change. It is argued in this thesis that when public managers do work that is about making change and creating preferred futures then managing by design is employed. Each of the three locations dealt with some sort of change. The first involved work of designing and developing a new administrative tool, a form; the second involved exploration of a strategic organisational problem seeking change; and the third translated new tax policy and measures into administration design. It is for this type of work that design methods, standardised practices and design people can be usefully employed. Therefore ‘managing by design’ is when management work is performed by taking a more human-centred, participatory, visual and physical approach to bring change and create preferred futures. This is captured in the model below:
“Managing by Design” occurs when public management work is performed by taking a more human-centred, participatory, visual and physical approach to bring change and create preferred futures.

This means in practice:

| Commitment to the citizen or end user | Recognition and commitment to the taxpayer or the end user is fundamental to managing by design. The commitment to bring the voice of the users of the tax system as both active participants in designing products as well as locating them conceptually in exploring impacts of new policy design. This also extends to the understanding of impacts on end users for all change. |
| Collaborative and dialectic | Collaboration between actors around common goals. Whether the goal is to make an administrative product, or resolve an organisational issue the managing by design work is done with others. The emphasis on working with others includes crossing boundaries within the organisation and outside. |
| Creative, visual and material | Materials used in different ways to traditional management: heavy use of diagrams rather than lots of words; creation of physical examples of products or prototypes used as a means of interacting with other actors. |
| Disciplined and rigorous | Disciplined performances ranging from engaging taxpayers or citizens in designing new products, or disciplined conversations amongst senior leaders through facilitated conversation, and disciplined exploration of changes to the tax system from proposed new policy changes. |
| Construction of knowledge | The production of knowledge is apparent because managing by design is employed in situations of new ideas, changes to existing practices, processes or products. It is performed through processes of translation and invention by actors who play different design and management roles. |

Table 9 Summary of the meaning of design as practiced in the ATO
Introduction

It can be tempting to tell a story of heroes and heroic actions which have resulted in managing by design being present in the case organisation. Rather what we are here to explore is the embedding and embodiment of managing by design in the ATO. In this chapter I want to argue that the embedding and embodiment of managing by design in the ATO is only possible by understanding the interrelatedness of political elements, social elements, organisational elements and other important situational elements through the course of time.

A useful metaphor to explore this progressive development of managing by design is to consider this management practice as a technology and by doing so we can analyse the way this technology has become infused or translated into the ATO. This comes back to our theoretical framework; Actor-Network Theory (ANT). As previously discussed, ANT helps us bring to the foreground all the actors and their roles and how they come together to translate and carry the technology innovation (managing by design) into the organisation.

This chapter is structured to tell the story of this process of innovation infusion by using the ‘four moments’ of sociology of translation: Problematization, Interessement, Enrolment and Mobilisation (Callon, 1986). The chapter will focus on the first three moments. In the section *problematization* I will discuss the elements that acted to bring about the possibility for design to be taken into the management practices of the ATO.
This discussion draws out critical elements that were identified and drawn together to form the network which situated managing by design as an indispensable practice in the tax system design process.

The following section, *interessement*, discusses the actions by which an entity, such as the Design Champion, the Integrated Tax Design team and organisational leadership, attempt to impose and stabilize the identity of managing by design on the other actors. This is about the multitude of devices used to create interest and to persuade others that managing by design is a solution to their problems (Callon, 1986:203; Vurdubakis, 2007: 430). Interessement devices used in the translation of design in the organisation include such things as design conferences, pilot design projects, user research and codified design theory and methods. This section will highlight critical devices used to persuade organisational members from all management levels to recognise that the way they performed some aspects of their work needed to change to achieve outcomes they needed to deliver.

The third section *enrolment* discusses the types of situations where actors come together and occupy roles which enact managing by design. These are the situations where the network of managing by design starts to achieve an identity (Vurdubakis, 2007). One distinct strategy was running a research project called ‘Listening to the Community’ which aimed to draw more organisational awareness to the community needs and how designing to meet these needs enrolled the whole organisation in a change program. Another enrolment strategy was to seek out key business areas that showed an interest in working with the integrated tax design process and team. This led to two approaches including outsourcing Integrated Tax Design team members to business areas for distinct projects and establishing distributed design centres within business areas hence creating a network of designers across the organisation.
The chapter concludes with a restatement of the argument that the embedding and embodiment of managing by design in the ATO is a process of constant translation. This is achieved through creation of networks made of many actors – human and non-human. That there is no hero narrative, or a narrative of simple causes and effects, but rather that managing by design is a constant process of translation over time. That this translation is contingent upon a range of factors invites the question; what has enabled sustained practices of managing by design within the ATO? This is discussed and analysed in the following chapter about stabilising managing by design.

The problematization phase – or a case for managing by design

If we take the practices of managing by design as a social phenomenon then according to Latour we can view this as a “movement, an interaction, a transformation, an enrolment” (Latour, 2005:64-65) of some kind. The process of translation is contingent upon human and non-human elements coming together at different times and locations. The point of interest is how was managing by design argued, positioned, given space in the complex public organisation of the Tax Office? The idea that design might be a possibility in the management work of the ATO can be traced back to social and political actions in the late 1990’s and early 2000’s in the Australian Taxation System. Figure 1 illustrates the actors involved in the initial stages of building a case for managing by design.
Figure 18 Problematization – A case for design
There is a coalescence of actors, activities and interactions occurring within a period of time. The process of problematization is complex and dynamic in nature. There are many alliances forged and formed between multiple actors in the process. It is tempting to present this section on problematization as simply a series of events. Instead significant events and interactions are discussed and the ongoing alliances and networks that are formed and reformed to bring about a case for managing by design are highlighted. One of the critical interactions at this time was the Review of Business Taxation because this triggered a significant change in organisational arrangements, processes and practices and opened up an opportunity for managing by design practices.

**Element 1 – Review of Business Taxation**

The Review of Business Taxation began in mid 1998 and involved a Review Committee lead by John Ralph, AO, as the Chairman. This committee, referred to as the Ralph Review Committee, undertook eleven months of review (Ralph, July, 1999) which resulted in significant reform recommendations to the Business Tax System. The final report constituting twenty five chapters dedicated the first three chapters to ‘building a strong foundation’ (Ralph, July 1999). The first recommendation in this report 1.1 

*Integrated taxation design process* was described as “fundamental change … from a largely sequential taxation design process to one which is holistic and fully integrated” (Section 1, Ralph, July 1999:95). In this recommendation the choice of words such as “tax design process” and “integrated” presented new models of working between tax policy, legislative and administrative experts and the taxpayer. The language of “design” and “constructive participation by taxpayers” (Section 1, Ralph, July 1999:95)

---

opened up new modus operandi implying new types of interaction between actors within the Australian Tax System. The report described how this may work in practice suggesting new types of teams; “cross functional teams” and “Interagency Design committee” (Section 1, Ralph, July 1999:99-100) and new types of processes such as “Design Framework” and “Integrated tax design process” (Section 1, Ralph, July 1999:97). These were all aimed at addressing the weaknesses in current processes which were characterised by lack of adequate arrangements for integrated policy change and very limited mechanisms for consultation with the community (Section 1, Ralph, July 1999:98). The proposed changes further described the need for cultural change and for the appointment of “strong leadership” (Section 1, Ralph, July 1999:100) for recommendation 1.1 to take effect. This resulted in a senior leader from the Treasury joining the ATO as Second Commissioner of Tax Reform and the establishment of the Integrated Tax Design team within the ATO.

Element 2 - Establishment of Integrated Tax Design Team

By late 1999, within six months of the Ralph Review handing down its recommendations, the Integrated Tax Design Area was set-up in the ATO. It was set-up under the leadership of Dr Alan Preston, Second Commissioner of Tax Reform. Preston brought a strong vision for how this new area might operate and, in particular, a strong emphasis on taking a design approach. This meant that Preston brought with him alliances and networks including academics and consultants that created the start of a network to establish a case for design in the ATO. One key non-human actor created under the leadership of Preston was a report titled Reforming the Tax Design Process: A blueprint for building an integrated tax design capability. This sixty one page report presented an argument for the new way of working and discussed the organisational changes that needed to occur to get the Integrated Tax Design (ITD) function working.
The report represented new knowledge and presented design thinking and user centred approaches as important concepts in the ITD process. The report argued that the proposed process was different from the current ways the organisation worked. These arguments and the report acted to create new boundaries for the ITD process and create new spaces for management to do its work. The types of arguments in this report are explained in the section *How the ITD process differs from existing process.* (Preston, 2000) Some of the key themes are listed here:

**Addressing the lack of integration**

The ITD process was to present “a complete view beginning to end” and to overcome the fact that there was “no shared articulation of the overall tax system design work” (Preston, 2000:54). This was a gap which no other organisational process addressed.

**User perspective focussed rather than process**

The reframing of where to start the problem and project design process was to start with the users rather than the rules or organisation view. As stated “rather than be concerned with the processes used to produce a particular individual product such as the law or an IT product, the models are concerned with how we holistically design from a user’s perspective the collective impact of all of the products required to effect a change to the system” (Preston, 2000:54)

**Collaborative team based instead of deskbound and individualistic**

The emphasis of many different organisational areas coming together, working across disciplines and in a collaborative way differed from the traditional view of each area completing their part of the tax design process independently. This presented a distinct and different set of behaviours for the organisation challenging the “deskbound and individualistic culture”(Preston, 2000: 54) of the organisation.
Figure 19 Reforming the Tax Design Process: A blueprint for building an integrated tax design capability (Source: ATO 2001)

Provide a framework for applying design thinking

The ITD process defined stages for following a design approach. This was about describing the proposed approaches which were new and not articulated in the organisation.

The assignment of a dedicated senior leader to drive the integrated tax design team and to articulate a design process was critical in the establishment of a new way of working in the ATO and across the Australian taxation system. The role this senior leader took on was more than an appointment; he became known as a ‘Design champion’:

“Having a champion in the very beginning like Alan Preston who was a second commissioner was really good because it gave that top down reinforcement – this was important” [Interview, General Manager #4, 2009]
“He was a real champion for design” [Interview, Senior leader #2, 2008]

The conviction that this person had about taking a design approach suggests that the problematization for managing by design was contingent on his leadership and advocacy. This contingency is partly true. The work of this leader should not be seen in isolation to the rest of the ATO. This is important because the ATO at the time was an organisation with over 18,000 staff. Therefore there were other activities happening which can also be analysed in the context of managing by design becoming an important practice in the organisation. In particular, one activity was a cultural transformation in the decision making processes of the organisation. This was the introduction of new strategic thinking tools such as systems thinking.

Element 3 – Backdrop of strategic thinking tools such as Systems Thinking

Up until the mid 1990’s the managers and leaders of the organisation predominantly considered their role as finite and bounded between other organisations such as the Treasury, the government, and the taxpayer in the tax process. As previously discussed this was an observation made within the Review of Business Taxation. This meant that the organisation focussed on its own role and work to ensure compliance with the law and protection of the revenue system. There was a strong sequencing of internal processes with interpretations of the law preceding and then imposed on the community through rulings, advice and other instruments of administration such as forms, processes and procedures. This position was typical of large weberian bureaucratically structured public organisations (Weber, 1978). The emphasis was on the bureaucrat and their world of structured hierarchical authority. As one of the interviewees reflected:

“people in the organisation at that time had come in as a career-based civil service and the way the culture was, like everyone [the taxpayer] is evil we’re
This sequenced bureaucratic mode or ordering (Law, 1994) placed strong boundaries between the ATO and the taxpayer and emphasised differences between the power and knowledge held tightly in the roles of the bureaucrat or public manager. There were limited attempts and argument for engaging or encouraging participation with the taxpayers in the decision making processes of the ATO. This perception was perfectly valid for those who were accountants and lawyers whose primary job is to determine how the laws may be interpreted and distancing themselves from taxpayers was part of the job. In the mid to late 1990s the leadership, particularly in the Corporate Directions business area which worked directly with the Commissioners of the ATO, began to challenge this culture of ‘sequencing’. This was largely triggered by interactions with consultants and academics, Richard Hames and Marvin Oka, in the 1990’s who worked with the leadership group to explore new ways of conceiving their work and role by using strategic thinking tools. It was through this engagement that Systems Thinking theory was introduced. The application of this theory encouraged management to shift from an internal bureaucratic mode of ordering their work to an external, social, and connected economic system view mode of ordering.

The consultants, academics and the ATO leadership group collaborated through a series of workshops and drew on systems thinking and applied this to conceive the growing complexity in the tax system. The approach brought a set of “attitudes and a frame of mind” (Simon, 1977:56) and emphasised looking at the whole tax system in which a problem occurs and, when designing component parts, consider their implications on the broader tax system. This involved seeing the tax system in a new way and understanding diverse causes and effects and multiple relationships to see a system of interconnections. (Vaill, 1996; Weinberg, 2001). This can be considered as a move
towards a network mode of organising. This shift in attention from the organisation and its own internal processes and people to the broader system in which the organisation operates was a significant change in the orientation of the organisation’s mindset.

According to one senior leader, who was present during this period of management rescripting and who later played a significant role in design being adopted by the organisation:

“There was a fundamental shift from the organisation seeing its role as ‘only doing what we are told’ to a role that is part of a system with a role to ‘influence and shape’ the Tax System. It changed the language we used in our strategic statement. We used the words of ‘shape and influence’ from that point forward.”

This movement toward systems thinking in the organisation was deliberate and the tools to apply system thinking were delivered to leaders and selected staff through training and coaching. These tools triggered different types of conversations and exploration of tax issues. The approach to systems thinking also provoked the need for new forms of intelligence about how the tax system works in practice and to better understand the causes and effects. Some leaders took it within their roles to engage with members of the community. At first this mostly occurred informally by inviting taxpayers to join in meetings and contribute to the Tax Office’s understanding of the way things work in the real world such as the cash economy. Alternatively, Tax Officers would engage in the social contexts and informally visit business sites to interview and understand their experiences with the Tax System:

“So that was going to the community and saying, “what are your thoughts about the way we should tackle the cash economy?” and helping them helping us design approaches but I say we never called it a design project or anything like that. It was a compliance initiative and the like” [Interview, Senior leader #6, 2009]

---

20 Personal correspondence between researcher and organisational participant
These approaches were useful but they were not systematic and relied on individual leaders who had the courage and the direction to lead engagement strategies with the community. And there were no codified practices for doing this work. The importance of raising this new systems thinking mode of ordering is that these informal experiments became an important resource in building a case for managing by design. It practically demonstrated to the leaders of the organisation how to understand the system in action and encouraged them to experiment further with how systems thinking could be done. That is, to find out how they could understand the tax system and how they could influence and shape this system.

This practical need for new understandings and representations of the tax system may have contributed to the organisation’s capacity to understand managing by design. It was a practical matter of inventing new ways for organisational leaders to act that enabled the ATO to better understand the tax system as a network; a system of complex interactions rather than a linear hierarchy. The boundary of the organisation shifted to include the taxpayer and other organisations, both government and non-government, creating a shift that opened up the decision making processes to new questions such as how can we engage with broader systems if we are to more effectively operate in the Tax System? This cultural shift was picked up in the Review of Business Taxation final report which emphasised that cultural change was needed across the Treasury, Office of Parliamentary Council and ATO to “think more systemically about taxation system within Australia and internationally and about the wider business, social and physical environment” (Section 1, Ralph, July 1999:101). So this coalescence of integrated tax design process and systems thinking emerged.
Element 4 – Influencers from outside the organisation: consultants and design academics

During the period 1999, 2000 and 2001 there were many interactions which shaped the understanding of managing by design in the ATO. There were a few notable consultants and academics who played a role in the process of understanding how design thinking may be a useful and appropriate means of working in the ATO. Two of these, referred to as key influencers were Dr Tony Golsby-Smith, Principal of Second Road consultancy and Professor Richard Buchanan, then Head of Design, from Carnegie Mellon University. The notable interactions were strategic conversations between the leadership of the ATO and the consultant Golsby-Smith (York et al., 2010), and the design advice from Buchanan who was Head of the Design School at Carnegie Mellon University, Pittsburgh United States who injected new ideas about design in complex systems.

There were other notable consultants at the time such as Jim Faris, a designer from the United States and an executive in the America Institute of Graphic Artists (AIGA), Darryl Rhea CEO from design research firm Cheskin, known for its industry leadership on consumer based research informing design projects. Australian consultants were also engaged in the process of building a case for managing by design in the ATO.

In this network of actors some took on a more prominent role and were referred to as Design Mentors. This meant that people, such as Buchanan, took an advisory role and provided provocative ideas about how design may apply to the management work of the ATO. They encouraged space for learning and provided literature and concepts to leaders of the ATO.
The coming together of external experts with the leaders and advocates for design in the ATO created a network that was able to provide concrete ideas about what it meant to manage by design. The work of this network is described further in this chapter. It particularly shaped the devices used to persuade the organisation to take up managing by design such as running pilot projects, contributing to the design methodology, writing manuals to explain how to do design activities, presentations at conferences, mentoring, and coaching ATO staff. One important example of building a case for design is the first Design Conference that the ATO ran for its staff and selected staff from Treasury and Office of Parliamentary Council (agencies from the Australian Taxation System).

One of the key interactions or devices used to establish a case for managing by design was by holding a series of Design Conferences. There were three in total. The first one will be discussed here. Design Conference 1 was lead by the Tax Reform team and the Corporate Directions team, and was delivered by the Head of Design at Carnegie Mellon University, Professor Richard Buchanan. This conference drew together over 110 people from Treasury, the Office of Parliamentary Council and the ATO. It was held in early 2000 at the Old Parliament House in Canberra. The purpose of the conference was to introduce relevant concepts and methods of interaction design (Buchanan, 2003:6). This conference presented the hypothesis that the same problem solving approach used by designers, particularly interaction designers, could be applied to solving tax design problems. It was embryonic and not tried anywhere else so it was an idea that was presented as an opportunity and required deep internalisation by the organisations represented if it was to be taken on as a way of operating. This conference was an important device to position and build links between the technology of design and the work of the Tax System. Buchanan described the strategy as “human-centred
interaction design, and it is strikingly different from the rules-based enforcement of the past” (Buchanan, 2003:2). This challenged the current culture and encouraged a new space for the way the organisation delivered its vision of work across the tax system. The systemic difference was an emphasis on a human-centred or participatory design approach to do the work of management. It was also about reframing the way the organisation saw its work as interactions between people; themselves and the tax payers and other actors in the Tax System. One of the key non-human actors in this process was to use a concept called ‘pathways’. Buchanan employed his own intellectual knowledge and offered a way of thinking about the human experience as a pathway through the tax system. This idea seemed to resonate with the ATO and others because it was a way to work with the complexity of the tax system but to practically see how a human centred approach may be worthwhile in trying to understand the ATO as a part of a complex network. This concept of pathways was a new idea to the ATO. It was not modelling the business process (which the organisation was very good at) but rather modelled the way the taxpayer experiences interactions to achieve their role in the tax system. The power of the proposition was that by seeing the work of the ATO as a series of interactions between themselves and many actors, such as taxpayers, then these interactions could be deliberatively designed. These points of interaction with products such as forms, systems, customer service staff, advice and letters could be designed in ways that were different from the current management approach using more human-centred and user based design methods. This opened up the possibility of different methods which management could use to do its work. This concept played further in creating a paradigm shift in the way management proceeded in its work.
Element 5 – Influencers from outside the organisation: Tax Agents and Small Business Community

A critical element which was present in this early stage of building a case for managing by design was the social element; the tax community and, in particular, the Tax Agent community. They play an important role in the effective delivery of a self assessment tax system because Tax Agent professionals provide services to individuals and organisations to ensure they comply and pay their fair share of taxes each year. In 2000, A New Tax System (ANTS) was introduced which included the Goods and Service Tax (GST). The implementation of this new system was considered largely a success such that the ATO community satisfaction surveys at the time indicated between 70-75% were happy with the new tax system. The issue was that up to 25% were not happy and this group, made up of Tax Agents and small businesses, increasingly voiced their concerns through 2000, 2001 and 2002. As one senior leader stated:

“In July 2000 the GST came in and the organisation was pretty pleased with the market research that was being conducted that showed there was 70-75% approval rating, people were finding the new system reasonably ok to operate. But around November 2000 the 25% - 30% that weren’t happy with the new system became a very strong political voice” [Interview, Senior leader #2, 2008]

The “strong political voice” was particularly observed from the Tax Agent community.

The changes to the tax system impacted on the tax agents experience with this change triggering a shift in their actions. As one senior leader recalled:

“We shook the system up and we made a lot of people unhappy because we hadn’t really thought about it from their perspective” [Interview, Senior leader #4, 2008]

Tax Agent’s actions went from direct complaints to the ATO to coordinated actions with other Tax Agents and peak bodies. They used media as a vehicle to communicate their concerns to the broader community. The negative attention drawn to the ATO created an urgent space for engagement. These actions symbolised a crisis point in the
relationship between the ATO and Tax Agents. It is at these times of crisis and critical need that the conditions for change emerge, and in this case conditions for managing by design. As one senior leader from the ATO recalled:

“And it was things like tax agents having to wait for hours on the phone to get through to find out the balance of their client’s account. Things like that. So we hadn’t thought about it from the user’s perspective before. We thought we were doing the government’s bidding and we thought we did consultative design and we did but it wasn’t true user-based design. And when those sorts of outcomes out of tax reform became evident, and it was in the media every day, that’s when I think the senior leadership said well we actually have to make a fundamental shift in how we think about designing changes and we need to think about the impact on our clients and people we partner with like the tax agents and the software producers and make a change” [Interview, Senior leader#4, 2008]

The social and political elements that were present added to the case for change in the way the tax system was designed and delivered. It was a moment of opportunity through which the case of design became situated as the solution to the very real external issues faced by the organisation. To manage by design was to engage and collaborate with users of the tax system, not academically but by practically addressing a pressing real need.

Conclusion

The problematization for design could be interpreted as opportunistic. There was a clear need for change stemming from the Ralph Review, Tax Reform, academics and consultants inspiring new models of thinking and working, strong senior leadership in the ATO and social unrest which carved space for managing by design in not only the ATO but the Tax System. The case for managing by design was contingent upon all these factors. The role of key academics in the space of shifting the world views of the organisation to a whole of system, and how taking a human perspective in this system was possible were two key elements which managing by design was formed. The devices used to persuade are a combination of small but powerful actions by many
attempts to persuade others in the ATO. The devices to persuade will be explored next.

In this phase of problematization, the factors which this phase was contingent upon were leadership, outside influence and cultural propensity for systems thinking.

The interessement phase – or the devices to persuade

According to Callon interessement is “the group of actions by which an entity attempts to impose and stabilize the identity of other actors it defines through problematization. Different devices are used to implement these actions” (Callon, 1986:203). In effect, in the case of managing by design in the ATO who were the key actors and what did they do to whom to persuade them to adopt a design approach in their work? What were the strategies employed to get more actors in the ATO engaged in following design? A key aspect of this stage of translation is to understand how actors who were not yet convinced that managing by design was a way to work were persuaded to do things differently and to see managing by design as the alternative they needed to pursue. This stage of translation goes beyond the strategies or documents about what it means to take an integrated design approach such as the well written document developed by Preston and the initial ITD team called Reformsing the Tax Design Process: A blueprint for building an integrated tax design capability. It is where the intervention and evidence of managing by design is presented and performed. These sorts of strategies aim to interrupt the current way of doing things and attempt to persuade other actors to associate with new models of working. In this section five strategies are analysed to assess their role in persuading actors in the ATO to take a design approach. It is important to observe the persuasion at the most senior levels and deeper into the
organisational structures, such as project teams and business areas. The diagram below summaries the strategies discussed in this section of the chapter.

Figure 20 Interessement phase – or the devices to persuade
Strategy 1 - Self realisation “Completing the BAS form” and “The woman who cried”

As discussed previously, in 2000 ANTS was introduced. The introduction of ANTS meant a change in the role of business in the tax system. The role of businesses – small and large included new reporting and payment obligations:

_Businesses use an activity statement to report and pay a number of tax obligations, including GST, pay as you go (PAYG) instalments, PAYG withholding and fringe benefits tax. Activity statements are also used by individuals who need to pay quarterly PAYG instalments (ATO, 2012a)_

The business activity statement (BAS) introduced a new point of interaction for businesses with the Australian taxation system. This implicated other actors such as bookkeepers and accountants because their work shifted to work with businesses to meet this increased interaction with the tax system. The correct completion of these forms was critical to the success of the new tax system. It was illustrated earlier, that Tax Agents had concerns with the new tax system, and in addition social concerns from small business pointed to poor experiences with this new tax system because of the increased obligations which added administrative pressure to businesses. The leaders in the Integrated Tax Design team along with Second Road consultants ran a collaborative conversation (as part of the Corporate Design Forum series) to provide an opportunity for the senior leadership group to come to terms with the experiences by taking a scenario/simulation based approach to the conversation. The workshop involved each member of the leadership group taking on the persona of a business owner. They had to read a set of prescribed information and then complete the BAS. The process that followed was one of struggle. The senior group struggled to complete the form and arrive at the right answer. This experience was recalled by one of the team members from the ITD team:
“The event was fascinating, for the first time the leaders realised that what the organisation had designed and imposed on small business was not easy. The usability of the [BAS] form was lacking” [Interview, Senior leader #1, 2008]

This strategy interrupted the senior leader’s view of the problem and made it personal. The designers demonstrated that if the leaders’ identity changed from being a decision maker to a taxpayer interacting with the tax system then this caused conflict. The leaders were no longer able to see the problem as abstract and contained, it was real and experienced. This one event alone did not change the minds of all leaders but it added to the growing psyche that the way products were designed had to have a user focus.

Further to the self experienced learning activity with senior leaders the Integrated Tax Design Team and consultants conducted user research on the usability of the BAS forms with taxpayers. One of the techniques used was observation of taxpayers completing the BAS. These observations were packaged in a few different ways and presented to the senior leaders. There are two notable stories.

The first story was the creation of a walkthrough of the narrative of one taxpayer, Sharon the Hairdresser and her experience adapting to the new tax system. The Integrated Design Team created a material journey using photos, text, the BAS and other materials collected from fieldwork showing how Sharon selected an accountant, changed how she ran the business and how her family life changed with additional hours consumed by paperwork. And the experience culminated in Sharon receiving a tax fine because she had made a mistake in her calculations. This narrative presented to the senior leaders caused an instant reaction that triggered concerns that the fairness of the tax system was being undermined – especially for taxpayers like Sharon who were trying to do the right thing.
The second story, collected around the same time as Hairdresser story, is the “women who cried”. The fieldwork conducted in Adelaide involved observing taxpayers trying to comply with their BAS obligations. The Integrated Tax Design team went to the house of a small business owner. They interviewed a woman who was supporting her tradesman husband meet his accounting and tax obligations. She was using a product put out by the ATO to help her complete the BAS called ‘eRecord’\(^{21}\). The woman’s accountant told her it was so easy her cat could use it. The women recounted her experience showing the team how she tried to use ‘eRecord’. These observations were filmed. The footage that was captured provided evidence of the taxpayer’s experience. At one part of the film the woman breaks down and cries and says that she must be stupid – even her cat could do this. This footage was presented to the senior leaders in another senior forum. The part of the footage which showed the women crying had a powerful effect on the senior leaders, in particular the response from the Commissioner at the time, as recalled by a participant who was present:

“The Commissioner reacted and he said we simply cannot do this anymore. We can’t be causing this pain on the community. We have to do things differently.”\(^{22}\)

The injection of the real taxpayer experience visually presented as video evidence triggered empathy from the top decision makers. It was the human side of the new tax system that changed the view for the decision makers. The strategy of the Integrated Tax Design team, the Design Leaders and the consultants was to change the perspective and reframe the decision maker’s view on the problem of “25% were not happy” with

\(^{21}\) eRecord was a free, electronic record keeping software product. It was intended for small business owners to help them keep good business records. It was pulled from the market in 2010 (ATO, 2012b. \textit{eRecord withdrawal} [Online]. Canberra, Australia: Commonwealth of Australia. Available: http://www.ato.gov.au/businesses/content.aspx?doc=/content/00225495.htm&pc=001/003/003/002/001&mnu=0&mfp=&st=&cy= [Accessed 25 May 2012].)

\(^{22}\) Personal conversation with organisational senior leader, 2008
the new tax system. This cutting through to the human side of the problem is what managing by design was espousing. Through the use of the user research the designers were able to demonstrate their method and provide material to persuade change to the way the organisation designed and delivered products to the taxpaying community.

Strategy 2 – Collective learning Design Conferences 2 and 3

One of the challenges to persuade a large complex organisation such as the ATO is to gather together enough key people in the organisation within a similar period to ensure there is momentum in the messages that need to be communicated. One of the early strategies to persuade was the delivery of three Design Conferences. These conferences occurred in early 2000, late 2000 and mid 2001. The first conference was discussed in the previous section. The following two conferences were opportunities for the organisation to demonstrate what they had accomplished in applying design to the work of the ATO. The conferences were held over two days and engaged a few hundred staff from across the ATO, Treasury and OPC. The conferences drew from internal staff work as well as industry experts, consultants and academics. The conferences provided the opportunity to engage large numbers of staff and to provide materials for engagement and debate. The participants who were invited to attend these conferences were generally senior executive officers and above. This caused some friction because others wanted to attend. This alone may have been a productive strategy; to create scarcity and therefore increase the value of the conferences. The products of the conferences were not only presentations but comprehensive folders filled with materials from the presentations. These non-human actors were important knowledge tools which survived the conferences and were used as references for staff in the organisation.

“I have to say my strongest memories are of the folders and the big kick off presentations” [Interview, Senior Manager #1, 2009]
The conferences themselves were instrumental in shaping and persuading leaders’ views on what it meant to take a design approach. For example one participant recalls his experience from attending the second conference held in December 2000 (author underlined for emphasis):

“I was actually fortunate enough to be one of the ones that went along to presentations that were given at the Old Parliament House right in the very early days. I think there was probably a series of three and I got to go to the second…. one thing that stands in my mind is there are a whole - after all the presentations, there was a bit of a show and tell for a number of component parts in the office and one of them was - eRecord and I’d never seen eRecord. I’d heard of eRecord but - to see it was a computer system run in the office, but I’d never actually seen it and I sat down to have a look at it and it was a presentation given to about 20 or 30 people in a room and the absolute takeaway message, it still stands with me today, was how appalling the user interface was. It was a - an absolute disgrace and I knew nothing about the product and I knew nothing - next to nothing about accounting but I looked at it and I thought, “this is - there’s no intuition, there’s no - it’s not obvious how you would navigate this. Why would you do that?” and just - it was just very poor and it jarred with me at the time and it still stands in my memory today as being an example of something that was just very poor and because at that time I did subscribe to the adage that does’nt matter how good the system is, if the users don’t like it, they won’t use it and there was an example for me of we’d put a lot of effort into building a product that I couldn’t see any way the users would like it…”

[Interview, Senior Manager #2, 2009]

The above quote highlights the conference as a device to persuade had the effect, at least on this leader. There is a confrontation in this scene that the leader accounts, the confrontation between the idea of a record keeping system which sounds useful for a taxpayer, when in reality the product was designed with little consideration of the taxpayer. Words such as “appalling”, “absolute disgrace” were used by this leader. In the process of persuading, the strategy here was to show not tell. This is similar to strategy 1 and 2.
Strategy 3 – Creation of design roles in the organisation

The underpinning of the establishment of an Integrated Tax Design team was defining the roles and finding people to fill these roles. As part of establishing this group, not only were designers needed but also leaders who could instigate change on the ground. Not long after the appointment of the Second Commissioner Preston, three Assistant Commissioners were progressively appointed. Neil Olsen was assigned to work on methodology, then John Body to set up the service delivery arm, and then Peter Jones as an expert practitioner. The work of these Assistant Commissioners was to strongly take a practical engagement and one of their initial tasks was to build the team. One of the early members of this team recalls:
“I saw these jobs advertised, which is integrated tax design and it was the first job ads we ever did. And they had this title ‘design facilitator’, ‘design mentor’, ‘information designer’ – something else. And I didn’t have a clue what any of them were or what they meant” [Interview, Design Manager #5, 2009]

The invention of roles was a key strategy to differentiate the ITD design roles from the rest of the organisation. It was deliberate to name the roles using unfamiliar terms to the organisation. The new titles created an interest from others in the organisation in terms of the new tasks and activities these people would bring. As one senior business manager recalled:

“We began to see these new jobs pop up. That’s a positive actually because frankly what they did was encourage and facilitate the process of talking to taxpayers and those outside the Tax Office around the [tax design] process and working it through whereas previously you just struggled to do that because the framework was really absent. Not that it couldn’t have been done, not perhaps that it shouldn’t have been but the framework wasn’t there really as supported the way it is now” [Interview, Senior Manager #1, 2009]

The roles such as design facilitator, information designer, and user researcher, produced different types of work and interactions. For example the work of design facilitators brought together people from across the organisation and those outside the organisation to run collaborative conversations on projects that were instigating change. These workshop based processes were different from the past meeting style approaches. The inclusion of people from different disciplines, such as IT, legal, communications, operations, human resources and business leadership coming together early and engaging with taxpayers, put in place new frameworks for working. The interaction between the designers from the ITD team and the rest of the organisation was a critical device to realise management by design in a practical and applied way.

**Strategy 4 – Pilot project “Consolidations”**

Another important strategy early on was to demonstrate how design may be applied to real ATO projects. Initial sets of projects focussed on new policy proposals. These are
projects which come with proposed parameters from government and the administrative
design was an important opportunity to demonstrate managing by design. As one leader
stated:

“Consolidations was a project that had big impacts on the large business
community...So that was the first project and there was quite a lot of resource
put into it. Probably 3-4 design people put into the project for 3 or 4 months,
and there was a heavy interaction with the large business community and it
was I think a successful design exercise” [Interview, Senior Leader #2, 2008]

This project Consolidations was a recommendation from the Ralph Review and
explicitly followed the Integrated Tax Design method. This extract highlights that the
newly formed Integrated Tax Design team applied their emerging skills and managing
by design methods to a real and strategically important project. The features of this
project started to demonstrate a new way of working. They included establishing a core
design team, allocation of a design facilitator, visualisation of the emerging design by
an information designer, engagement with the large corporate community to understand
the scope and implications of consolidations and production of new types of artefacts
from the process such as ‘statement of intent’ and ‘blueprint’. The impact of this project
was felt by the people who were involved in the project at the time and also by others
years later (given this project went for six years). As one designer recalls:

“It was a six year project in terms of design and implementation. So yes, it
had taken six years for the Tax Office to basically design the administrative
system and make it operational so people could choose to consolidate and
whatever they had to do under the rules. So the blueprint itself had a life”
[Interview, Designer #4, 2009]

The strategy of taking a real project and running it within the newly formed ITD
methods enabled a bounded application which made a symbolic mark on the history of
designing in the ATO. The complexity and nature of the project was a reason why ITD
identified this as a project to apply the methods of designing. The strategy of working
on strategically important projects was important to raise the profile of design and to
demonstrate a different way of working by engaging senior and influential actors in the process. The evidence of the work of the early design artefacts surviving for over six years is testament to the application of design having some benefit and use to the organisation.

**Strategy 5 – Design principles and the Design Guide**

The development of ITD methods and principles was an early and important strategy to guide the organisation’s understanding of what it meant to take a design approach in its management work. The design principles were published into half A4 landscape mini-posters.

![ATO Design Principles poster (ATO 2002)](image)

These were distributed to people across the organisation when they engaged with the ITD team. These posters could be seen stuck up at staff work stations. The seven design principles acted to remind people what it meant to follow a design approach. I recall my own experience working in the organisation (author underlined for emphasis):

"The design principles guided me in what was important to do in every project I ran as a designer. For example I needed to make sure all of my design assignments built a shared understanding of intent as the first stage. And the people whom I needed to build this shared understanding of intent needed to be part of a core design team which was interdisciplinary and had a combination of people with voice of experience, design and intent. I also needed to design the whole change from end to end and create a shared understanding of this work. I also needed to look for innovative opportunities."
in the process of designing the change in the project. I also needed to acknowledge that it was a flexible but disciplined process. The change needed to take an outside in view and ensure the experience of the user was taken into account. Make the emerging designs visible.

These principles (emphasises underlined) were a strong device for creating identity for both the designers and the management attempting to apply design methods to their work. The principles captured new behaviours and gave permission to follow them in the work of managing by design. In partnership with these principles was a book called The Guide. This book summarised the integrated tax design methods and provided physical material for the actors in the organisation to read and reference. It provided a form of persuasion as people engaged in the design process could refer to the guide as the codified approach. The distribution of this product with its distinctive green cover made it stand out against the other black and white documents of the organisation. As one member said:

“[One] thing that I think was really helpful was the design guide because I think people are looking for ‘what I am meant to do, tell me what to do and I will do it.’ And there is a bit of a sense of mystery—‘Oh, you know, we could not put it in a book, it’s not that easy’—but if you don’t tell people to do something different, they can’t do anything different because they don’t know what you want them to do. And then people criticize them for not doing what you didn’t tell them to do. So the guide was valuable.” [Interview, Senior leader #2, 2008]

The original one hundred page guide covered two broad topics: the ‘strategic framework’ and the ‘project cycle’. The project cycle, also known as ‘the Wheel’ showed the design process very clearly and powerfully. This material and its consequent use by people in design roles, and by the organization in general, were important because they gave the assurance of a process to follow. In a very large organization, capturing this new knowledge in an accessible way supports the organization’s ability to learn (Dosi and Marengo, 2007).

---

23 Auto-ethnographic account 3
The Green Book, the original guide (Source: ATO)

Figure 23

Figure 24 The Design Wheel Source: (ATO 2002)
Conclusion

The devices to persuade are a combination of human and non-human actors. The interactions between the non-human and the human, such as a form and the senior decision makers by engaging in scenarios and role playing taxpayer experience, created jolts of realisation that the way of working needed new models and approaches. The strong vision by the leaders and the team of people making up ITD meant that the devices used were multiple and were intentionally produced with significant investment of organisation resource and time. This intentionality is an important point to conclude on because the adoption of managing by design was an ongoing deliberate strategy which called on many devices and multiple actors. The emphasis was not on convincing 18,000 staff but on convincing organisational leadership and key business areas responsible for new tax administration.

The result was to position design thinking and methods at the heart of the organisation’s decision makers consciousness and at the centre of the organisation’s strategic agenda for change by focussing on pilot projects, and to define and publish the process for following a design method as rapidly as possible to ensure the organisation could gain a shared understanding of what it meant to manage by design. This determination to connect and build strategies to persuade helped build a foundation for the organisation to take design thinking further into its work. This will be discussed next.

**The enrolment phase – or the strategies to gain further support**

The process of embedding design in management of the ATO required strategies to gain further support from the organisation’s leadership and key business areas. The enrolment phase is ongoing and the strategies described reflect a combination of point
in time strategies (e.g. Listening to the Community research project) compared with strategies that were used over time (e.g. working with supportive business areas and building distributed design centres). Importantly, these strategies involved internal and external interactions hence establishing a sort of tension between support for managing by design from outside and inside the organisation. This is summarised in the diagram below.
Figure 25 Enrolment phase – or the strategies to gain further support
Strategy 1 – Listening to the Community research project

The emphasis on understanding users’ experiences with the tax system was a key aspect to the rationale behind managing by design in the ATO. The understanding of this experience based on community driven complaints and actions, as discussed earlier, was not the only means to gain an understanding. A strategy to seek out an understanding of the community experience was to initiate a project called Listening to the Community.

This project involved an external research organisation, the Integrated Tax Design team, and key leaders of the ATO. The research engaged different groups in the community from small business to large business, to individuals, and to tax agents and distilled the administrative irritants that were getting in the way of a good experience with the tax system. This project created an important platform of understanding of changes that were based on improving experiences with the tax system. The project was initiated in late 2001, and informed a program of work for the organisation:

“...we ran early on a major organisational wide activity called “Listening to the Community”. Listening to the community yielded a whole lot of problem areas, which we sort of divided up into short term and long term; in fact we divided it up into what we could do straight away what we could do a year out, what we could do three years out” [Interview, Senior Leader #2, 2008]

Listening to the Community formed a basis for ongoing designing with the community.

As recounted by the Commissioner Michael Carmody in 2002 in an address to American Chamber of Commerce:

To make the experience better, we will be putting a lot of effort into listening to what people need. We will be working with the community, especially small business people to jointly develop ways to make things easier, cheaper and more personalised. .... In the past when we have gone out to talk to people, we’ve gone out pretty much wedded to our own ideas. And it’s fair to say that some of our consultation has been at the margin on products and services. What’s different about the approach that I’m announcing today is that we want to truly co-design solutions with the community. (Carmody, 2002b)

This project provided a point in time reference that demonstrated the ATO was serious about understanding the taxpayer client experience. The involvement of the central
design area contributed to gaining more support for design in the management work of the ATO. The research project was used as a platform for employing new management practices, such engaging with the community, to develop ideas or solutions with them or, in words used by the organisation at the time, to “co-design solutions”. One of these practices was to run creative retreats. According to one designer discussing these creative retreats at a community of practice meeting:

_The creative retreats involved working at locations neutral to the organisation and the taxpayer. One place used was the BHP training centre in Melbourne. One of the senior designers presented some paper prototypes of products which were developed with taxpayers in these workshops called “creative retreats”. The process was hands on, for both the designers from Tax and the taxpayers_.

The creative retreats were creations of new locations and new interactions between tax officers and taxpayers. The production of material objects such as paper prototypes of new forms and information booklets provided the organisation with new references of what it meant to manage by design. These interactions were symbolic to breaking down the patterns of existing management work which were more formal, more prepared and with solutions resolved before, if at all, engaging with an end user.

**Strategy 2 – Holding a vision**

The roles of actors who hold the vision for design were critical in the short-term and long term enrolment within the organisation and across the tax system. The vision is held by more than one actor (human and non-human) and this network of holding the vision for what is design in the ATO was a critical element in enrolling more support across the organisation. It was evident in the language of the Second Commissioners’ speeches dating across time from 2000, 2002, 2003:

---

24 Auto-ethnographic account, referring to personal notebook 2002
“We are continuing our efforts to make interactions between taxpayers and the ATO as streamlined and user friendly as possible, be designing our systems from the users’ perspective” (D'Ascenzo, September 2000)

“...the ATO has recently begun to build more systematically the necessary tax design capability. That building process has been a voyage of discovery about design itself” (Preston, 2002)

“We have been working with you to co-design solutions to these issues” (D'Ascenzo, 2003)

This vision extends to other critical actors such as the leaders of the Integrated Tax Design team and their energy and enthusiasm:

“heading up the Integrated Tax Design Capability, seeing that you were really pioneering a new way that could really improve the public’s experience with community-based services and we were just on the cusp of that change... I really enjoyed doing that” [Interview, Senior Leader #2, 2008]

The power of the collective efforts across the organisation’s leaders and the people in roles of design acted to form a vision in both the ways the actors talked about design, and also the reinforcement of ways of working following design methods and processes.

Strategy 3 – Working with supportive business areas and building distributed design centres

Influencing an organization of around 18,000 staff is an ambitious task and building a distributed design capability across the organization was one way to achieve it. The establishment of a distributed design capability was triggered by self-selection. The Assistant Commissioner at the time, John Body, recalls the thinking that went behind the building of the distributed design capability:

“... it’s a model that’s really inspired by the chaos theory which was my strategy, which was don’t try and impose something on the whole system. Don’t try and impose some big monolith on the whole system. Instead set up attractors, areas of attraction. So I didn’t even go in with a top down approach and say you must set up a design centre. I waited for people to come to me. But I had a model in my mind that when they rang me and said look, I really need some help with design I would say look, we’ve got a couple of people but you’re going to need a lot more resource than that so how about you set up a design capability and we’ll help you do that? And pretty well everyone bought that argument because they like that too. They keep the resources under their control so that’s good.” [Interview, 2008]
In this strategy the ITD leadership worked at the art of building an actor network between other leaders who were on board with the vision for managing by design, and the establishment of design teams supported by critical non-human actors such as design methods, design principles and design resources. Rather than forcing change, the strategy was to work with those who wanted to adopt design. This strategy to gain further support was deployed over a number of years and progressively more areas within the ATO created their own Distributed Design Centres. The formula for the teams was defined by the corporate area and constituted actors who were design facilitators (to lead the design processes), information designers (to synthesise and create insightful artefacts that capture the design) and user researchers (to generate user insights and test prototypes with users). These teams were supported by design methods and processes (2002).

The model below illustrates the distributed designer network across the ATO (indicated by the dark green boxes). The spread of green boxes across different organisational business lines indicates the footprint that design has a place in the organisation. The teams represented by green boxes work inside the business areas that are situated to apply design methods and the Integrated Tax Design process to deliver the critical work of that business line.
Conclusion

The enrolment strategies include ongoing work of leaders in the organisation remaining focussed on the commitment to take a design approach to work. They act to engage and create new networks of understanding by communicating and creating speeches, delivered within and external to the organisation, that offer translations of what it means for the organisation to manage by design. This work of maintaining vision was underpinned by progressive creation of new organisational structures and teams within areas of the ATO. These areas created new spaces in the organisation’s configuration to embed localised understandings of design thinking and practices to the integrated tax design process. These changes were coupled with the work of drawing a new network with the taxpayer through the research project, Listening to Community. This established evidence to draw together understanding and material which design could locate its practices such as co-design and prototyping.
Conclusion

This chapter presents three of the four moments of sociology of translation as a framework to discuss the embedding and embodiment of managing by design in the ATO. The stage of problematization demonstrated that through multiple elements the idea of design as a management approach was created. This was not a story of one hero or heroine; rather it was the convergence of many actors, both human and non-human. The stage of devices of interessement discussed the multiple strategies pursued by the advocates for design as a means to persuade others to engage in the new and different ways of practicing management work. The stage of enrolment discussed further strategies which were employed by both the leaders and the established design teams within the organisation, and projects drawing closer to the taxpayer experience with the tax system. In this chapter the strategies described present a network of actors that have been created over time to bring about the idea, and then the practices, of managing by design. The next chapter will explore what else was done to sustain design as a management practice in the ATO.
7

Stabilising Managing By Design: Standardised Objects

Introduction

How can the collective actions of public managers across the Australian Taxation Office (ATO) be carried out in ways that resemble managing by design? There are multiple social worlds in any organisation, and in the Australian Taxation Office between the lawyers, the accountants, the information technologists, the managers, the project managers, the operations managers and the general staff they represent multiple heterogeneous ways of working. I became interested in how members from these different social worlds came to agree to participate in or support managing by design. The question this chapter addresses is how was it possible to weave managing by design as a management practice across these worlds in a way that was understood, aligned interests and permeated over time? I propose that the sustained practices of managing by design are the result of standardised objects or packages which have been created and maintained in the organisation to ‘enrol others’ and give stability to the practice of managing by design.

Using the ‘standardised package concept’ developed by Fujimura (1996) allows a useful analysis of “how collective action is managed across social worlds to achieve enough agreement at various times to get work done and to produce relatively stable facts” (Fujimura, 1996: 168). In this chapter I will argue how particular standardised packages have been enacted to provide stability to the network of managing by design in the
ATO. These standardised packages have been identified because the absence of any of these packages, made up of human and non-human actors, would have influenced the diffusion and adoption of design in the management practices of the ATO. The illustration of these packages is important to show how members of multiple social worlds become enrolled and work in ways that align with managing by design.

This chapter discusses the mobilisation phase, or how the network of managing by design continues to sustain the work of those enrolled actors. This is the fourth moment of sociological translation and continues from the last chapter about analysis of strategies in translating managing by design through problematization, interessement and enrolment. In this chapter I will argue that there are three identifiable packages which have facilitated interactions and cooperative actions (Fujimura, 1992: 176) across many social worlds.

The first package to be discussed is the standardised package of design theory and methods. This is about converting a novel idea of working into a framework which articulates new behaviours and patterns of doing work such as user centred approaches, collaborative conversations and prototyping solutions. This resulted in new organisational routines. This standardised package includes documented design methods or the ‘design wheel’, documented design principles, an online resource centre and articulated design methods for conducting design work. The label ‘standardised package’ does not imply that the package is static, rather it is dynamic, and so this section discusses how this standardised package of theory and methods was adopted to align to other management practices such as project management.

The second standardised package is the development and deployment of design roles and teams. The design teams are the people scripted with specific roles and tasks to
conduct design methods and to facilitate the interactions across many social worlds. These people help organisational members and public managers enrol in the practice of managing by design in their day to day work. These people represent a new type of public manager and as such form part of an organisationally recognised Capability Framework. The roles of design facilitators, information designers and user researchers enacted performances of the standardised design theory and methods situated centrally and distributed across business line teams. The team formations, made up of people from these roles, provide an important understanding of the fluidity of design as a practice. There is a process of forming and reforming teams of people around important projects when a design approach is required.

This section also discusses the coming together of designers into communities of practice to create temporal networks of knowledge construction for the purposes of strengthening the corporate understanding of design in practice. These mechanisms of knowledge management centre on different design skills and levels of experience. These commitments illustrate the interactions and time committed to improve the practices of all people involved in design roles. I argue that this helps sustain practices over time because the distinct roles and communities create boundaries of identity, expertise and skill irrespective of their line management which maintains the network of managing by design.

The third standardised package is a suite of standardised management arrangements that tie/position managing by design into the dialogue of the organisation. There are two parts to this section which demonstrate durability in practicing managing by design. The first is the ‘institutionalisation of forums’. This includes forums or regular workshop based engagements with people internal and external to the case organisation. Two types of forums are discussed: internal design forums and community consultation
forums. The former includes the Health of Design Forum and the Design Managers Forum. These forums provide profile and opportunity for the subject of design to be debated and discussed on an ongoing basis within the ATO. The community consultation forums engage a range of constituents and people from across the taxation system in ongoing dialogue with the ATO. These include forums with taxpayer groups such as individuals, small business, large business and other organisations that play a role in the tax system such as superannuation companies, tax agents, accountants and bookkeeping software vendors.

The second part is the ‘establishment of a simulation centre’. This is a purpose built design area that facilitates the interactions between Tax Office project managers, designers, taxpayers and operational staff in the testing and designing of new products and services. This non-human actor acts to provide a means of holding many short-lived interactions that allow a durable practice of design. I argue that these two elements make up this package of standardised management arrangements and constitute structure, routine and sponsorship which contribute to sustaining a commitment to managing by design. The mechanisms provide necessary locations for managing by design to be present.

The chapter concludes that managing by design has maintained an ability to allow enrolled members to continue practicing design in their management work because it is contingent upon three standardised packages. The first, ‘design theory and methods’ provides organisational routines and structure for organisational members to follow and produce their work. These methods have evolved over time reinforcing the embeddedness of the routines. Secondly, ‘roles and distributed design teams’ with their communities of practice create a deeply embedded practice and participation at the local and the day to day work of the organisation, making it hard to ‘unpick’. And, lastly,
‘standardised management arrangements’, such as the multiple Community Engagement Forums, the Health of Design Forum and the Design Managers Forum, have ensured that there is constant commitment to hold dialogue with the organisation and its constituents in the process of design. All three of these standardised packages illustrate that the stabilisation of managing by design is an ongoing process of commitments and organisational re-orientation to new ways of working and practicing management work.

**Standardised package 1: Design theory and methods**

The standardised package described

In a large organisation such as the ATO there are many management practices. There are many interests at play at any one time. In the interests of senior leaders and advocates for the design approach as a way of working, the process of translation and enrolling others in the organisation was significant. In this section I will discuss the first set of standardised package – design theory and methods. This is a package that comprises of a project cycle or the ‘design wheel’, seven design principles, design methods and specified processes to conduct a design project. These were materialised into a Design Guide. This guide was first created in 2002, and then revised in 2004 and again in 2008. Illustrated below are the covers of each version.
Figure 27 The Guide (ATO 2002)
Each time the Guide was revised the depth of techniques and description of process was refined. These guides introduced new language to the organisation. For example, words such as ‘intent’, ‘blueprint’, ‘detailed design’, ‘user pathways’, ‘simulation’ and ‘prototyping’ were defined in these guides. The terminology remained stable between the Guide versions over time. This consistency in the standardised package itself contributed to its sustainability in the organisation. The consistent use of terms in this non-human actor, The Guide, helped solidify the method in the organisation’s routines and patterns. The Guide scripted ATO members to use a common language. It was evident in the interviews with designers and managers in the ATO that these words of design were ubiquitous. The Guide created a common reference for all members. It also provided simple yet important arguments about why Integrated Tax Design was different from the way the organisation might have been working. An example of this is
illustrated below with the use of diagrams and pictures, illustrating ‘from’ and ‘to’ patterns of working.

Figure 30 The Guide (ATO 2002: 28)
The Guide emphasised the ‘how to do’ design in the management work. One important characteristic of the design theory and methods as presented in The Guide was the creation of an icon representing the design process. It was branded ‘The Design Wheel’ and became one of the most recognisable icons associated with managing by design. Like The Guide, it too has been revised over the years but has largely remained the same as illustrated below.

**Figure 31 The Guide (ATO 2002: 29)**

The Guide emphasised the ‘how to do’ design in the management work. One important characteristic of the design theory and methods as presented in The Guide was the creation of an icon representing the design process. It was branded ‘The Design Wheel’ and became one of the most recognisable icons associated with managing by design. Like The Guide, it too has been revised over the years but has largely remained the same as illustrated below.
Figure 32 Design Wheel (ATO 2002)

Figure 33 Design Wheel (ATO 2004)
In addition to the Design Wheel, the standardised package includes ‘Design Principles’. These started as seven statements which emphasise the ‘how to do’ design in management work. These principles acted as guideposts to designers and managers. They offered high level guidance on what should be considered when conducting a design project. The principles were distributed via posters and other variations which explained the principles and why they were important. The illustration below is an example of one representation of the principles, taken from my personal notebook.
This standardised package of the Guide, the Design Wheel and the Design Principles succeeded in enrolling people from across many social worlds, that is different types of groups in the organisation and outside the organisation. This package of materials created a common understanding of design, particularly of ‘how to manage’ by design.

This provided many different people with a clear sense of what was expected. The standardised package of theory and methods could be used to get the work done across other worlds and was used to conduct design projects and solve problems. In effect this
package of standardised design theory and methods was used to re-organise some of the work of the organisation, in particular the design of new tax policy initiatives. This stemmed from the recommendations in the Review of Business Taxes (the Ralph Review; see earlier chapter). This stream of management work, called new tax policy proposals, was an important starting point where the standardised package was applied because it is a location where many different groups in the organisation and different social worlds needed to come together. The standardised package enabled collaboration and succeeded where no other approach had previously. It filled a niche in the management work.

So in what ways did this standardised package act to provide collective action across multiple social worlds - such as organisational lawyers, IT people, operations people, communications people, and human resources management staff? The standardised package of design theory and methods managed to recognise all disciplines in the organisation as essential ingredients in the design process. This is a significant observation because the organisation’s dominant logic (Bettis and Prahalad, 1995; Prahalad and Bettis, 1986) and management processes were informed by the deeply embedded expertise and management disciplines of a tax administration. If the ongoing embedding and adoption of design was to take hold then it needed to work with these dominant management disciplines.

One of the Design Principles called for design by interdisciplinary, cross functional teams. This was achieved by creating new temporary teams called core design teams. These teams required membership from different social worlds within and external to the organisation who had an interest and role in the core design problem. The idea was to create a diverse perspective on the problem at hand and engage diverse skills and experience early in the new tax policy design process. The tension was to achieve this
within a small number of people between six to ten participants. In effect this meant that the standardised package of design theory and methods managed to keep the integrity of all other social worlds within the organisation. In other words it brought together existing expertise and knowledge in the organisation. It did not attempt to stop, alter or diminish expertise in other social worlds; instead it acknowledged and embraced the diversity.

This contributed, I argue, towards the adoption and embedding of the design method because of its capacity to maintain the integrity and interests of the enrolled worlds while simultaneously providing them with new tools for doing their work. It created a new way of working across different management disciplines to design and deliver a tax administration solution. It was not without its challenges because many of the diverse social worlds did not normally come together. They did not normally work together on organisational problems at the same time. Usually the pattern was like a relay – each part doing their bit, either waiting to accept or waiting to pass the baton on to others. This linear nature of getting the work done was one area that was heavily criticised in the Review of Business Taxes and was seen as a weakness in the tax design process. This standardised package addressed this head-on. So it was with intentional effort and applied resource that teams came into practice.

Another important social world that the standardised package of design theory and methods provided was the introduction of new actors or users into the management work. These new actors included the layman or citizens; the end users. This was critically new and offered the existing social worlds a consistent framework and approach to engage the average citizen. The introduction of the design method allowed these other social worlds, of the average taxpayer, or the intermediaries with roles in the tax system such as accountants, or superannuation firms, or software companies, to be
involved in the management work of the organisation, but it did not require them to have any knowledge of the tax system. Rather the design method acknowledged the experience of these social worlds as legitimate input into the management work of the ATO. The design method, in effect, gave a much stronger presence and potential contribution from these social worlds than the organisation had ever done. To allow the layman to make a substantial contribution to the work of the organisation was significant. The strength of the design method was the ‘how’ and this helped bring consistency to engage multiple social worlds in the work of management by design. In effect the design methods and theory provided new disciplines and rigour. As one participant stated:

“we have a commitment to client [or taxpayer] consultation which allows us to get, in a less scientific way, feedback as to their client aspirations and frustrations and also allows us to get feedback from them on the usability of various ideas and products. I was dividing the two halves because I think one of the things that’s very good about the design science though that’s been brought to the ATO is this more scientific approach to design, which is to say let us make observations that are freer or almost free of bias” [Interview, Senior Leader #3, 2009]

To understand how this package enabled different actors to collectively act I will analyse the package in terms of what it provided for different actors or social worlds.

The groups of human actors discussed below include senior leaders, project managers, policy departments and other government agencies, the community and citizen and, finally, the designers in the organisation.

**Senior leaders become more dialectic**

For senior leaders the design theory and principles provided a framework to encourage different areas to work together. It also shifted where the senior leaders placed their time commitments. This saw a shift away from meetings and minutes, to workshops and prototypes. Senior leaders and management were given permission to undertake work themselves in designing solutions, not just merely to act as managers receiving reports
on the work projects. The shift saw some senior leaders positioned as design project sponsors giving them a voice at the practical level as well at the decision making level. I recall my experience working with a senior leader in a design project:

"It was really important having a senior leader present. I knew as a design facilitator that when we had to reach a point of decision they were there to make a call. I could rely on them being present at every session and they really were engaged in the design process." 26

This engagement by senior leaders in the design process is told here from the perspective of a senior leader (underlined for emphasis):

Senior leader: "Well, we just did an exercise of sending out a couple of thousand letters. Now I’ve been a - I can’t say I’m an expert on this but I’ve been around long enough to say, “well okay. There’s a few things at play here. How good is the - first of all, what am I trying to achieve by sending out these letters? Is sending a letter going to be - achieve that outcome?”. Let’s get past that and say, “yes, it is” but how good’s the quality of your letter? If you’re going to receive this at the other end, what are you going to do and is that going to be what we want you to do. So you’ve got that issue. Internally as a business process though, how are we going to get these out? Who are we going to identify - how are we going to identify the people we’re going to send it to? How are we going to make sure that we’re not sending it to dead people? What are we going to do if they phone us up because well, will some of the phone us up? Probably because some people do. Play some scripts. Who’s going to answer the calls? How many calls are they going to answer? It’s like - I can just reel it off because for me, it has become second nature about the things you consider when you’re doing a complete design."

[Interview, Senior Manager #2, 2009]

This involvement of senior leadership created new skills in dialectic processes and questions posed by senior leadership. The standardised methods provided descriptions of stages of project work prompting leaders to ask such questions such as ‘what is the intent behind the change?’, ‘what user research has been undertaken?’, ‘have we held a series of conversations designing the solution end to end or complete design?’ These sorts of questions have become part of the leadership style within the organisation. They

26 Auto-ethnographic notes, Account 4
have provided discipline to the senior leaders and how they communicate and engage with projects of change in the organisation. As one senior leader stated:

“... leadership is constantly just asking particularly over those sorts of questions about what’s the level of testing, looking at the results, what do people say and feeding that and asking those questions constantly when you start to see some things, you know, either when things have gone wrong but also in terms of driving any new initiatives and making sure that happens ...”

[Interview, Senior Leader #5, 2009]

The reference to “testing” implies the end user and what the impacts of change are likely to be and what is known about this experience. The reference to ‘feeding’ refers to the iterative notion of taking user testing results and shaping the final solutions before they are implemented. And the reference to ‘constantly’ reflects commitment by senior leadership to ask the design questions.

**Project Managers are introduced to design**

Project managers are key players leading the delivery of many types of projects within the ATO. The design theory and methods did not replace their existing working theories, such as project management of IT systems design, but rather redefined how they needed to carry out their projects. This meant introducing new stages and activities to their project plans such as an Intent stage which involved running a workshop to clarify, across multi-disciplines and a project leader, why the project was in place, and in the case of new policies understand the intent of government. This stage results in the production of a new artefact a single page documenting the intent. A Blueprint Stage involved running series of workshops with a core team of multi-disciplinary members to design the end to end change ensuring the change started with the end user experience. This stage results in a document called the Blueprint. A User Pathway and User testing stage encouraging early and frequent engagement with end users using various user-based design methods and techniques to ensure projects met needs and expectations.
The standardised design method provided instructions about what activities and project documents needed to be completed as well as role clarity between themselves and the roles of design in the organisation. The design roles called on were design facilitators to run workshops and events; information designers to produce the design artefacts which were powerful information presentations of emerging design; and user researchers for engaging with the taxpayer and end users injecting specialised skills in user based design methods in understanding user needs and co-design product solutions.

One of the main strategies to introduce project managers to design is to run design training with new project managers. This highlights another important human actor, the design trainers, in the Design Capability Team, based on the central Business Solutions division. One of the managers in this team talked about training project managers:

*General Manager: We’ll teach them the process of design...our project managers have to adhere to the design guide, they have to adhere at least to the design principles even if they don’t even know anything about the wheel so long as they know, take a flexible approach take a user-centred approach.... They may not be a designer, but they’ve got to start thinking like one”*

[Interview, General Manager #3, 2009]

This excerpt highlights the practice of training and development where the ATO invests in people and resources contributing to the stabilisation of managing by design practices. It is worth mentioning that training alone does not predict a perfect application of managing by design, since project managers prescribe to project methodologies such as Prince2 which is different from the Integrated Tax Design methodology. One main difference is the emphasis on understanding the end user in the project as a critical point of focus from the start, not just some step in the process at the end to test ideas. Another main difference is the collaborative and dialectic nature of

---

designing. In the first instance, one Design Manager explains a strategy to script the
Project Managers is to involve them in the stories of taxpayers:

Design Manager: “Our thing is just try and get the project manager and the
project officers actually involved in [design activities] to actually hear the
[taxpayer] stories themselves and then that helps sell the approach”
[Interview, Design Manager #4, 2009]

The design manager uses the real stories of end users experiences with current products
and services to engage the project managers and project officers. This in turn scripts the
Project Managers and project officers with new information and a reference point to the
end user. This is critical to the success of the connection between project managers and
designers because considering the end user experience early and throughout a project is
a core tenent of managing by design. If this is not achieved it is a constant tension
between the designers and the project managers. The second difference worth noting is
the collaborative nature of managing by design and this is important to enrol project
managers in this working style of managing by design. As one Senior Leader states:

Senior Leader: “...before we get a product on to the street it’s always got to
pass ... it’s got to be a collaborative effort across disciplines. ... the ATO does
have this collaboration across different agencies, the government, ... there’s
certainly a strong advocacy capability that’s needed” [Interview, Senior
Leader #3, 2009]

This “advocacy” is the role of the designers. The designers enrol the project managers
by driving collaborative practices forcing different groups together. The standardised
package of methods allows an ongoing translation and enrolment between designers and
other organisational members such as project managers who are unfamiliar with the
design methods.

**Policy departments and other agencies formally engage**

For policy departments and other government departments the standardised methods
defined how to engage with the ATO by explaining the process and the role they played
in the process of policy and administration design. For example, a case study provided in the Design Guide talks about the design of the Excise Tax on Fuel Ethanol:

*A core design team was created to look at the measure [Fuel Ethanol Excise tax]. Because there were so many different aspects to consider, the team included people from Excise, Integrated Administration design, Environment Australia, Treasury, Customs, and Department of Industry, Tourism and Resources [Case Study, Design Guide version 2.0 2004; 2.18]*

The core design team concept, part of the standardised method of managing by design, defined how these different policy areas and departments completed design work with the ATO business areas. The standardised package encouraged the facilitated process of these different groups coming together physically to workshop tax administration solutions. This approach was initially significantly different from previous approaches to working and it reinforced a collaborative and productive interaction. The benefits from redefining how these actors work included much more efficient and sound tax design solutions.

**Community and citizens contribution legitimised**

For the community or the citizen the standardised package legitimised their voice in the organisation and opened up space in the day to day work of the public managers to interact with them and co-design solutions, a process that went beyond consulting and seeking opinions. The standardised methods encouraged user research activities which were twofold: the first invited the users into the decision making processes of the organisation, and the second encouraged Tax Officers to go out to the users’ worlds. For example, for a period after the introduction of the GST, Tax Agents were experiencing difficulties with the new system, as discussed in chapter *Translations of Managing by Design*. Within twelve months the ATO Executive decided to send each of its senior leaders to personally visit some Tax Agents at their premises and seek to understand their experiences first hand. The design methods provided a framework for this
engagement. It provided a new model to interact, that was not about running a formal meeting filled with reporting of facts and figures, but more towards immersion in the real world of users affected by ATO decisions and processes. It was about permission to build skills in observation and immersion in real everyday contexts rather than to stand removed and interpret abstract concepts of community experiences with the tax system. As one senior leader recalls: “We observed that what really happened was they spent a lot of time waiting on the phone… and there was a limit to how many questions they were allowed… it was completely inefficient for a tax agent”\(^{28}\). These activities of tax managers going to the location of the tax agent, an important actor in the tax system, allowed the real world every day reality of how things were working to be observed and noted. These observations created new forms of knowledge that gave the tax managers different references when back in the office and helped solve the problems faced by the tax agents. The standardised package of design methods encouraged public managers and designers to seek out the ‘voice of experience’ and record, document and preserve these ‘voices’ in the management discussion with the organisation. In this case the insights from tax managers lead to an innovative online solution which was developed by following the standardised package.

**Designers can shape and influence using design methods**

Finally, the group that the standardised methods supported were the designers in the organisation. The standardised package of theory and methods provided them with license to shape and influence projects and business teams to follow a user-centred approach in their work. It defined their role and purpose such that a design facilitator could stand in front of a group and run a collaborative, structured conversation

\(^{28}\) Personal conversation with Organisational member
involving multi-disciplinary groups of people and produce new designs to tax
administration problems and initiatives. Information designers were given license to be
creative and provide new types of documents and representations that were more
diagrammatic and visual rather than word or statistics based. They took carriage of the
production of new types of documents such as blueprints, user pathways, personas,
maps, models, and business process designs. User researchers were given the legitimacy
to develop user based research projects by engaging and interacting with citizens to
explore options for new tax product designs and involve them in the detailed design and
prototyping processes through to testing and implementation. In all of these descriptions
I argue that the standardised packages scripted and invited members from social worlds
internal and external to the ATO in a way that was consistent and resulted in similar
practices across the organisation. This package converted a novel idea of design into a
standardised package that effectively resulted in new organisational routines, engaging
multiple actors in practices that filled a niche in the way work was done, especially new
policy design work.

The standardised package evolved

The standardised package of design theory and methods ensured the design practice was
embedded in the practices of the organisation and became part of the organisation’s
knowledge about design over the years (Dosi and Marengo, 2007; Bertola and Teixeira,
2003; Carr et al., 2010). It is important to point out that whilst the standardised package
has been present it has not been static. The carriage of the methods by the centralised
business design capability team over time changed to reflect the needs of the
organisation. In the beginning, says one senior leader:

“[We] pushed very hard about user-based design and talking to users about
the kinds of products they wanted,” [Interview, Senior Leader #4, 2008]
The design work tended, according to some, to be dominated by the user perspective. This may have been necessary for the organisation to affect a shift in its thinking about developing its products and services with the users in mind. Eventually, however, this emphasis began to be challenged by the pragmatists in the organisation, who noted that certain constraints needed to be acknowledged (Vandenbosch and Gallagher, 2004). The gist of constraints, as one senior leader put it:

*Senior Leader: “... we’re not designing a system from scratch. We already have these huge IT systems and business processes and policies that exist. So the design task in making changes to those systems to support a new policy or an improved administrative process is different. ... it’s the notion of constraints. So design isn’t a green field in a public system. There is an existing system, there are existing products, there are existing processes, and we’ve got IT systems that cost a lot to build and you’re not going to get rid of. So that’s a constraint on how you design a change in the same way that the cost of designing it and building it is a constraint. And the need to be consistent with the strategic directions of the office is a constraint. And the need for it to be as cheap as possible for taxpayers to engage with is a constraint. So for me what happened is instead of seeing design as a green field where we just go talk to users and build nice products that people are happy with that’s still part of it, but it’s more about finding the balance compromises within those constraints and building the optimum solution.”* [Interview, Senior Leader #4, 2008]

To ensure these constraints were identified earlier in the design process, an additional approach called ‘rapid solution design’ (RSD) was added to the design method. As illustrated below.
This is a time compressed design activity, usually a few hours of workshop time, to identify constraints early and to identify any design issues with the proposed change.

This activity is usually conducted in a workshop format attended by ten to twelve key subject matter experts. As one senior leader who was one of the chief architects of this RSD process explained:

Senior Leader: “One of the keys for the RSD process to work was to have the right people in the room and for it to be dialogue-based... you’ve got a sketch of how it’s going to work and you’ve got a set of issues categorised as potential showstoppers and the rest. You’ve also got a series – because part of the RSD is not just how it will work but also what the impact on the clients will be. So you’ll have a set of issues and questions about the client experience and both those sets of issues – this is the theory – provide a great platform for initiating some blueprinting work because you can say well here’s 5 key questions. We need to use the researchers to go and do some workshops on them with clients. And here’s this big showstopper issue...”

[Interview, Senior Leader #4, 2008]

Another senior leader who participated in these RSD’s described:

Senior Leader: “In essence, what it’s doing though for me is getting all the right minds in the room at the same time focussed on a specific articulation of a problem and the fact that you’ve actually been able to clearly articulate what’s the problem is always at the heart of being able to come up with a
I argue that the ability of the central design team to identify organisational criticism of the standardised design theory and methods and to evolve it to be more contemporary, contributed to its success in sustaining the practice of design in management. The features of ‘rapid solution design’ included changing the speed of design, and recognising constraints ensured the methods were relevant to the organisation’s needs.

A further evolution of the standardisation of design as a management practice was achieved through the creation of a corporate Practice Statement document called *Designing Change in the Tax Office* where the design method was connected to the project management framework of the organisation. This non-human actor, the Practice Statement is a critical actor in scripting the whole organisation. These are documents formally signed off by the ATO executive which state policies and procedures that govern the way the organisation operates. They are formal and management oversight is applied to make sure they are followed.
Figure 37 'Designing Change in the Tax Office' (ATO Practice Statement, 2007)

The document emphasises that any project with the ability to affect staff or users in the community must follow a design approach. The design method is also applied to the tiers of project management followed by the organisation. It requires all projects at Tier 1 (high-priority, significant-impact projects) to be design-led by the corporate design area, Business Solutions. Tier 2 projects, which are lower in priority though still presenting significant impact, must have their design quality assured by the corporate design area, and Tier 3 projects will be delivered by distributed design capabilities within the organisation. A large percentage of the ATO’s projects—more than 80% according to one interviewee—are projects at Tier 3 level. The Practice Statement acted
to strengthen the relationship between project managers and designers in the organisation. It provided the means to connect project management terminology and process with the design method.

*Senior leader: “The Practice Statement which is our internal policy says that if you are designing a change or asked to make a change that impacts clients, staff – their experience, then you have to use a design method.” [Interview, Senior Leader #4, 2008]*

**Standardised package 2: Design roles, distributed teams and communities of practice.**

The standardised package described

As discussed in the previous chapter, the creation of design roles was a deliberate approach to gain support across the ATO to follow a design approach. The creation of new roles crafted a new identity for the practice of design in management work. The strategy to organise these new roles into teams and position them across the organisation focussed on distributing design capability and localising the application of the design theory and methods. These design teams and spaces were created in ATO business lines for individual taxpayers, small business, large business and superannuation programs. This strategy, initiated in 2001, has remained a feature of the managing by design network in the ATO. The presence of Distributed Design Centres has played a significant role in the sustainability of design being practiced in the ATO.

This second package includes a number of objects which I am classing as part of this standardised package, these being the specific ‘design roles’ present in the organisation and distributed as teams, the ‘design capability framework’ that these roles are recognised within and the ‘communities of practice’ that draw these roles together irrespective of team boundaries but are design practice based. This standardised package
has played a significant role in the embedding and embodiment of managing by design because these actors – both human and non-human – are part of the practice of design. This package demonstrates the changing profile of the organisational membership and the ongoing commitment to maintaining managing design in the ATO’s organisational arrangements. The support for continued investment in design roles, teams, and cross business line interaction through Communities of Practice demonstrates the practice of design as a corporate practice. I argue that the cumulative effect of these objects has contributed to sustainable practices of design within the ATO.

**Design roles are explicit and promoted**

The prominence of design as a management practice is at one level easy to observe by simply looking for the marketing and advertisements for these roles. In the ATO the design roles are recognised as positions to formally fill and are communicated to the market place. Two examples of job advertisements for two types of positions are described below, design graduate positions and a co-design manager role.

*I find on careerone.com.au website, a poster advertising graduate positions with the ATO. The picture shows 5 young people, 4 male and one female huddled as a group in sports clothing posing for the picture. There is a bold heading at the top of the advertisement 'We’re not just accountants'. The poster labels each of the people. The labels are organisational role titles. The roles are "Software engineer, economist, accountant, lawyer and designer". The role of designer is presented as a distinct role. It is presented comfortably next to highly expert roles most commonly associated with the ATO – legal and accounting. It is an important symbol of positioning the idea of design as a career in the ATO. 29*

---

29 Source Author own narrative, accessed internet 11/9/2010
This advertisement is an important organisational artefact demonstrating the embeddedness of design in the management arrangements. It communicates clearly the role title and associates with other ATO business roles.

I do some further searching for jobs at the ATO and a list of jobs appears: “Criminal Tax Law Specialist”, “Report Developer and Analyst” and “Co-design Manager”. I click on “Co-design Manager” link. A short job description appears. In the advertisement stood the words “design team”, “user-centred design strategies”, “co-design projects”, “facilitate design conversations”, “skilled in user-centred design techniques”, and “ability to conceptualise abstract information”. Out of curiosity I opened up one of the other tax roles, the “Criminal Tax Law specialist” and the words used in this advertisement were quite different - “high-quality criminal and taxation law advice”, “engage with investigators to develop expert briefs”, and “ability to understand, interpret and apply criminal law and procedure”. The two roles were advertised at the middle management level. The words used highlight striking differences of skills and work types. 

---


In the descriptions above the two advertisements demonstrate the roles of design have become embedded in the organisational structures and work patterns. The roles are standardised to invite market participation and response which indicates a significant achievement in stabilising the locations and roles for managing by design. The job descriptions for the Co-Design Manager and the “Criminal Tax Law Specialist” provide a juxtaposition showing the case organisation advertising to attract people with such different skills as “user-centred design skills” to “tax expertise”. These roles co-exist in the organisation and these advertisements illuminate the recognition and status of the design roles in the context of the traditional tax roles. These roles are organised into distributed teams which also form part of this standardised package and are critical to the stabilisation of design in the organisation.

**Distributed team and teams of designers**

The standardised approach to organising designers into teams to apply design methods to the management work of the ATO is an important element that has contributed to
sustaining managing by design practices. The distribution of the teams as distributed
design capabilities has been an important and stabilising feature of managing by design
in the ATO. This characteristic of organisational design has presented over time to be a
viable and sustainable approach because these teams have been in place since the start
of the design approach in 2001 and ten years later they are still there. The strategy to
place teams of similar capabilities, with combined packages of design methods,
principles, people and roles, has made a significant difference in the course of actors’
actions across the organisation. The difference is that actors such as senior leaders and
project leaders can draw on designers and design methods to help them do parts of their
work.

Also, this distributed design team arrangement means that the ongoing commitment to
design is a distributed decision not just a central corporate decision. This means that the
multiple teams of designers and their methods remain in the organisation’s design
because the decision lies with multiple senior leaders. In some ways there has almost
been the creation of an internal market place for design teams between business areas
because no leader who has a design area is particularly interested to lose theirs because
they value the work of their design teams. As such, business line leaders who decide to
invest in design teams each year do so because they value it and want to continue with
these people in delivering their work.

Inside these distributed teams are partnerships between designers. The designers come
together and through their actions and interactions contribute to a shared existence and
hence stability in the organisation. Some of the partnerships that were created and
practiced are between design facilitators and information designers. I describe this from
my own experience as a designer in the ATO:
We called the primary design group the core design team (CDT). It was intentionally designed and guided by the senior lead—the voice of intent. In keeping with design principles, we had an interdisciplinary team of 10 to 12 people. Its core members included eight people from analytical areas in the organisation along with the Information Designer and me as the Design Facilitator... I worked closely with the Information Designer in the development of the Blueprint and on other visualizations of the design. It was a team effort between the two of us to make sense and capture the design as it progressed (Terrey, 2010a: 53)

The relationships between the different designers bring a collective set of skills and performances that enable a project to follow the design method and principles. The teams are formulated around tax administrative system design problems and organisational challenges. The designers who are located in business specific areas work on problems and challenges related to that part of the organisation, and the designers in the central area called Business Solutions tend to work on projects that are more spread across the organisation and have broader impact. These teams come together for short and longer periods. Teams can be together for a month or up to a year. The premise is that they work on multiple projects and this gives them a fluid sense of work patterns which contributes to their place in the organisational fabric. The residual effect of the designers working on multiple projects is that they contribute to parts of the organisation through their location. The distribution of the designers is a very important element that contributes to their permanency in the organisation.

These designers could maintain their profile in these distributed areas because the roles were standardised and codified into another important object in this standardised package, the Design Capability Framework.

**Development of a Design Capability Framework**

In the ATO the invention of design meant that design roles were created and people were needed to be found to fill them. These people, sourced from both internal and external to the organization, could demonstrate design skills and design thinking
(Buchanan, 1992; Martin and Dunne, 2006; Junginger, 2007). The process to select these people based on recruitment processes and practices aimed to distil design behaviours not just self advocacy and references. One design manager describes a recruitment process:

*Design Manager, as recruiter: “So we gave them [group of interviewees] a problem about we’re going to introduce the plastic bag tax, what would you do? Now there’s no right answer to that really... we had people suddenly go, “Well who’s going to pay the tax?” “Which user will pay the tax?” “Will it be the user of the plastic bag or will it be the seller of it, the maker of it” as that sort of thinking. The top person in that recruitment process was an external and he was an engineer. But it was because he could think” [Interview, Design Manager #3, 2009]*

These processes of testing and selecting the right people for the design roles eventuated in 2005 into a codified artefact which formalised the design roles. This document is the *Design Capability Framework* (DCF). This is a document which describes the design roles and the type of work expected by each of these roles at different levels in the organisation. The illustration below is the cover of the Design Capability Framework.
Figure 39 Design Capability Framework (ATO 2005)

Figure 40 Design Capability Framework (ATO 2005: 12)
The DCF is a significant development in translating and embedding managing by design because this organisational document means that the ATO recognises design competencies and capabilities as a professional stream, and that design skills are recognised alongside accounting and legal skills. The accounting and legal skills are the traditional capabilities of any tax/revenue administration. The design skills are recognised as part of a professional skill set, which means that the design capability is supported with graduate recruitment programs (as illustrated in the ‘We’re not just accountants’ advertisement), general recruitment, training and development. That means that, over time, the organisation learned to value the skills of designers as much as they did the design method itself. According to one design leader, what really helped embed design at the ATO was:

“…sheer usefulness of these people who know how to do this design work…some people might not place a particularly high value on the design method itself, but they value the skills that kind of come with it.” [Interview, Senior leader #4, 2008]

This was emphasised by one senior leader who compared the designers to others in the organisation (underlined for emphasis):

“We’ve done some things ... in the last couple of years that you just shake your head and you think, “how could you make such a ham fisted effort of that?” and really when you - with the benefit of hindsight, you step back and you say, “well, these people aren’t project managers. They’re auditors. They’re not designers. They’re auditors”. I don’t - they don’t think in these terms. Their job is to get in, analyse some facts and get out”. [Interview, Senior Manager # 2, 2009]

This idea of the designers themselves adding a distinct value proposition to the organisation is important and recognised (Cross, 1995; Beverland and Farrell, 2007; Borja de Mozota, 2003; Boland and Collopy, 2004; Borja de Mozota, 2006), especially in the government context, where these skill sets are not the status quo (Body, 2007). Hence, defining these roles and publishing materials that organise them into a
framework is a symbolic development that has contributed to effectively sustaining a commitment to managing by design in the ATO.

**Communities of Practice**

The strategy to organise the design capability as a distributed model (Body, 2007) is one feature of organisation design. The communication between these areas was generated not through hierarchy or formal reporting but as one interviewee said, *[it is] about creating lots of cells and how they connect together and how they see themselves inter-relating.* The way those cells inter-relate is through establishing communities of practice (CoPs). This term “communities of practice” was a term used by the ATO. This organising approach defined by the ATO formed communities around each of the roles in the design capability: design facilitation, information design and user research. As knowledge management mechanisms, these provide the capability to learn from each other and to teach and share new techniques. They also offer a way to invite specialists to stimulate thinking about design and a place in which innovative practices can be explored (Wenger, 1999; Wenger et al., 2002). The following is an account I observed from being a community of practice member:

*I also benefited from the experience of being a part of a community of practice (CoP). A community of practice was a group of designers from across the distributed design teams who met on a regular basis to share learning and knowledge about design. If you were in a design role you were invited to participate and attendance was at the choice of the designers. The community did not run any design projects nor did it run with a set agenda or have any action items, it was about knowledge sharing from designers from across the distributed design areas in the organisation. There were three CoP, these were design facilitation, user research, and information design. I was part of the design facilitation CoP, I met with 10-15 designers every Friday before the start of the work day. There was never a set agenda and the group always had plenty of suggestions at the meeting. Some weeks we would talk about collaborative group techniques, such as how to generate and consolidate ideas across diverse stakeholder groups or how to explore issues when facilitating the dialogue with others. Or we would spend time talking about the design method and how we could improve upon it by, for instance, developing user pathways or co-designing products. I remember one designer from a distributed design area bring in paper prototypes of tax products.*
These communities of practice allowed for a strengthening in identity of the practices of design in the ATO. They enabled embedding of design methods and practices by giving space to meet and discuss between designers the practices of every-day work. The communities of practice provided safe and open learning environments and allowed recursive reflection and knowledge creation about design to be shared across the community members. This knowledge went back to where each community member belonged and I argue this contributed to the stability of design as these communities created a formal network across the organisation. While these may ebb and flow, as one designer recounted, the very presence of them both symbolises the permanency of design in the organisation.

**Standardised package 3: Forums and relationships defined by standard patterns of interaction**

The standardised package described

Latour (Latour, 2005: 66) talks about seeing things as “short-lived” interactions rather than things existing because of some force always being present. This reference is helpful because this is what managing by design is; many interactions that, in many senses, are “short lived”. The ways these “short lived” interactions become durable is in the constant investment in enrolling others through the network. This last section of the chapter draws attention to the standardisation of key actor interactions both internally and externally.

---

32 Auto-ethnographic account 5
The first part of this analysis is the institutionalisation of forums. The practice of regular forums for managers inside the organisation to come together to explore and discuss the role of design in the organisation is the first type. The second type of forum brings the outside taxpayer into the dialogue with the organisation through community consultation forums. These commitments enrol and subscribe members for periodic engagement and seek to maintain a user-centred approach to management work.

The second part of this section of the chapter will explore the standardised approach to testing and engaging users in the design of tax administration products. Here I discuss the purpose-built design areas in the ATO, in particular the simulation centre based in Brisbane. This facility (a non-human actor) provides elements which allow testing of new products and processes in a controlled environment.

These two elements, standardisation of key forums and standardisation of user testing products in a purpose built environment, provides durability to short-lived interactions or performances around managing by design in the ATO.

**Internal forums: Health of Design Forum and Design Managers Forum**

The embedding of design in the practices of management is the result of collective actions by many different actors. In the previous section I discussed the stabilising effect of the design roles and teams distributed across the ATO. To complement this, in this section I will discuss how the institution of regular forums also contributes to stabilising managing by design. There are two forums which were set up in 2004 called the Health of Design Forum and the Design Managers forum. The relationship between the two forums is that the first group “consists of Assistant Commissioners who are responsible for Distributed Design Centres” and the second group consists of “Design Managers from Distributed Design Centres” (Design Guide, Version 3.0 2008, p 60). In
effect, these forums are the collective management group of the design capability in the ATO. They form part of the other management arrangements previously discussed in earlier chapters such as Corporate Design Forums, and Communities of Practice. As illustrated below:

![Figure 41 Design Management arrangements in the ATO](image)

The Design Managers Forum is a forum set up especially for managers of design teams, as the design manager who established this group recalls:

“[Design Managers Forum] meets once a month. I started that forum in - it was either 2004 or 2005, late - sort of late/early kind of thing. The purpose of that particular forum was - it was created at the time when there were very immature distributed design areas. You had design managers that were working in isolation, to some degree, they’d have their networks and call each other and say, ‘I’ve got blah happening. How do I deal with this?’ and it was actually at the request of a few people to say, ‘look we’d love to just get together and have a community of practice for the managers’” [Interview, Design Manager #8, 2009]
The purpose of the forum is to “share information, develop as a capability and better coordinate, manage and learn from best practices” (2002: 60). In interviews, Designers discussed participating in this forum as a way to understand what is going on in the organisation around design. The structure and content of these forums was organised by the chair of the Business Solutions group; the corporate area and custodian of Design. It provided a mechanism for the collection of design managers to come together.

According to some interviewees, the forums could have up-to about twelve members.

The forum draws design managers from all locations across the country; some phoning in from Adelaide, Melbourne and Brisbane to the physical meeting in Canberra.

The Health of Design Forum discusses the strategic direction and provides guidance about design in the ATO:

“We’ve also got the Health of Design forum, which is the SES one sitting above the Design Managers forum. Only the SES are invited ....the issues and things can be discussed at the design manager’s forum and then we’ll take it up to the health of design forum to allow the people who have the power to approve to push things forward” [Interview Design Manager #8, 2009]

This forum meets when it is needed to discuss strategic issues about design. Again this forum is chaired by the Business Solutions business area. This mechanism places design in the midst of every day conversations of senior leaders and permits an ongoing dialogue about what role design has in the management work of the ATO.

The Design Managers forum and the Health of Design Forum have become embedded institutionally over the years and have become part of the organisational arrangements. In the Design Guide version 3.0 these two forums are noted as two of the key organisation roles in design. They enable an ongoing dialogue about how to maintain design as a management practice.
**External forums: Community consultation forums**

The socio-network nature of managing by design relies on elements such as established forums whose membership constitutes ATO people and members from the business and community, as well as the tax profession and intermediaries. The ATO has a number of forums that it has established over the years. In particular there are forums which have been established with the clear charter to co-design products and services. Co-design means to collaboratively develop solutions. The forums in place are illustrated below.

![ATO Consultative Forum Arrangements 2012](image)

Figure 42 Tax Office Consultative Forum arrangements 2012

The importance of these forums is to create expectations of engagement with the community. The forums act in many ways to embed design practices outside of the ATO. Some of these forums explicitly take a user-based approach to engage with business and the community. Peak forums such as the Personal Tax Advisory Group,

---

the Small Business Consultative Group and the Superannuation Consultative Committee have been established with this intent. The importance of this highlights a sort of equilibrium between the organisation maintaining its own commitment to managing by design and an ongoing commitment to managing by design to those external to the organisation. To illustrate this expectation which has been established in the community the following quote from a senior leader talks about a time when the ATO did not consult one of the peak bodies:

“...there’s also the expectations that you then create when you say you’re going to involve users. See that happened in Superannuation [business area] when we updated a couple of products and they really were just basic updates but the guys[project team] never went out and tested with even the small groups and our consultative group said, “but you never asked us about it”. Like, we create an expectation and quite rightly they had some jolly good changes to it as well so there’s that thing about the expectations but I do think there’s a thing about - we talk about user centre design but you actually need people involved with you to do it” [Interview, Senior Leader #5, 2009]

The senior leader’s comments reflect the expectations about co-design and that what helps stabilise design as a management practice is the pressure from community keeping them accountable.

These forums are durable elements in the socio-network of managing by design and many projects were referenced in interviews as involving one or more consultative groups. In the interview below the senior manager talks about the forums being mechanisms to test new products:

“It was a substantial change for the [Superannuation] industry so we brought a fair amount of product changes to stakeholders. So, we tested some of that. We tested a number of our design or administrative design approaches with consultative groups as well and I’d have to say they tended to be less structured and less formal arrangements in reality.” [Interview, Senior Manager #6, 2009]

A further important role that these forums play in stabilising design in the management practice of the ATO is that they present opportunities to have real conversations with
people about the tax system and to draw out their views and help reframe internal views about topics and subjects. As discussed below, a senior leader who chairs one forum explains the value of hearing it from the taxpayer’s perspective:

Senior leader, Forum Chair: “... last week’s [consultative] meeting; we probably got a breakthrough that we’ve been looking for some years. It was as simple as “cash economy” as a name, means nothing [to the community]. What is it? ...this group last week said, “What is it with cash economy? You’ve got hidden economy, underground economy, black economy”, which we wouldn’t use but they’re all - they all connotative of something untoward. Cash economy, what is it? So we think we’ve got a bit of a breakthrough now, bit of a way forward in how we might want to message some of the cash economy. Consequences, being the victims, it’s not just about tax.”  
[Interview, Senior Leader #6, 2009]

These forums, whilst a durable element in the network of managing by design, also present challenges. One of the main challenges is membership. Membership was frequently discussed by participants in the study because they felt that over time members become too close to the ATO and, as one leader stated,

“We’ve got the same people telling us the same things again”  
[Interview, Senior Leader #6, 2009]

And from the same leader:

Senior leader, Forum Chair: “I’m sort of keen to think about the membership of that group. ... I reckon we’ve got to think a bit harder about who’s actually at the meeting...So I think it’s that sort of approach, and we’re talking about human centred design, we can put our hand out and say, “we’re consulting with the business, we’ve got an advisory group”, how well representing or represented is that group? How well represented are they?”  
[Interview, Senior Leader #6, 2009]

The importance of this challenge is that it reinforces the broader strategies that are in action within the network of managing by design which show that it is more than simply having a consultative forum because these have their limits but do provide important engagement frameworks and structures to permit co-design.
Standardised space for testing and designing products – simulation centre

The shift in organisational management patterns of working from engineered solutions by technical tax experts to more collaborative and user-based approaches was enabled by introducing new and different non-human elements. One of the early material non-human actors was the ATO Simulation Centre, built in 2003. As described in the Design Guide (Version 2.0)

*The aim of the simulation Centre is to bring designers and users of the tax system into a common space that provides creative support and the ability to share experiences…allow the ATO to test products and services as well as the way they come together to provide a whole client experience – everything they see, hear and touch about a product, process or system – finding ways to make the tax experience easier, cheaper and more personalised (2004: 12)*

This physical space, as illustrated below, is situated in one of the regional offices of the ATO, Brisbane Australia. This site was chosen because the location was closer to a more representative Australian population and the ATO, at the time, had a significant information technology capability located in the same site.
The permanency of the space provides an environment for the short lived activities of design. The physical construction is symbolic of the organisation’s commitment to managing by design because it provides simulated situations of action and these performances offer management insight into how things may really work in the real world; that is how their decisions will play out in practice. As one senior manager said (underlined for emphasis):
“I would say that that specialist and specialist facility that allow us to do observations of how people go about their taxation obligations. And also allow us to put in front of people products that we might be considering to observe them actually carrying out those – trying to deal with those products. And that gives us an unbiased feedback as to the efficacy of those products.” [Interview, Senior Leader #3, 2009]

The simulation centre physical space of multiple rooms equipped with technology, computer set-up, mock call centre set-up and general observation room brings together multiple actors – Designers, ATO managers, staff and taxpayers - and promotes design behaviours such as observations of people (taxpayers or users and staff) using products as they would in the real world. The simulation centre provides a safe environment for both the user and the ATO to test ideas at various stages of development. By safe I mean that actors involved are safe because they are not the subjects of the simulation or testing, rather the products and the process are the focus. As described in the account above the senior leader talks about “unbiased feedback” and “efficacy” of products which demonstrates that the simulation centre permits management to pay attention to how well products achieve the desired result. This gives a basis for product design improvements. As one project manager recalls:

“We particularly tested forms... and some comms [communication] materials. Most of those were done in an environment like the Sim Centre.” [Interview, General Manager #1, 2008]

The extract here tells of specific products (forms and communication products) which were developed in the simulation centre. The simulation centre works on the production of the products which will eventually be published and destined for the real world and used by every day taxpayers and tax system intermediaries. The stabilising effect that the simulation centre has in the management work is that it is a location where explicit design activity occurs and brings human and non-human actors together. It provides clear parameters about what activity occurs in this location. The ongoing organisation commitment to the space means that there is design occurring in the management work.
Conclusion

This chapter describes standardised packages which can be considered durable elements of managing by design network permitting the practices of design to remain relevant and viable in the ATO. The three packages described could be considered collective efforts to adopt and adapt design into the management practices of the ATO. The constant involvement of many actors in the enrolment of other actors from within the ATO and outside of the ATO (business community members, tax professionals and other intermediaries) was illustrated by the three packages. The first package of standardised design theory and methods, provided organisational routines which complemented existing organisational routines. Thereby preserving other social world’s routines succeeded in bringing many different social worlds together. This is important in large bureaucratic and technical organisations like the ATO where many dominant organisational routines exist. The second package, the deployment of design roles and distributed teams, is a feature of organisation design that in many ways has made the practices permanent in the ATO. The people who are designers recognised for their skills and ability to perform the design theory and methods permeate the organisation locations. The last package exploring standardised mechanisms to engage others in the management and the practices of design, presents important ways to keep the dialogue alive across the organisation. In the introduction of this chapter I referenced Fujimura’s standardise package concept. This concept is useful because it helps explain the intention in the ATO to embed design and the packages which sustain its survival. The difficulty of achieving a sense of norm in institutionalising changed patterns of working has been addressed in this chapter by using Fujimura’s concept to identify elements
which have become standardised packages that help translate knowledge of managing by design across the ATO and its teams, people and work, the community and the government. These packages shed some light on what it takes to make managing by design stick in a complex bureaucratic organisation.
8

The Problems, Practice and Challenges of Managing by Design

Introduction

In early days of managing by design in the ATO, one of the design mentors, Professor Richard Buchanan (2003), talked about ‘interaction design’ as one of the underlying design crafts being employed in the ATO which offered new methods for management to use in some aspects of its public management work. This innovative application extended beyond the design of interactions between people and computers, to the design of interactions between taxpayers and the tax system. This stretched into the fourth order in Buchanan’s (Buchanan, 1992) Four Orders of design which I discussed earlier in this thesis emphasising the place where collective interactions occur and the design problems (such as organisational change) are inherently wicked and complex (Buchanan, 2011). The main idea of the present chapter is to describe the problems, techniques or methods used, and the goals and challenges that designers and public managers’ face when practicing design in the ATO.

This chapter seeks to contribute to the understanding of the fourth order design problem. To understand this problem I have applied a concept developed by Joan Fujimura called “problem solving histories” (Fujimura, 1996: 155). I am inspired by her work on crafting science (Fujimura, 1996: 155-183) and her accounts of describing the problems and work practices of scientists. I use her approach of understanding how scientists create knowledge and work on their problems as analogous to how designers
in the ATO work on problems which they face each day. Fujimura talks about the scientists’ work as a process of problem solving and discusses the “problem solving histories” (Fujimura, 1996:159) of scientists and their efforts to move from problem to solution. This introduces a line of inquiry that engages the researcher in tracking problem choices, changes, solutions and in looking for what comes to count when designers work on these problems? What are their solutions? How do they begin and how do they end? (Fujimura, 1996: 155). It is also about understanding what is taken into account and how the standardised packages described in the previous chapter are drawn on and used. This chapter seeks to draw on different situations as described and observed by designers as they go about managing by design.

Three problem solving histories discussed in this chapter come from different initial conditions and showcase different problem involving histories which designers in the ATO have taken to different effect. The first is an externally driven new tax policy proposal and this describes how the designers in the ATO worked in this problem space and what they did to influence tax policy design. The second tracks an internally initiated design problem of designing a new organisational capability. This shows the problem was solved by taking a human-centred view of organisation design. The third problem solving history is based on an externally driven problem by constituents in the tax paying community. This shows designers working in a participatory way to develop an innovative technological solution to address systemic issues facing tax agents and their interactions with the ATO. I draw attention in each of these problem solving histories to design methods and techniques such as creating pathways of human experience, end to end designs (collaborative and participatory), and rapid solution design workshops. I also explore processes to document those conversations i.e. mind mapping conversations, modelling and prototyping using diagrams, paper, and other
materials, and visual design of pathway models and blueprint documents. Finally I discuss the processes used to communicate with others and how this is coordinated and travels across multiple social worlds using design artefacts.

The last part of this chapter draws together two main challenges common to these problem solving histories. The first challenge is the ‘nature of the product’ being designed, which in all three cases are complex, broad and wicked problems at the whole of system level. The second challenge is the ‘extent of engagement’ with taxpayers or end users in the process of design. The ‘product nature’ emphasises the fourth order domain of designing and the sort of factors that need to be understood in public sector design problems. This includes the ongoing, circular notion of administrative systems, understanding systems in action, and the multiplicity of effects that are required to be anticipated in the design process. The extent of ‘engagement’ points to practical aspects of the democratisation of public policy and public service design. In this section I discuss two sets of forces: those factors which drive engagement and those factors that impede engagement. These two sets of challenges are not always present in every design problem however they present important impediments which designers negotiate in their practices of managing by design. The interesting point is that despite the impediments the designers still take a design approach and use strategies to overcome these impediments.

The chapter concludes by summarising the design methods and techniques that the designers use to deliver on the purpose and intent of managing by design and, in particular, to ensure the taxpayer/tax professional/intermediary are represented in some way in the design of policy, tax services and organisation design. These methods have become noted trademarks of managing by design in the ATO and provide a strong sense of what Buchanan meant by ‘interaction design’ at the ‘collective
interaction’ (Buchanan, 2011) level in a complex public system - the Australian Taxation system.

**Problem of new policy**

Before we move into some of the practices, it is important to point out that the work on the designer floor is filled with many activities which they juggle on a day to day basis. These include training and mentoring others, learning from other designers, influencing other people inside and outside the ATO, managing multiple projects, preparing and presenting their work, responding to requests to work, allocating and managing design projects, attending meetings, emails and other administrative tasks. These many activities have been “hidden” from view in these accounts but it is important to note these are present in the practices of designers.

Here I present an example of a team of designers working on a new policy design problem. The types of policy design problems include changes to any one of the 68 tax topics such as superannuation, international tax, consolidation, business taxes, excise, income tax and so on, or the creation of new tax policies. These problems when they reach the ATO designers are characterised by usually being abstract and conceptual in nature, they impact a range of people in the community and often cannot be explored with taxpayers due to political sensitivities and involve a coordination of effort by the designers to gather as much knowledge about the new policy implications. The designers use different strategies to ensure a design approach is followed. There are many contingencies which the designers deal with and they are able to follow managing by design methods and principles because of the strategies they employ. Some of these

---

34 Tax topics described in the ATO website, updated March 2011. Accessed 9/7/2011
contingencies include representing taxpayers and tax professionals despite no engagement being permitted, perceived sensitivities, dispersed stakeholders, preferred communication formats such as text based versus diagram based, and limited policy change information.

This example is from designer “Anna” who is located in the corporate area Business Solutions, based in Canberra. One of the main design problems that Anna and her team work on is to calculate the proposed administrative cost of new tax policies. This design problem is described by Anna (author underlined for emphasis):

Designer Anna: What we do is we get some very high level information from government to put a new tax in and what my team will do is we will go out and go – we’ll figure out how does this work. So that basic question which I see design which is how would this work? How does it work now, who are the users and stakeholders, how would it work in the future and what supports that for us? So our focus is what’s the change in technology? So that’s what we look at. So we see it as our role that if there isn’t a shared understanding about what this design – so from this design a cost is put together [Interview; Designer #5, 2009]

The design problem starts with a document from Treasury, the policy making organisation in the Australian Taxation system, stating a new tax measure. The problem that the designers face is how to cost the administration of these changes. The costing estimates are required for funding allocations to the ATO to administer the new policies, so it is critical to get it right. The designers start with this problem by asking a question; “how will this work?” This starts a series of coordinating activities for the designers. This coordination is driven by the goal to get a shared understanding about the change and the impacts. This is achieved by finding the people in the organisation who can contribute to the understanding. The value and importance of the designers is they act as knowledge creators and their role draws various experts across the organisation together. They reduce the risk that the organisation takes an uncoordinated
view of a proposed policy change and, as Anna states above, the organisation may have many responses to the change and this could affect the costing and end result:

"Designer Anna: Like we see it as our role, again like I said before, to make sure there’s a shared understanding amongst people that are responding to government. Because there is this thing that happens where people just – an impact assessment from government it goes out - so new tax whatever – it goes out to all the different business lines and they each respond separately. They don’t talk about what the design is that they’re actually doing an impact assessment on… we’re doing watchdog on that and trying to make changes” [Interview, Designer#5, 2009]

The emphasis in this problem is on the collective change resulting from this proposed new policy. These collective changes may constitute elements of changed experiences for taxpayers, changed experiences for tax agents and changed activities for areas (such as call centres or the web) inside the ATO, or letters, or information systems, or law and advice areas. These elements are called ‘layers of design’ in the design methods standardised package and designers use this as a line of inquiry when designing collective change. This then informs how the designers craft a design and document the design of problems as open and conceptual policy proposals. To understand this further let us follow Anna in an example project.

This problem solving history starts with a series of new tax measures proposed by The Treasury.

"Designer Anna: There were a whole raft of measures35 that were [presented] ... and if they do all this, this is going to be really bad [Interview, Designer #5, 2009]"

These changes were assigned to the design team leader ‘Jane’, design facilitator ‘Peta’ and ‘Anna’ as information designer. This team triggered a number of design activities one of which was the organisation of a team of technical business people representing

---

35 Due to sensitivities the participant was reluctant to offer specifics on the new policy change. Therefore this discussion should be read with the emphasis on the problem solving process of the designers and not so much on the specifics of the subject of the new policy measures.
different areas within the ATO (about eight people in total) to form a core design team. Then a series of workshops were organised and these people were invited to attend. The process of design started with an exploratory discussion and, as Anna recalls, the designers played a role in shaping and leading the process because they lead the dialogue and shape the conversation:

*Designer Anna: The first workshop we had with [internal] business [areas] was very much people sort of going all over the place and then how do we do this, what do we do? And from that we [the designers] came up with this idea of okay let’s map how the process works now for us (ATO), for externals and what are the pain points - you know? And so that we can just say where the problems are and then from there we developed some alternative ideas to fix the problem [Interview, Designer #5, 2009]*

Anna describes a design approach by emphasising change through modelling outside human experiences ‘externals and what are the pain points’. This dialectic and collaborative process is facilitated by the designers and through deliberation and following the designers’ line of inquiry the exploration takes shape from looking at the process or pathway of different people. This notion of the pathway was introduced by Buchanan to the ATO who describes pathways as:

*shifting perspective from the massive totality of the system to the pathways of individual human experience... to accomplish goals (Buchanan, 2004: 62).*

This mapping of people’s experience, as a pathway, is a visual representation that highlights many things - products and services offered by the ATO and others in the tax system which they use to allow them to do a certain task or activity. Some examples of pathways are illustrated below:
Figure 44 Example Pathway (Source: ATO, date unknown)

Figure 45 Example Pathway (Source: ATO, date unknown)
The ‘pain points’ the designer Anna refers to, reflect the current user understanding about how the system works now – or rather does not work. It is important to highlight that the mapping takes into account both the outside experience and the inside – staff in the organisation also have experiences with the organisation and their experience counts as well in the design problem solving process. The process from here involves Anna and the design team working on documenting these pathways. In this case Anna talks about not just mapping one set of experiences but a cumulative pathway of experience to illustrate the cumulative affect of proposed changes on different groups of people in the community:

_Designer Anna: So we created a picture to show how it would affect market segments and all this kind of stuff. So that’s the cumulative impact of all of the measures and then we went through each measure. So measure A, what is it? How would this work? What are the issues? [And] these are some of the options. Same thing for each one all the way through and at the end these are some other ideas that we have that would be good to think about._ [Interview, Designer #5, 2009]

The workshop process followed a disciplined approach of working through each measure, building an understanding the impacts of these changes, and progressively creating a picture of all the change, resulting in a cumulative picture. This highlights the iterative and recursive nature of the design problem solving process. The process also includes the designers extending their interest to other ideas which may be useful to consider within the suggested policy change. This shows that the designers seek to harvest further improvements which are in addition to suggested changes. The result of this work was the creation of a design artefact that told a complete story of the proposed changes. In this story Anna and the design team took three months to work through all the proposed policy measures with the business areas and to create a new document constituted with new knowledge about how the proposed changes would work from the perspective of taxpayers and others critical to the delivery.
One design method absent in this design problem solving history is engagement with taxpayers and affected groups outside of the ATO. Anna had stated that new measures are usually “held pretty close” and engagement does not happen with externals. So whilst this limit imposed on the designers could have stopped them taking a design approach it did not deter the designers. The strategy to locate the end users to imagine things from their point of view by mapping pathways was used to effectively translate the human impacts from the proposed changes. It was by this line of inquiry (who is affected and how?) throughout the design process that the outside-in view of change was preserved. The pathways were invented through the collective wisdom of the people in the design process rather than be generated with real taxpayers or tax professionals and they provided a template to be empathetic to the human dimension of government imposed change. This strategy is important to observe because it could have been easy to ignore the citizen experience.

Anna and the design team created a final document that was sent back to the Treasury along with costings. Anna recounts the impact of their work on the new policy process (underlined for emphasis):

*Researcher:* And so that [the design document] went up to Treasury – did that have an impact——

*Designer, Anna:* The document went as is [to Treasury] —that [the design document] had an impact in that we didn’t get hit with the nasty things that they were going to do that we thought – especially that cumulative picture. Because they had some little changes up front and then at the end they had this really big systems change. And we basically showed them that if they made the changes up front there wouldn’t really be a reason to do them again because those ones up front will probably manage the problem. And we needed to be really careful because we just didn’t want them to go and announce if the government wants to go and do something, “I’m going to change it by doing this big thing” and so we were just saying come on, we just had to stop them from doing that big thing. And I think we changed that.

[Interview, Designer #5, 2009]
The final product used illustrations and diagrams to show the effects on people in the community and the ATO organisation and was powerful enough to persuade Treasury to take on suggested changes to the new policy measure. The passage of the document in the form as prepared by the designers was significant because it is common practice that design documents such as the one described are translated into words, with limited use of diagrams. Anna explained that in other circumstances design documentation was changed:

*Designer Anna:* “[Diagrams] thrown into words. A few people have talked about how it would be good to present things differently [to government], because we all know it’s really hard to understand things when they’re all text. And there have been a few instances ... where they’ve [ATO designers] gone to Treasury to talk about the load on our IT systems and using pictorial references and haven’t had a lot of success”. [Interview, Designer #5, 2009]

However in the story of ‘cumulative impacts’ the design product went “as is” and the designers attributed this to such factors as their ability to succinctly show the impacts and the suggested changes in an easy to understand way in the context of the design artefact. This example also suggests that the work of designers is rigorous and has substance giving it credibility when it moves from within the ATO to outside the ATO for policy makers to review. This example shows the work of the designers in not only coordinating and drawing together a variety of perspectives, through a disciplined and intense design processes (three months of workshops and dialogue) but the creation of new knowledge through understanding human impacts and this can be grounds for persuasive argument at the policy design stage.

**Problem of organisation design**

In this example I trace the problem solving history of a design project I ran as a designer when I worked in the ATO. This design problem was an internally initiated project and a common organisational problem – establishing a new capability. A capability of
people, skills, processes, products and results for the organisation. Capabilities are such things as communications, human resource, accounting and finance. This problem is characterised by many unknowns; the idea was new and there was a limited understanding within the organisation. Also this capability was fairly embryonic in the general market place and only the more sophisticated organisations such as banking and insurance companies were attempting to build such capabilities. This example discusses the practice of designing the organisation by taking a human-centred view of the problems and opportunities and using this to design new organisational arrangements. This problem solving history also describes a collaborative approach and is defined by user research and innovative thinking.

I was asked in late July 2003 to join the Analytics project as a Design Facilitator. This was an important project for the organisation because it was about building a capability which used complex mathematical analysis to better target both non-compliant and compliant taxpayers. It was also an interesting project to apply design practice to because its users were decision makers in the ATO and it was the design of something very abstract. Because it was all about designing an internal capability, it challenged the design team to think about how we applied design to ourselves and the organisation. Our response was to take an outside-in perspective and ask ourselves: Who would this capability serve? We then focused on management and took an outside-in view to understand their needs so we could design the processes, people, technology, and tools to support them and their desired experiences. I worked with the senior leader assigned to the project. He was a strong advocate for the design approach, and so we planned how the design method could be applied to the project. We mapped out an eight week program and centred the design activities on a core design team.
We called the primary design group the ‘core design team’ (CDT). It was intentionally
designed and guided by the senior leader—the project sponsor. In keeping with design
principles, we had an interdisciplinary team of ten to twelve people. Its core members
included eight people from analytical areas in the organisation along with the
Information Designer and me as the Design Facilitator. This CDT was not a full-time
job for the members. It was a commitment each member made as part of their other
roles in the organisation. As the design process went on, we invited different
stakeholders from the organisation to participate in the design process. For example, we
invited senior business people, who were in effect the users of the projects products, to
act as voices of experience to inform the design of the analytics capability.

The CDT was a balance of strategic thinkers, analytical thinkers, a senior project
sponsor, and designers. This mixture of people was instrumental to the quality of each
workshop. A workshop was a flowing focussed dialogue for one day a week for eight
weeks. In between these workshops I worked with the project sponsor to source and
interview external people who provided ideas and options for how we might develop
our organisation’s analytic capability. We also invited these people to be guests at some
workshops. This injection of new perspectives stimulated the thinking and design.

Our approach over the eight workshops was to prototype the organisation design, the
products we would make, map out the processes we would use, and describe the
technologies we would need to enable this design. For each of the workshops we had an
intentional topic, and the first few topics focussed on the users of this new capability.
This meant starting with needs and desires of our core users. We developed personas of
the user of the analytical capability and through these we explored what we needed to
build. The project sponsor emphasised the importance of prototyping the solution and
building the blueprint progressively. The blueprint documented the proposed new
capability and how it would work in use. At the start of each workshop the blueprint
draft would be reviewed and we would refine our thinking. I would work with the CDT
to review this artefact creatively and physically. For example, we enlarged the blueprint
on poster-sized paper and stuck it around the room and we did a SCAMPER across the
document – looked for ways to Synthesise, Cut-back, Add, Modify, Preserve, Edit, Re-
organise. We used sticky notes, cut-up pages, and re-organised sections. This facilitated
testing our design logic to identify gaps and expose assumptions in order to drive new
iterations.

I worked closely with the Information Designer in the development of the blueprint and
on other visualisations of the design of the organisational analytics capability. It was a
team effort between the two of us to make sense and capture the design as it progressed.
We would work together in the workshops and afterwards by sketching and refining the
documents and visualisations. One of the innovative visualisations we worked up was a
metaphor – the factory metaphor.
This originated when we started playing with the metaphor of an ‘analytics shop’. We debated what that meant for our design and experienced a remarkable moment when, at the end of one workshop, the senior leader jumped up and sketched on the board an analytics factory and the group said, “That is it!” The information designer took the
sketch and worked it up and it remained with the project as a very useful communication tool to help answer the question “what is the analytics project trying to do?” It facilitated the core design team’s thinking and provided a useful model to address many aspects of the new organisational capability. Who is involved? What are important inputs? What do we make? Who are the customers? What do they need?

The development of the blueprint took eight weeks. The activities included a full-day workshop every week. The CDT members would go back to their main roles outside of these workshops. The CDT members were very active outside the workshops by discussing the emerging blueprint with colleagues in other parts of the organisation. After four weeks we held an intense two-day workshop and concentrated on refining and synthesising the design. After the blueprint was finished the project moved into prototyping of business teams, business processes, work flows, roles and responsibilities, technology design, and acquisition. The CDT acted as a reference group as the project progressed by meeting once a month.

A year after the CDT developed the blueprint the analytics capability was established in the organisation. This included the appointment of a senior leader to head up the new organisational area, staff positions were advertised and filled, teams established, procurement of tools, IT and projects set-up. The initial design work, in its blueprint form, had been followed, and it informed the detailed design and implementation of that capability.

In this example it is important to highlight the engagement of staff because they are central to the organisational design process. They were active in the decisions and the final design of the analytics capability. This participatory approach was aided by facilitated and guided workshop-based processes and fast, creative documentation as the
organisational design progressed. The case example shows that tools such as metaphors are useful to broker new ways of thinking to distil the core design solution. The emphasis on the users of the capability inspired targeted groups such as ‘Operatives’, ‘Builders’, ‘Business Owner’ and ‘Analytics staff’. We considered what each of these user groups would need in terms of products and services, processes to support these, people who would provide these and the technology and tools the users would need to fulfil their needs. Illustrated below are some of the pages from the blueprint document.

Figure 2 illustrates the section title page of the blueprint which shows the ‘Community of Users’ who were important. This section was the fourth out of ten and emphasises user needs informing the rest of the design document. Figures 3 and 4 are two pages from the Community of Users section showing the users and describing such things as who they were, and the products, processes, and technologies they needed to achieve their user objectives.

Figure 47 User based view to organisational design title page (Analytics Blueprint, ATO, 2003)
Figure 48 Example user group: Operatives (Analytics Blueprint, ATO, 2003)

Figure 49 Example user group: Builders (Analytics Blueprint, ATO, 2003)
It meant that the process of organisational design was based on understanding the suite of users and roles as a starting point. The emphasis on the factory helped locate a value chain of activities and products for the consumption of people with specific needs. It enabled a very conceptual, abstract and new capability to be designed as a concrete entity because it helped the team think about the function and form. This metaphor was a novel concept for internal organisational design. The challenges were mostly based on the time constraints that the team self imposed. There were challenges of meeting each week, and turning mind-maps of dialogue into meaningful design product called the blueprint. The other ongoing challenge was the sustaining of membership. This was managed because of the pace and the rapid visualisation of each week’s work showing progress. This empowered members to maintain participation because they could see the progress they were making. This also points to the importance of the ability of the designers to capture, make sense of, and present their ideas in ways that reflected the collective agreed aspects of the organisation design. Membership was contingent upon the management of the staff understanding the value and importance of the design discussions, and thereby continuing to support their participation. Again the documentation helped the CDT members because they could take versions of the blueprint to their respective work areas and this provided evidence of the productive work and opportunities for input from their managers and colleagues.
Problem of poor external experiences

In this third example of a design problem solving history I discuss a highly public, complex community driven problem. It picks up at a time when tax agents raised strong concerns about their negative experiences with the Tax Office. I use this example because it highlights how designers and design methods played a role in driving participatory approaches to address the concerns of Tax Agents and, in doing so, were part of designing an innovative solution for future interactions between Tax Agents and the ATO.

I describe a socio-technical process of co-designing an online invention called the Tax Agent Portal because it presents a design problem that was not borne from the desk of some policy maker where words have been crafted and considered. Nor was it a project initiated by public managers; rather it was a problem that was complex and triggered by poor experiences of tax professionals operating in the tax system. It was a problem that had media attention, was under scrutiny from many players, and the articulation of which was driven by the community. The design problem was not initially clearly defined and in this example I attempt to recreate events, not as a simple linear narrative but as the complex intertwining of sets of actors and activities.

I will begin by constructing a linear view the problem solving history with the purpose of showing that this does not work, and juxtapose it with a nonlinear view of this problem solving history which better fits its activities. In Figure 5 there are a few parts of the story. One part is tax agents’ concerns, represented by the red line which moves progressively higher over time. This represents growing issues about their poor interactions with the ATO. The two next significant points on this timeline are the introduction of the GST and the Reforming Tax Design process, the Ralph review, and
the establishment of integrated tax design (or managing by design - discussed earlier in this thesis).

In 2002 a research initiative was commenced called ‘Listening to the Community’ which was a program of exploring taxpayer and tax professionals’ experiences with the tax system. At the same time, by mid-2002 tax agents were highlighting their dissatisfaction with the tax system and the ATO and the crisis points are shown as red diamonds. The timeline shows a connection from the frustrating points of the tax agents to the development of a Tax Agent Portal which was launched a few months later. This follows a familiar narrative where the community need or problem stimulates the production of innovative solutions with the solution deemed adequate or best implemented. This model of the linear view is presented below in two versions:
Figure 50 Timeline of events - social pressures, co-design and tax agent portal innovation
Figure 5: Simple linear diagram of problem and solution to poor community experiences with the tax system

- Trigger – Introduction of the Goods and Service Tax (GST)
- Tax agent experience problems
- Problem communicated to the Tax Office
- Solution identified and developed (Portal)
- Diffusion of the use of the Portal

(by processes internal – initiated by the ATO, and external Tax Agents initiate public media)
By contrast, the figure below shows a project map which points to the actors, actions and the social worlds at play across the same time period. It presents a more social context of the design problem and solution. Considerable work and discussion led to the launch of the Tax Agent Portal, but the linear view underestimates and hides the managing by design processes that occurred during this time.

Figure 52 Project map – the arena of Tax Agent and ATO co-design practices (period 2000-2003, developed by author)

This map now expands the simple view into a situation that is much more dynamic and complex where many actors from different social worlds co-exist and interact. The problem solving history is best described by noting these multiple social worlds and that this multiplicity at one moment is completely uncoordinated, and then it coalesces and coordinates. In each of the social worlds the actors are bound by similar goals and do similar things. Thus in this discussion the social world of the tax agents and professional groups, which includes individual tax agents, accounting organisations, tax bodies and
tax associations, all participate in the tax system facilitating the taxpaying community to meet their obligations. They interact with the ATO and its sub-social worlds. These sub-social worlds include groups and individuals in the ATO dedicated to managing the relationship between the ATO and the tax agent social context. The design community is another important sub-social world that interacts with the tax agents through research and project related work exploring and understanding their experiences with the ATO.

In the wider social context technology innovations in the private sector driving online solutions for services to customers are also present and become important as the innovation opportunity emerges. Media organisations and journalists also play a role in communicating and extending the social concerns of the tax agents into the wider public domain, and provide important actions strengthening the position of the tax agents.

By comparing the linear approach in linear figures with the dynamic figure, a richer picture emerges that shows there are not simply one or two actors or actions in the design problem history. Rather, there are complex and multiple ideas evolving that will be channelled into a solution. The dynamic map figure is discussed to show the multiplicity of actions that occurred in parallel. There is no simple clean sequence of events as the earlier figures may suggest. It is not a discussion of cause and effect, but is a complex interaction with multiple actors and actions that all came together to contribute to an innovation that resolved a significant concern of the tax agents.

The co-existence of different social worlds, such as media, tax professionals, ATO public management, designers within the ATO, citizens and politics presents a dynamic and intentionally uncontrolled situation. In this case we have strong and loud actions from the tax agents aiming to evoke a response from the ATO to address their concerns. Shortly after the introduction of the GST tax agents began to actively voice their frustrations with their experiences of the ATO. In this period, tax agents and their
associated peak bodies used mass media channels, such as newspapers, to release highly emotive messages to demonstrate their dissatisfaction with the online and telephonic services provided by the ATO. Messages included statements like “ICAA [Institute of Chartered Accountants in Australia] and CPS Australia threatened to abandon electronic lodgement and flood the ATO with paper returns if the Tax Office did not improve a perceived lack of efficiency and support” (Chapman, 4 October 2002). Full advertisement campaigns (Webb, 2006:7) were developed, as illustrated below:

![Advertisement campaign, "Tax Agents fed up and threatening revolt"](Rochfort, 2002)

The Tax Agent peak associations created a social context which was highly vocal and galvanised collective action.

At about the same time these concerns were being raised by the tax professional community, the design community, led by the corporate area of design within the ATO were driving a research project called ‘Listening to the Community’. This involved direct engagement with the taxpayer and the community through focus groups and workshops to better understand their needs. According to one of the key actors, a senior design leader, this involved a social research company working with the Tax Office
designers and going out to a range of groups on the community – including tax agents. This exercise was a strategy to engage with the community and use a variety of approaches including user clinics where the goal was “…to find out what their major irritants were” and then to follow up with creative retreats, or workshops which “were working out solutions with them”. This exercise was primarily focussed on understanding the experiences of the community and the tax agent community was represented in this initiative. The activity uncovered concerns relating to advice and poor support through the current channels of call centres and limited electronic interactions. One of the key things learnt was that “[the ATO was] not meeting taxpayer expectations” (Webb, 2006:8).

Meanwhile, the ATO Executive recognised the significant concerns and publicity by the tax professionals and took action by appointing a dedicated group of tax officers to address the tax professionals’ concerns. This group included a formal appointment of a senior tax officer to look for ways to address the key concerns of the tax agents. How did this senior leader take the mandate forward? The critical convergence occurred when the senior leader coordinated the two areas most able to address the issues: the design community who understood current Tax Agents’ experience and the business team and people assigned to managing the tax agent relationships. The dedicated team came together to address the tax agents’ concerns and as one leader at the time recalls

*we worked with the design areas and started to distil what was driving the problems… a lot of synthesising work was done [Interview, Senior leader #2, 2010]*

This partnership uncovered a shared goal to be addressed – improve the experience for Tax Agents dealing with the ATO. The tax designers brought real-life problems to the process.
We observed that what really happened was they spent a lot of time waiting on the phone... and there was a limit to how many questions they were allowed... it was completely inefficient for a tax agent. [Interview, Senior leader#2, 2010]

The knowledge package that the designers brought was based on evidence they had gathered by conducting observations and interviews with tax agents at their locations of work. They brought an understanding of the tax agents’ experience in situ. The dedicated tax agent team created important knowledge packages using call centre data and analysis of the data for patterns and trends. A pattern was identified that showed that the types of queries generated from tax agents were related to transactional information about their clients. The problem for the tax agents was that the only way they could get that information was by calling the call centre in the ATO which resulted in many calls and long periods of waiting. The interaction between the tax design team and the dedicated tax agent team bringing together different knowledge packages from different sources generated a richer view of the problems and needs of the tax agents. In what way did the growing knowledge develop into an innovation? In parallel to these actors exploring Tax Agent problems, were Information Technology (IT) experts in the organisation exploring technology developments in portals. Portals or web based services offered new ways for users to interact with organisations to share and access information in an online environment.

The presence of senior leadership interest in resolving the concerns of tax agents allowed these groups (designers, tax agent team and IT designers) to be brought together. The role of leadership helped bring the right elements together to solve the problem facing tax agents and the ATO. A fusion of actors occurred. The intersection of IT innovation and the exploration of tax agents’ concerns initiated an idea to change the very nature of interaction between the tax agents and the ATO. Thus the idea of a Tax Agent Portal was conceived. The inception and design of the idea was followed by
workshops that included representatives from the tax agent profession ‘CPA Australia worked with the Tax Office to develop the [Tax Agent portal] system’ (Chapman, 4 October 2002). The design of the portal focussed on addressing the core systemic problems of the tax agents, which stemmed from not having access to their clients’ detailed tax information. Because of their lack of access to this information, they became dependent upon call centres. Limitations with call centres led to tax agents’ frustration. The innovation co-designed between actors within the organisation and representative tax agents created a technology innovation. The technology innovation was the result of multiple actors playing a part in understanding the core needs, the real issues, and the technical capabilities to deliver a solution. The innovation did not arrive through a planned organised pathway. Instead it was the result of multiple social worlds enacting different activities, and it was the intersection of these different social worlds around a common goal that led to an innovative solution being designed and launched. A recent version of the Tax Agent Portal is illustrated below:
The significance of this innovation was that the online portal became the preferred channel for tax agents to interact with the ATO. It was reported in 2009 that 92% of tax agents used the Tax Agent Portal. The role of designers was critical in understanding the needs and goals of the tax agents as well as for facilitating the participatory practice of tax managers and the tax professionals in designing the portal. It was through this collaborative effort that shared goals were identified and this helped galvanise the work between so many different social worlds. This example illustrates that managing by design is about paying attention to events and experiences today and combining this with other ideas such as portal development and understanding systemic patterns such.

---

36 Access date July 2010
as the reasons driving interactions between tax agents and the ATO. The process of engaging the tax agents in the design solving process demonstrates the extension of power from the ATO to the tax agent resulting in a solution that is supported and endorsed by the tax agents. It is about facilitating dialogue across social worlds with their different perspectives, priorities and ways of seeing. This example also highlights it is not always possible to avoid issues raised by the community because in public systems it is not easy to predict how things will play out. Rather, how a public organisation, like the ATO, responds and engages the community in addressing the problem is what counts in the end.

**Two common challenges in these practices**

In the management work discussed above – costing a new tax policy proposal, designing a new organisational capability, and resolving key constituents issues – the role of managing by design was practiced by various actors, notably the designers in the ATO. There are two important challenges to discuss which further situate the practices of managing by design. The first is the challenge of designing solutions in rather complex, ambiguous and messy contexts. This is raised in both the new policy measure case and the tax agent portal design case. The designers appear to play in this arena of ambiguity and broad problem space; in the terms of Rittel and Webber “wicked problems” (Rittel and Webber, 1973). There is a recognised need to understand how the whole might be designed, not just the parts of the organisation or the stated changes. There are features of this design territory that are unique to the public sector arena which the designers navigate with their methods and lines of inquiry. There is a design psyche that it is an ongoing design effort to a complex system. The “fourth order of
design” (Buchanan, 2007) is explained from the perspective of the designers and managers in the ATO.

The second challenge is the propensity to engage in participatory practices with taxpayers, tax professionals and others in the taxation system. This is a fundamental philosophy of managing by design although it is not always achieved in every design problem solving process. In particular, this is about the extent to which the decision making process, or the democratisation of the decision, is shared between the bureaucrat and the lay individual or community person. There are multiple points where the lay person or tax professional or other constituent can be engaged in the design of the tax administration system. In public service design the policy front end is one clear starting point. However the policy design process has not been discussed in this thesis because it is beyond the scope of the study. What has been explored is the point where the ATO designers and managers pick up the policy. What becomes clear is that what they do to generate a good design does not follow or unfold in any simple linear trajectory from the policy as is often assumed.

So the emphasis on the implementation of policy by the ATO and the extent of engagement between the ATO and its constituents is driven by a range of factors and countered by a range of impediments. These two sets of forces are negotiated by the designers through a variety of methods and techniques. These are discussed in the following sections.

**Challenge 1: The complex and ambiguous design problem**

Senior leader: “A lot of the theory about design is based on manufacturing products whereas things like [tax] administrative systems, it’s almost like you need a couple of different go’s in the sense you do the first go, which you get it [tax policy and/or administrative changes] in, then … you really need to be able to come back six to 12 months later once the [taxpaying]people have had the system in operation and actually then say well, now we’ve got the system
in operation, what would work more effectively here for you[the taxpayer or tax professional] and how would you tweak it? So that’s the bit, I think, is often hard because... some of the things that play out, you just - it’s very hard to simulate to come to the point or really get yourself to that perspective when you look at it” [Interview, Senior leader #5, 2009]

This excerpt from a senior business leader, an advocate for managing by design, draws a distinction between her observations of design in the ATO and the literature on design theory. She points out the limitations of the design theory using a manufacturing metaphor in the context of public service design and administration. This observation of the senior leader, is what Rittel and Webber referred to as the difference between ‘tame problems’ such as manufacturing products, and ‘wicked problems’ such as ‘open societal systems’ and ‘public policy’. (Rittel and Webber, 1973: 160). The latter ‘wicked’ problems frame is also what Buchanan refers to as the ‘fourth order’ design problem. This senior leader draws attention to some important features of this fourth order problem space which reinforce the wicked problem nature they deal with. The use of this term “wicked problem” has been intentionally chosen. The nature of implementation of policy is wicked: to use one point from Rittel’s definition of wicked problems as “indefinable” – no tax policy is fully defined in its policy formulation, in many cases the policy is merely conceptual and the wickedness comes in understanding the full possibilities and alternatives for its practical enactment along with the implications and implicated actors in turning these policy ideas into practical actions.

Asserting that the design of implementation is wicked, rejects the notion of the splitting and usual hierarchical privileging of policy over implementation. This chapter demonstrates and draws out that it is in implementation that the reality of policy not only plays out but is constructed and this is why taking a design approach is so important and valuable. Design helps work through the complexity by taking pathways through this complexity and seeing how these pathways change because of policy changes. Designing embraces these as inherently wicked and complex. This idea that
implementation is wicked is taken up by Fitzgerald in *The locals Framework: Understanding and Designing for Wicked Problems* (Fitzpatrick, 2003). Her work explores how the work of socio-technical systems or Computer Supported Cooperative Work (CSCW) is indeed a wicked problem that requires intentional design efforts (2003; 4-5). Therefore there is a very sound argument as to why this thesis has claimed that the ATO works on “wicked problems”.

The first observation is that the design of public services requires an ongoing effort; ‘you need a couple of different go’s’ highlights the complexity and wicked nature of the problems faced by organisation such as the ATO because there is no one perfect solution (Rittel and Webber, 1973). Therefore the designer in the ATO sees their work as ongoing, cyclic and continuous. This reinforces the nature of the public or government design problems as being part of a system which invites courage and judgement from the designers as they resolve issues and problems but are cautious they may not always get it right.

The second observation, related to the first, is that the results from designing and implementing need to be viewed once the system is in operation. There are many unknowns when the designers are resolving the types of wicked problems. This raises questions during the designing process such as what are the factors that might play out in action? These are not predictable and there is no way of being able to formulate these factors. As Rittel and Webber discussed, one feature of wicked problems is “there is not immediate and no ultimate test of solution to a wicked problems” (Rittel and Webber, 1973: 163) rather implementation and seeing it in operation is the test. The senior leader points out that it is after observing the system in action that there is another design inquiry which helps focus on what could work more effectively?
The third observation is that there are usually significant numbers of people affected when designing changes in a public system. The system being designed is in effect where all the collective actions occur. There are many ‘publics’ with different goals and purposes. These actions are heterogeneous and this needs to be taken into account during designing. So designers in the ATO look to distil who is in these collective actions when they start a design project. In the problem solving histories discussed earlier these were described as the community users and cumulative impacts. By taking a collective view, this raises the attention from the individual to the social. It draws attention to the networks of actors that are affected by the change or the interaction being designed.

The fourth observation is to see the current system in action not at the generic, aggregated set of statistics and generalities but to take a more human and real perspective to come to terms with the problem and opportunities to resolve. The designers used the technique of creating pathways to see how their experiences through the current and proposed system might play out, with an emphasis on their world. As described by one designer:

*Designer: So, a pathway is the user - it’s a natural pathway of a user and what they need - what they do to get to an end point and it’s where we identify interactions with the user. So, where can we actually get in and influence taxpayers without them really realising - so, trying to get into their natural systems and make it easy for them to - you know, when they start a new job, give them the forms that they need and make sure that they don’t actually have to come out and look for things. So, it’s trying to get things to the community as seamlessly as possible into their natural systems. So, it’s their - the pathways, their external view with linkages that we identify with the Tax Office [Interview, Designer #7, 2008]*

In each of these observed features of the complex system the designers are practising using the design methods and techniques, see figure below.
Figure 55 The complex ‘fourth order ‘public system design’ and design methods used

To summarise I refer to this elegant description of public policy by Carlsson:

[public policy is a] nondeterministic, evolutionary, and highly complex world, that is a world where the most desirable outcomes are unknown but there may be many possible acceptable outcomes, where change is characterized by both path dependence and unpredictability, and where there are many diverse components, interaction, and feedback among components and multiple dimensions to each problem (Carlsson, 2004: 259).

I couple this definition with Buchanan’s description of the fourth order design product.

The fourth area is the design of complex systems or environments for living, working, playing, and learning. This includes the traditional concerns of systems engineering, architecture, and urban planning or the functional analysis of the parts of complex wholes and their subsequent integration in
hierarchies. But this area has also expanded and reflects more consciousness of the central idea, thought, or value that expresses the unity of any balanced and functioning whole. This area is more and more concerned with exploring the role of design in sustaining, developing, and integrating human beings into broader ecological and cultural environments, shaping these environments when desirable and possible or adapting to them when necessary (Buchanan, 1992: 10).

I draw these two references together because the complex system description by Carlsson and the human centred view of Buchanan speak to the work of the designers and their practices as described in this chapter. There were a range of techniques, especially the pathways of taxpayers, which help paint a picture of experience through complexity. These pathways helped organise thinking and design of new policy costings, organisational design, and drew attention to the right points to solve as in tax agents experience. This problem space is where ‘collective interactions and actions’ (Buchanan, 2011) occur and where important relations are brokered and new forms of participatory practices can be located. This problem space which designers and public managers in the ATO work in can be characterised by ongoing negotiations, management of political and social tensions and constant oscillations between many actors to reach design solutions.
Challenge 2: Understanding the extent of engagement with taxpayers or tax professionals

There are many factors at play which influence the possibility of the broader community engagement in resolving design problems. These factors act in ways that can either encourage the possibility of engagement or limit any engagement. The following section discusses four main impediments and four main drivers. These factors have been listed and described, not so much as to distinguish which factor is more relevant than the other but to present the collective set of main factors as derived from participants’ experiences. This collective set of eight factors map some of the elements present in the various practices of the designers in the ATO in relation to managing by design.

**Impediments**

**Impediment 1: Perceived nature and sensitivity of the design problem**

*Design Manager:* “So in my new policy context working with unannounced policy I can’t get actual users involved. This is gradually changing. The government’s established a tax design consultative panel where there are representatives from law firms, accounting firms, universities and so on who can advise confidentiality policies under development. But for the most part when I’m analysing policy the best I can get at a workshop is to ask somebody to stand in the shoes of the users. They might come from a business line that represents small and medium enterprises and I get them to say well just imagine you’re a small business person, obviously in the persona, but in the course of this workshop raise issues that you think that your persona would have.” [Interview, Design Manager #7, 2009]

This senior designer has many years of experience working with the Treasury department and the ATO in the early stages of policy formulation. This excerpt highlights the traditional paradigm of the government doing its work before it can engage with end users. The nature and sensitivity of these design problems are determined by the political elements of the day, the policy makers and social

---

38 These factors can be a subject of further research beyond this thesis.
sensitivities. The designer’s comment that “this is gradually changing” indicates that there is movement in this paradigm, but generally the reality is there and is an invisible boundary between the new policy work and the people who will experience these policies in action. Political sensitivities and the need to explore possibilities without leaks to the public domain lead the designers to make requests for the best person available in the design process to ‘stand in the shoes of the users’ as this designer discusses.

**Impediment 2: Lack of perceived value to take a design approach**

*Designer: the few people* [Public Managers, Project Managers] *that say, “I like design but let’s just get on with the work” and I think that’s probably the biggest hurdle for designers is people want to get things done so let’s get this project finished because, you know, project managers have agendas, SES [Senior Executive Service Public Managers] have agendas, everybody needs projects to be finished on time and think, we’ve got a short timeframe, what can we miss out on and it’s usually the design and then when we push for design and the designers actually - you know, we do the design, the thing that is missed out on is the user research. [Interview, Designer #7, 2008]*

This designer talks about the interactions between the designer (standardised package) and the public managers and project managers within the ATO and the ongoing negotiations that occur between the actors, both human and non-human, in the management work. This oscillation between the agreed standardised methods for design and actual work practices in the organisation are not without negotiation, discussion, arrangement and action. The positioning of the designers themselves and the methods of design into the everyday work of the public managers is a constant process of refining the way design will work in practice in relevant and helpful ways. The endeavour to engage users in the process of the management work is considered by some public managers and project managers as not an essential component of the work. Therefore these aspects of the design method are not done at all; as the designer said ‘one thing that is missed out on is the user research’. This raises an important condition - that the
work of the designers is to as much ‘do’ design as it is to convince others that taking a design approach is important.

**Impediment 3: Competing organisational demands**

*Senior leader (previous senior designer):* I’m concerned for design going forward in that the ATO has enterprise solutions and that the technology might end up driving the shape of the design as opposed to the user driving the shape of the design [Interview, Senior leader #3, 2009]

The above excerpt refers to “enterprise solutions” because at the time of this study the ATO was undergoing a multi-year program of changing its back-end IT systems. This significant program of work meant competing organisational demands for designers and a lower tolerance to design solutions with end users. The excerpt above refers to users driving the shape of design versus the IT driving the shape of design. The impact of the corporatisation of IT systems is a much larger impediment for managing by design more generally in the organisation. In this context of how it impedes the engagement, it particularly changes the allocated effort for designers as they can become more focussed on IT design rather than on administration or user experience design:

*Senior leader:* [Design] being taken down into a niche of IT systems design rather than perhaps law design or administrative design where it was previously used. [Interview, Senior Manager #2, 2009]

This is an important impediment to acknowledge because in large organisations competing demands will always be a feature to contend with.

**Impediment 4: Scope to change the decision is limited**

*Senior Manager:* The other reality is sometimes you have the opportunity and sometimes you don’t. The reality is when it comes to project level stuff, most of my stuff is policy driven and sometimes you have the scope truly to co-design and to consult. Sometimes the decisions are made and the truth is there’s no point in trying to co-design or consult some of it because it’s a done deal.

*Researcher:* So, when it’s a done deal, what would make it a done deal?

*Senior Manager:* A government decision can make something a done deal.
Researcher: So, when it’s - so, to help me understand, so when it’s a done deal, does that mean it’s sort of like there is no questions about the policy would work or is it more ... 

Senior Manager: Well, typically we’ll get some scope around administration. But you get more or less scope around administration depending upon how the policy’s designed. Sometimes, it’s designed in a way where you don’t really have another option. [Interview, Senior Manager #1, 2008]

This excerpt points to an underlying purpose of engagement, or co-design, and that is engagement should permit some sort of influence on the proposed idea or proposal. There is evidence here that the managers and designers judge whether they think there is scope to influence the decision or the scope of the new policy and from this determine if engaging with taxpayers or other constituents is worthwhile. The extent of engagement is impeded by the extent of ability to influence the decision.

The following diagram summarises the impediments and the design methods used in the cases described in this chapter:
**Drivers**

*Driver 1: Demand from the constituents*

The first driver to be discussed is the demand from the constituents themselves to engage with the public organisation because of their experiences with the services. This was one of the main impetuses in the third design problem solving history. This factor is important to discuss because it can be a misunderstanding that the choice of engagement is made by the public manager; in reality it is both the public manager and the constituents that can choose. The Tax Agent Portal case highlighted that the ATO was organised in such a way, including its managing by design capability, to be sensitive
and responsive to the issues and needs of the tax professionals. The group of designers and the work that they performed enabled the organisation to be aware of the end user experience and helped create the collaborative opportunities to improve the points of issue and pain for the tax agents. The voice of the community is an important one to acknowledge that drives engagement. The cases where the voices are negative are not desirable but it is about understanding that engagement is about a willingness to participate. This willingness, supported by the ability to engage, is enabled by the designers and the design methods – the standardised packages, as discussed in the previous chapter.

**Driver 2: Strong executive support**

*Senior leader:* to me it’s very much driven top down...there’s certainly a very strong executive support so if you look at it from organisationally, there’s certainly money and support for a particular business line that’s got ownership of the process and also provides some of the experts and also has the actual equipment to do it. You know, so even in setting up this building, they’ve gone to great deal to set up a big room on the second floor that they can do some of the (user) testing from there. So, that’s certainly one element. The second element all the time is through the leadership, constantly just asking particularly over those sorts of questions about what’s the level of (user) testing, looking at the results, what do people say and feeding that and asking those questions constantly. [Interview, Senior leader #5, 2009]

This excerpt, given by one of the senior leaders who advocate managing by design, highlights the importance of the role of leadership. They visibly show their support. In the last two design problems, organisational design and external tax agent portal design, strong leadership was present and engagement ensued with the end users – either staff in the organisational design problem or the tax agents themselves. The designers are able to run an autonomous design approach when there is leadership supporting their endeavours.

**Driver 3: Proven design process that leads to better outcomes**

*Senior manager:* I want to get to the outcome and the truth is to do [tax] design properly you work through a [design] process. So, to work through a process, for me, is not always, but can be, a little frustrating because it’s the
obstacle where I am now and where I want to be but the simple reality is I need people [designers] who stop me and say, “wait a minute, there’s a [design] process to go through here.

Researcher: What allows you to do that? Is it the people? Is it the trust? What is it that you have to have to allow that sort of yes, let’s you just go with this process?

Senior leader: A bundle of things. You have to have some faith in the [design] process. You have to have a belief that’s the right thing. You ideally have to have some faith in the [design] people you’re listening to and at the end of the day, you have to realise that a better design, in fact, ultimately gets a better outcome. If you’re really lucky, maybe even a cheaper outcome. So, to me, it’s a focus on those sorts of things. [Interview, Senior manager #1, 2008]

This quote helps us understand that for this senior leader the driving factors for his decision to enrol in managing by design is to understand that the design process will in fact lead to better outcomes, and this means that results of any changes to the tax system result in an improvement to a taxpayer or another key constituent’s experience with the tax system. This senior leader also talked about the value of engaging with citizens in the design of key products such as forms and communication products to inform and educate the taxpayer, this opens us to the possibility that engagement is gained when there is a clear sense of value derived from the engagement.

**Driver 4: Skilled and specialist designers**

Senior leader: I would say that that specialist and specialist facility that allow us to do observations of how people go about their taxation obligations. And also allow us to put in front of people products that we might be considering to observe them actually carrying out those – trying to deal with those products. And that that gives us an unbiased feedback as to the efficacy of those products. [Interview, Senior leader #3, 2009]

In all of the cases described we heard from designers who were skilled and held expertise in solving design problems. The excerpt above from a senior leader reinforces that the abilities of the designers themselves provides a professional expertise which the organisation invests and relies on to effectively and productively engage with taxpayers and other key constituents. The presence of the standardised packages of design methods and design roles are important drivers encouraging engagement.
These factors play a role in the extent of taxpayer engagement in the design process and are present in the ongoing practices of managing by design. The negotiations between designers and public managers, project managers, policy setters, and the other stakeholders to strike a balance of direct engagement or some presence of taking a user perspective, are a hallmark of managing by design. It is a balance of seeking appropriate events of engagement if the conditions are right. It is a contentious space because whilst there are normative ways of working, there are alternatives which are exhibited by designers; in this case organisation that challenge these norms. The spectrum of
engagement moves from locating the taxpayer, to role playing the citizen (embody the potential experience i.e. role play) through to direct engagement with the taxpayers.

**Conclusion**

This chapter has illustrated three different design problem solving histories and demonstrated what design methods and techniques have been employed by the designers to achieve the outcomes they sought to achieve. This chapter has also drawn out two major challenges which the designers in all of the cases faced in terms of complex and ambiguous design contexts, and the extent to which engagement was permissible. This discussion presented these challenges and how designers act to counter these and work with them. The problems, practices and challenges with which the designers operate helps present the multiplicity and ongoing negotiations which are part of their every day situation.
Summary: Design methods used to address Drivers and Impediments to engage and design methods

**DESIGN METHODS**

Design methods and techniques used by designers in the three cases when drivers were present:

- Research “Listening to the community”
- Collaborative design workshops
- Prototype solutions
- Mapped user experience with the tax system
- Established design teams with externals to resolve known problems

**DRIVERS**

- Demand from constituents
- Strong executive support
- Proven design process
- Skilled, specialist and passionate designers

**IMPEDEMENTS**

- Perceived nature and sensitivity of the problem (particularly new policies)
- Lacked of perceived value to take a design approach
- Competing organisational priorities
- Scope to change the decision is limited

**DESIGN METHODS**

Design methods and techniques used by designers in the three cases to address impediments:

- Locating the user through User pathway analysis
- Information design pictures to show the collective impacts
- Personas and “standing in the shoes of the user” and role playing
- Driving collaborative efforts where influence is possible
Introduction

The idea of a public manager being a designer is both provocative and challenging. The very proposition that a public manager may indeed take on a creative and collaborative mindset and call themselves a ‘designer’ has been an underlying thread throughout this thesis. In an earlier chapter the design roles created encouraged existing public managers to apply for and win design roles and become designers, as well as attracting traditional designers to join the ATO. The invention of design roles also implicated other public managers and senior leaders in the ATO and they too have become designers and apply design in their day-to-day work.

The main argument of this chapter is that embedding design in the organisation has resulted in different types of designing managers and different kinds of positions at a range of levels. The actors in designated design positions situate themselves in complex networks and through their actions enable performances of managing by design in the day to day work of the organisation. The argument of this chapter is that to understand these designing managers and designers it is necessary to empirically understand their contingent positions in relations within complex networks of human and material entities rather than the intrinsic capabilities, potentialities or personal characteristics of this group of personnel. This continues the application of Actor Network Theory which
draws attention to the presence of actors, human and non-human, and how they interact in order to account for social phenomena and how work gets done in the organisation. It is not about the analysis of the individual.

This chapter describes the situatedness of the designing managers and employees. The emphasis is on the actions that these actors take to build networks that make managing by design possible. This contributes to a silent space in the literature on how design is applied in organisational settings. The chapter argues that what is required is a network of human and non-human actors. This argument is novel as much of the research has tended to focus on, and continues to deal with, the individual and design thinking or to intrinsic abilities of people to design (Michlewski, 2007; Cross, 1995; Cross, 2006; Lawson and Dorst, 2009; Cross, 2011).

This chapter is an opportunity to focus on those situational elements necessary to achieve the practical and observable actions of design. It compliments and adds to a richer understanding of the manager as designer, especially in a public sector context. Therefore this chapter discusses the types of design managers and designers and how the agency of these managers as designers can be characterised by their complex networks.

The three types of designing managers and designers discussed are Senior Leader as Design Champion, the Public Manager as Design Manager, and the public employee as Designer. For each of these groups two questions will be answered. First, what does one look like? Drawing from the analysis of participants in this study who represent these different groups, personas have been developed. These are simple sketches which help paint a picture of what this type of design role might look like if you came across them in your organisation. Note that this description is not about intrinsic psychological
qualities, but more general observations about situated action in a network. The second question is what their network is and how do their relations in the network situate them as agents; that is as actors with the capacity to do design activities? To answer this, a description of the managing by design network in which they are situated is provided. Then within this network an analysis of the important relational aspects between human and non-human elements is undertaken. This analysis shows how different situation’s agency is a distributed outcome of the network and the emphasis is on the relations in the network and how this makes it possible to carry out managing by design.

The chapter concludes by assessing the agency of designated design roles across the three networks. The observation that these networks share similar qualities is drawn out, and a model of Managing by Design is developed. The model is defined by similarities of each role’s agency in their networks. The implication of the designated designers is that they act as ‘obligatory points of passage’ (Callon, 1986) for others in the organisation to participate in managing by design practices. This means that these actors play a critical role in the process of early stages of translation, and are instrumental in the ongoing embeddedness of the managing by design in the ATO. The managing by design model offers other organisations a tiered model of different levels of designated actors to evolve the Designing Public Manager within their arrangements.

**What are the types of Design Public Managers?**

By looking at the networks of relations that shape and evoke performances of design we can start to identify different kinds of managers and employees in the organisational setting. The navigation to these different kinds of managers and employees was done by seeking out those who hold designated design roles and, from them, others who they elected as peers or colleagues sharing similar views on design. These actors could be
found at many different locations. These locations and actors offer important boundaries of analysis because their activities and actions contribute to an understanding of new ways of working not yet defined in the public management discourse.

There are three types of managers and employees acting with the capacity to manage by design. One type of manager who can be found in the ATO is the Senior Leader as Design Champion. This role was evident in the case study both from officially designated champions and those who, in an ongoing day to day manner, behaved as Design Champions. These act in the network to shape and influence many actors. This manager acts in important ways to make space for the other types of managers and employees practicing design.

The second type of manager is the public manager as Design Manager. These people directly manage designers in the organisation. These are managers who live every day the design methods and design principles and see how they can assemble resources (people and objects) and allocate these resources to new problems and thereby embed the application of design in projects.

The third type of employee group is the designers. There are different types of designers and these employees practice design ensuring projects employ design methods and achieve the outcomes for the taxpayer or tax professional. The importance of seeing a multiplicity of public managers and employees as designers helps direct our attention to the complex networks which have been established in the ATO and which sustain the practice of design over an extended period of time. Each of these actors will be discussed below.
The senior leader or Design Champion

A persona

Max is a senior leader and is a Design Champion. Max has worked in the public sector for over twenty years and has held a senior level role for the last ten years. He is focussed on the outcomes of the organisation and results. He invests time in relationships and empowers people to do their job. In the capacity as a Design Champion, Max understands design in terms of how it creates value for the organisation, namely the outcomes and results (underlined for emphasis).

Senior leader: you need a very senior person who can some way I think really call the organisation, really advise the organisation and have courage of conviction to really push [design] through [Interview, Senior leader #2, 2008]

Max reinforces top down what it means to take a design approach, and his subordinates see this action.

Design Manager: Having a champion in the very beginning ...who was a second commissioner was really good because it gave that top down reinforcement that this was important [Interview, Design Manager #3, 2008]

He invests resources and support employees in design roles because he sees results.

Max can be counted on in conversations to stand for design. He spends time supporting and guiding others in design. He creates space in the organisation to experiment and learn.

Design Manager: [One] fantastic Design Champion ... allowed you to experiment more than anything and sort of broke these boundaries. So it wasn’t rigid, but also provided that guidance and that support, which I think was really, really important in those first few years....He would say this is design this is how we’re doing it and we’re committing ourselves to this process [Interview Design Manager #3, 2008]

39 Max is a fictitious character. The description is not attributable to anyone. The text is based on a thematic analysis of all participants who acted in this role in the ATO.
As a Design Champion Max also enjoys being active in the work of design. He feels it allows him to be creative and have a continued contribution to the solutions and how they are implemented.

*Senior leader, as Design Champion: So I am interested in design personally because I like the - this is a very selfish and very personal perspective, I like the creativity that I believe goes with design and I love the intellectual jousting that can go on with - of ideas where you are - in order to achieve a good design, you are about exposing, considering, accepting and rejecting different ideas. I love that. I find it energising. So for me, it’s a very comfortable, natural fit for me to support design but it - as an idea, needs champions and it - but in that respect, it is no different to any other capability or idea that finds its place in the organisation [Interview Senior leader #2, 2009]*

Max also manages an organisational business area and is responsible for the specific organisational outcomes. Max is not the only Design Champion; he has peers who also support design. Max’s formal organisational title is not Design Champion but his peers and staff readily acknowledge he is one.

The role of the senior leader as a Design Champion is an important feature of the network. In what ways can we see their role in the situation of managing by design?

**Network described – Strategic design**

The senior leader as Design Champion is an actor in the managing by design network who employs strategies to enrol others and translate other’s interests into their interests. The senior leader has a few advantages by nature of their position and influence in the organisation which means they create obligatory passages (Callon, 1986) or places of influence affecting a range of actors, both human and non-human. In this section I will follow the Design Champion and describe the actions which affect others in the network thereby maintaining stability in the managing by design network.

The first place to start this discussion is to look at the Design Champion’s network. This is the first zoom on the managing by design network in this chapter. The figure below is
an actor network map illustrating a range of elements which situates the Design Champion. This is a complex and heterogeneous sets of actors and activities. Illustrated are actors from across the organisation and external to the organisation and in the network of the Design Champion. The importance of this network is to understand how the Design Champion has the capacity to act and enrol others in managing by design. In other words how this manager creates obligatory passage points, or funnel-like points, in organisational work where actors and action need to come together and follow scripts.
THE SENIOR LEADER AS DESIGN CHAMPION ZOOM 1

Overall Map

Senior leader as design champion

- Media
- Parliamentary process
- Consultants
- The community
- Tax Agents Board

- Government
- Expert users
- Academics
- Natural systems
- Professionals (Tax)

- Treasury
- Intermediaries/3rd and 4th parties
- Super Fund organisations

- Other senior leaders (peers)
- Core senior group
- Software vendors
- Another government agency

- Organisational business lines
- Physical spaces like big rooms
- Tax Act
- New policy

- Workshops
- Design process and methodology
- Their executive (direct reports)

- Design artefacts: blueprints, statements of intent
- Good designer
- Project Teams
- Business as usual changes

- Project Managers
- Administrative tools such as forms, applications, inquiry lines

- Employees
- Team of designers
- Project Managers
- Lobbying process

- Other senior leaders (peers)
- Another government agency

- Core senior group
- Software vendors
- Tax Act
- New policy

- Organisational business lines
- Physical spaces like big rooms
- Tax Act
- New policy

- Workshops
- Design process and methodology
- Their executive (direct reports)

- Design artefacts: blueprints, statements of intent
- Good designer
- Project Teams
- Business as usual changes

- Project Managers
- Administrative tools such as forms, applications, inquiry lines

- Employees
- Team of designers
It is a complex network in which the senior leader as champion of design is situated. In what ways can their role be understood? What are the important relations? And what happens in these? What sort of actions does the Design Champion take? In the analysis of the senior leaders who acted in the capacity as Design Champions the common themes will be discussed.

**Scene 1: Create interventions with peer senior leaders fostering design**

The Design Champion holds firmly to an understanding of design and looks for opportunities to create interventions with peers. Some of the observed interventions relate to solving problems and supporting those interested in taking a design approach.

Firstly the Design Champion looks for targeted opportunities or design problems then seeks to bring together peers on this specific design problem. This means that the Design Champion facilitates a design process with peers by requesting their involvement. As one Design Champion described:

*Senior leader, as Design Champion: I drive a bit about getting a couple of core senior people involved (in the design problem), map out the design, (and) test it (with them)... [Interview Senior leader #5, 2009]*

The Design Champion acts as a facilitator enabling peers to collaborate over the design problem. The physical presence of peers in one room encourages collaborative behaviour. The workshop format allows all participants to contribute and behaviours of design are encouraged. These behaviours include visualisation of the problem and possible solution by mind-maps of the problems on whiteboards, and sketches of solutions. The ability of the Design Champion to hold a collaborative conversation and to visually represent the conversation is critical. This means that material items such as whiteboards, pen markers and large sheets of paper are at the ready disposal of the Design Champion. They operate in diagrams and pictures and encourage modelling of
the design problem solving process. The Design Champion generates their peer’s interests in design by immersing them in a design process.

Secondly, the Design Champion seeks to support peers and encourage them to take a design approach. The Design Champion works across the organisation and with other senior leaders. Not all of these senior leaders will understand or grasp design, but some of their peers will grasp design. This is where the Design Champion actively looks for peers who have expressed interest in design. As one senior leader recounts (underlined for emphasis):

*Senior leader as Design Champion: …try and look for people that are going to work with you [as Design Champion] and support you and take you in the direction[of design] and really encourage and support them and their activity[of taking a design approach] [Interview, Senior leader #2, 2009]*

This means that the Design Champion takes an interest in other senior leader’s business areas in the organisation. The Design Champion does not remain siloed in their work; they reach across the organisation and broker relations with their peers. This is evidenced by one example in the case where joint recruitment activities for designers were undertaken for multiple areas in the ATO. This activity strengthened the network and relations between the senior leaders encouraging design within their business areas.

**Scene 2: Use existing organisational settings to inject managing by design**

The management of employees in their day to day work is where the Design Champion initiates actions which enable design to be enacted. This is achieved by the actions of the Design Champion in the existing organisational settings such as management of projects. The interaction between senior leaders, project managers and the project teams is an opportunity to inject design thinking. One way this is achieved, as recounted by senior leaders, is to inject design into the project management processes of the
organisation. At project stage gates, senior leaders request from project managers and project teams to demonstrate how they have thought about all the user implications of the project and that the design work has been thought through end to end. For example, one senior leader referred to the development of a letter for taxpayers, and the inquiry went like this:

Senior leader: I asked “did you test this before you put it in?” and the answer was “I didn’t have time”…. For example if you are sending out a note (letter) have you tested it with a few people? What will they read? How will they read it? What will they understand? [Interview, Senior leader #5, 2009]

This line of inquiry forces an end user perspective and the outcome for people affected by the work. The senior leader further explains that any sort of change including changes to current existing products should be instituted by taking a design approach:

where it’s almost like business as usual things where they’re doing a bit of an update to a booklet or they’re changing a letter or those sorts of things that they - because it’s - they’re changing something that already exists, they often don’t think should [user] test this and that’s what I mean [by design] [Interview, Senior leader #5, 2009]

The Design Champion is relentless in this pursuit of asking questions about usability because this is how they inject design process and methods in the day to day work of the organisation. They create obligatory passage points of project approval and it is at these points which the project managers and their projects are required to meet the scripts of managing by design. The way this is done according to one senior leader is not to over emphasise design for design sake but rather to emphasise the outcomes and results that are expected and therefore inject design throughout the progress of the work of their employees:

Senior leader: …you have to pervade your culture with the concept of user centred design but not make them (employees) think it’s every time a really big deal… because everybody’s doing some level of design. [Interview, Senior leader #5, 2009]
The act of asking questions which explicitly position the user in the context of the work of the organisation is one strategy the Design Champion employs to ensure managing by design occurs. The existing project management process and the alignment with the design method permits the Design Champion to inject managing by design questions throughout a project.

**Scene 3: Define and reference design scripts in speeches and communications**

The Design Champion reinforces the use of the standardised packages of design theory and methods because they maintain an important role in stabilising the interpretation of design across many social worlds within the organisation (such as information technologists, lawyers, accountants) and external to the organisation (such as tax professionals, tax associations and community forums). One way the senior leader can be observed as defining and scripting is in the communications and messages they present both within and external to the organisation. In the analysis of organisational documents across the period of this study there were a number of presentations given by senior leaders and in these presentations they reinforced the design approach. For example, in some of the public presentations the concepts which senior leaders reinforced were such things as (underlined for emphasis):

*Speech (at the time) by the Commissioner of Taxation, Michael Carmody: We will be working with the community, especially small business people, to jointly develop ways to make things easier, cheaper and more personalised. ... We are looking at a much broader picture than how people interact with the Tax Office... When the community and my people come up with ideas, I want my people to quickly work them up to a stage where we can test them with taxpayers to see if they deliver. For example, business people and tax practitioners have told us that they want to see their account online. We now need to test the best way to do this. We need real users to test prototypes to improve products or services for general use.* (Carmody, 2002a)

The direct plain English explanation from the Commissioner highlights the design theory and methods which are participatory and collaborative between the ATO and the
community and the taxpayer, idea generation and prototyping solutions, and user testing to ensure better experiences (underlined for emphasis):

Speech (by current) Commissioner of Taxation, Michael D’Acenszo: By listening to and co-designing with taxpayers and others, we can build community trust in our administration and reduce compliance costs. This more empathetic, user-based approach ensures that administrative solutions are designed and built around what works for taxpayers. (D’Ascenzo, 2007)

This speech, some five years later, reinforces the same messages. The messaging and script has been maintained despite a change in leadership. The significance of these speeches is that they reinforce the Design Champion and hence the organisation’s commitment to design. These speeches, as material objects act as formalised scripts for the senior leaders in their dialogues with multiple actors in the tax system.

Scene 4: As a voice of intent, participate in design projects

The Design Champion is also an actor that is active in the performances of design and sees this as an opportunity to inject design thinking and manage critical project outcomes through design. The role of the senior leader as Design Champion is labelled in the process of design in the ATO design methodology as the ‘voice of intent’. This role was reinforced through active participation in the design projects. The role was described by one senior leader, who was a Design Champion:

Researcher: What do you mean by voice of intent?

Senior leader as Design Champion: What I mean by voice of intent is, is there one, preferably one person or less than three people, no really one I think who takes a strong personal accountability and interest in the project. So it’s not so much if its three people it probably does not work, you really need one person who can call the shots. The problem is if there is three there is no arbitrator.

Researcher: Why do you need an arbitrator?

Senior leader as Design Champion: I think you need an arbitrator when you’ve got design decision that needs to be made. If there is not arbitrator those questions often go around in a circular way for months. So there will be circular debates about who is the main beneficiary, circular debates around how the delivery will occur, there can just be circular debates around any of
The Design Champion acts as an arbitrator which means, in practice, the Design Champion engages in the design process which is dialectic and collaborative in nature. They listen to all sides of the debate during the design process. Their presence does not hinder the dialogue but rather they act in the interest of the intent of the work. They maintain the outcome in mind and therefore ensure decisions are made in light of achieving this intent. In the case of policy intent, a good Design Champion maintains this intent throughout the design process. The Design Champion ensures effective decision making within the design process. The decision making is relational between the Design Champion and the participants – internal staff, or citizens in the design process. The “design champion” or senior leader does not operate in the same power role as they normally would in their day to day roles, rather in the design process, they enable power sharing, by means of creating a permeability between the hierarchy of power and letting those people outside the power hierarchies be invited into the design process to participate, to bring out their tacit knowledge and bring it into the decision making processes of the organisation. The decision making power is not completely devolved to the participants, yet at the same time they are able to make their contribution and input their experiences into the decision making process. This is a critical role for the senior leader as Design Champion because the complex problems faced by public managers and employees require ongoing decision making as the design process unfolds. The Design Champion is active and present and sits in workshops,
visits sites of other staff members, goes out into the community, and engages with the design problem solving process. This is illustrated below.

![Diagram](image)

Figure 60 Design Champion within the design process

The senior leader as Design Champion will situate themselves in design projects and act as the voice of intent when the projects are critical to the organisation outcomes and purpose (a Tier 1 project). They ensure design can continue through their decision making.

**Scene 5: Invest in design resources and design projects**

In the network of actions the Design Champion works closely with design managers and designers. This team of human actors work on projects of strategic importance to the Design Champion. They work collaboratively and spend time interacting in person and throughout the design project with a high level of frequency. These interactions shape and direct the design projects. The Design Champion brings the strategic view and
perspective and the designers work at the next level of detail, as a Design Champion describes:

*Senior leader, as Design Champion: Well I think they [designers] just bring a much more holistic view to an issue/strategy. So if it’s a new policy initiative, if it’s a compliance strategy, they bring a much more holistic and much more connected view and their experience comes to the fore in that regard... I see them bringing discipline to the [tax design] process and I think that’s really important because I reckon the over-engineering that’s occurred, and has occurred, occurs because there isn’t the rigorous disciplines attached to the design process. I think the design process allows you to sit back and look at a [tax] process end to end [which] is really important whereas when we - when we’re caught up in it, you’re just designing a bit here and a bit there and a bit here and a bit there and you’re reacting perhaps more to the environment.*

[Interview, Senior leader #6, 2009]

In the ATO it is common for a Design Champion to have their own team of designers reporting within their organisational structure. This allows them to access these people, the design methods and process, and the productivity from the design activities. The direct control they can exercise over these resources ensures the projects which need the design activity receive it and results are achieved:

*Senior leader, as Design Champion: Well we didn’t have a design team up until probably 12 months ago... [Now] we’re doing lots of design initiatives and we had a couple of people who we pull out from time to time to get involved in design and we’ve got some very talented people and we get good results*  

[Interview, Senior leader #6, 2009]

The dynamics between the Design Champion and the designers materialises in critical work of the organisation being designed and implemented. The relations are characterised by a disciplined process that is collaborative and productive. The relational aspects between the Design Champion and the actors in the network, are about creating interventions, using existing organisational settings, reinforcing scripts, participating in design projects, and aligning design teams with outcomes. This demonstrates their role in adopting and embedding design into the organisation. In this analysis there is one more aspect to draw out; there are multiple Design Champions in the network. This is evidenced by the many senior leaders who contributed to this study
who performed management activities which demonstrated design in action. One senior leader who was very active in the early stages of design being embedded in the ATO, refers to this network of Design Champions, (underlined for emphasis):

Senior leader, as Design Champion: [A] guiding coalition is a strong voice of intent. The guiding coalition notion though is – because Kotter says if you only have one voice of intent your change won’t succeed. So I think even though there needs to be one person accountable and really passionate [about design] that person needs peers who are supporters because organisational change is inevitably hit with resistance. Also people can move on at short notice in large organisations. So unless you have a network of people who are passionate about the change it won’t happen. [Interview, Senior leader #2, 2008]

This comment reinforces agency of the Design Champion to enrol others and build their network. The Design Champion is a network builder. He or she negotiates all the actors necessary for the network, depending on the design problem, and gets them interested in collaborating and following the design method and process.
The Design Manager

A persona

Mary is a Design Manager. Mary works at the executive level of the ATO and has operated at that level for five years. She is organisationally aware of the strategic goals and outcomes. Mary is located in one of the business areas in the ATO. Mary is responsible for leading design projects and building and managing a design team within her business area (underlined for emphasis):

Design Manager: What I want to do is build up our capabilities so that we have - we’re just a little bit more rounded so that we’ve got at least a business processor and another facilitator as well as me. Yes, so it’s just basically being able to respond to design in Large Business &International\(^1\) and design needs. [Interview, Design Manager #9, 2008]

Mary considers herself to be multi-disciplined and brings to her Design Manager role a variety of skills from her educational and career experience in such areas as marketing, risk management and work in leadership and training. She has colleagues in the same role who bring different backgrounds such as economics, business analysis and design such as architecture. She has a strong interest and ability to communicate design in the organisational context. She builds relationships well with others, including peers, senior leaders, her own design team and with a variety of stakeholders across the Tax System. She actively engages across the organisation and within her business areas to ensure design is supported and understood. Mary is focussed on influencing and persuading others to take a design approach.

Design Manager: I make sure that we’ve got projects that need to have design thinking in there, have them in there. It’s about growing people, the practitioners themselves. [Interview, Design Manager #8, 2008]

---

40 Mary is a fictitious character. The description is not attributable to anyone. The text is based on a thematic analysis of all participants who acted this role in the case organisation.
41 This is a business area within the ATO.
She is determined to demonstrate design in the day to day work of the organisation.

Design Manager: my new Assistant Commissioner ... really she trusts what we‘re [the design team] doing and just by me, again, showing some examples and she was very quick to say, “I’m happy to keep sponsoring this approach with it” and yes, and that I have a very good capability of people who are thinking about different things and - but it is a constant thing of trying to be proactive with it [Interview, Design Manager #4, 2009]

Mary spreads her time between injecting design into the projects within her business areas and building the capability of design within her team.

Design Manager: I’m currently mentoring one of the project managers for one of our significant projects and she’s starting to get design. Now her Assistant Commissioner, is very keen for her to get design because she’s a keen proponent of design. So I’ve just been having sessions with her, going through and she’s a really smart project manager and she seems to be getting it quickly[Interview, Design Manager #7, 2009]

Mary is formally appointed as a Design Manager and is recognised in the organisational hierarchy.

The role of the public manager as design manager acts as an important actor in the network of building managing by design. In their network, the actions and interactions are observed as a practical execution of design activities and results within specific business areas. This design role is an important role to explain how design works in the ATO.

Network described – Managing design

The Public manager as Design Manager is defined by the many relations that make up their network. The Design Manager is dedicated to design being applied every day in the work of the organisation. There are many different interactions and activities that the Design Manager engages. The following illustration shows the human and non-human actors in the Design Manager network. See figure below.

---

42 This role is senior to the project manager. The Assistant Commissioner role is a Band 1 SES in the Australian Public Service. In the ATO it is 4th tier from the top of the organisation.
THE PUBLIC MANAGER AS DESIGN MANAGER ZOOM 2

Overall Map

Public Manager as Design Manager

Design artefacts: blueprints, statements of intent

User research activities

Designer Manager meetings

Executive in the ATO

Designers across the organisation

Designers within their team

Consultative Forums

Tax Professionals

External reviews

Communications specialists

Market research companies

Focus groups

Business teams working on projects requiring design advice

Project management methodology

Project Managers

Simulation Centre

Design training packages and presentations

Strategic projects

Product design

Communities of Practice

Design vision

Workshops

New policy work

Design Champions

Existing systems work

Taxpayers

Travel to capital cities all over Australia

Communications specialists

Market research companies

Focus groups

Business teams working on projects requiring design advice

Project management methodology

Project Managers

Simulation Centre

Design training packages and presentations
This network illustrates the practical execution of design. The work of the Design Manager is characterised by constant processes of negotiation and persuasion between many actors. If we follow the Design Manager there are some important scenes we can analyse to understand what their role is in managing by design.

**Scene 1: Coordinating and practically engaging the community**

The Design Manager is responsible for employing the design theory and methods in projects across the organisational area they work in. One of the important work packages they engage in within their network is encouraging other actors at every opportunity to engage with the end users and the community. This is driven by the need to break down the barriers between the tax manager and the community. The drive to engage in the physical sense, not just in the invented or conceptual sense, is a critical differentiator of the Design Manager’s role compared with other public managers in the ATO. The Design Manager persuades and leads projects and public managers to break from traditional, distant views and understandings of the end users to an immersive, collaborative and participatory process. The Design Manager does this through creating interventions which create environments which enable the taxpayer and/or tax professionals and the organisation to collaborate on specific design projects. The Design Manager actively coordinates, designs appropriate activities and workshop agendas, and is present facilitating effective engagement with all actors. One important point of analysis is how this network of actions, and actions enabling engagement with the community, is created. It is multi-staged and moves through phases of activity which add up to a community engagement approach. This is illustrated by the example told by one Design Manager about how she engaged the Australian Indigenous business community in a tax project. The points, emphasised by the author, in this extract relate to the multiple interactions in the network employed by the Design Manager:
Design Manager: “In one of the examples that we used was - well, one of the areas that we were interested in looking at was the - find out more about indigenous micro businesses. So, people, not in the ones that we’re in there - in a say a not for profit area but ones that are genuinely in business and at least, one of the [internal organisational] people was indigenous to understand what are - are there any key issues that we need to address?...one of our design facilitators has actually come from an academic world so she was able to do some sort of research of academic literature plus we used some networks that we knew. We have things like an indigenous tax advisory group so we’re able to use those people and some other personal networks where I had - where I knew people that actually serviced indigenous business areas so we used a combination of those and then some of those contacts led to other contacts so yes, and it proved - and we probably focussed originally on intermediaries and then the intermediaries went - told us, you know, some of the stories that they had because we’re looking for some of the key success factors for these people and then using that to help, you know, with our way that we deliver for that market. [Interview, Design Manager #4, 2009]

The Design Manager brokers and creates a network of actors which facilitates knowledge creation about the needs of the Indigenous community. The role of the Design Manager is to act as a resource agent identifying and drawing together all of the relevant actors needed to ensure managing by design can occur. This highlights the capacity of the Design Manager as a key actor who negotiates, influences and persuades others to participate in managing by design activities and projects.

**Scene 2: Discerning the quality of the material or ‘design product’ in collaborative design processes**

In the first scene the Design Manager is persuading other actors to engage with the community. In this scene the engagement argument is tempered with the need to deliver results that come from co-design activity. There are challenges; one is that interactions with the community generate so many ideas and solutions these may go beyond helpful solutions. This points out that the ‘material’ or non-human actor in this network, the ‘design product’, is an important element that is shaped through interactions. As networks form and evolve in the making of this product there are cases where this can lead to over-engineered solutions. This is described by another Design Manager when a
new policy project\textsuperscript{43} underwent community engagement as part of its design problem solving process (underline for emphasis):

\begin{quote}
Design Manager: We had to announce government intent so in February we actually got representatives, the tax practitioners along. They were seen as a very important person, people to deliver the [New policy] because three quarters of Australians use tax agents… We had to work with the tax agents about what would they prefer, one way or the other way to deliver and we came up with a very workable approach. However, subsequently there was consultation lower down and the lower down tax agents had perhaps narrower views about what they wanted and in the end we came up with two opt out mechanisms where you could fully opt out or partially opt out with some of your clients. And it was possibly over designed for something that had to be delivered in three months… [Interview, Design Manager \#7, 2009]
\end{quote}

This excerpt tells us the impacts of over engagement and the perspective of the Design Manager upon reflecting on the process and results. The role of the Design Manager is as much about running the process as it is about ensuring the product being designed is meeting the right quality or intent. The balance between collaboratively designing solutions with end users and ending with a final product that meets the needs of the users is territory the Design Manager manages in their network. In managing by design cases like the example above, the enthusiasm to collaborate with end users can be overdone and this affects the final designed product. The material actor in this scene, the ‘product design’, which was the result of a process to comply with a new piece of tax law, is an important actant which is shaped and changed by nature of the managing by design network. The more the Design Manager can influence this network of actions the more likely the actant will develop to meet good product design criteria. The Design Manager recognises that this is a point of success or failure. The design process is one thing but the final designed product is the outcome that counts.

\textsuperscript{43} This new policy is unnamed for confidentiality reasons.
Scene 3: Managing up and across the organisation to build an understanding of design

The Design Manager is constantly seeking out other actors to build an understanding of managing by design. This is important in organisational contexts because there are many elements which change. The complex system, the organisation, is not static; rather it is constantly changing. This means that at any point in time there are new actors in the organisation and the Design Manager needs to take this into account in terms of enrolling and persuading into the work of managing by design. These new actors include appointments of new senior leaders, new colleagues, or new project managers, either from within the organisation or from outside the organisation. This can mean uncomfortable work for the Design Manager as they interact and persuade these new actors to understand managing by design. These situations require the Design Manager to craft strategies to ensure managing by design takes place. This is described by one Design Manager who had to deal with new executives (underlined for emphasis):

*Design Manager:* It was a real fight. I had to fight with the Executive to get them to understand it [design]. They told us that we [design team] had to change the way we operated. The credibility issue also was around we weren’t experts in the business of taxation so how could we add value to a process if we weren’t an expert in that part of Tax Law?

*Researcher:* So did you ever get around that?

*Design Manager:* Well yeah I did, and my strategy was to work with the communications people because they had the credibility. ... I came and helped them do some User Centre design on some of their communications products which got them on board, because [they] also had a good relationship with the risk managers. So some of the risk managers started to see the value and I went and gave presentations to them about how this [design] was done and that we [the designers] could go out with some of their audit staff and show them some proper user research methods and the difference between the

---

44 Risk Managers are formally appointed roles and in some business areas some of these will form part of the Executive group. This is important in this example because of the barriers from the collective Executive toward design, tackling the risk managers directly was an important strategy to shift the Executive group.
two. So I started to get some traction there... [Interview, Design Manager #3, 2009]

This approach of working across many actors to influence and persuade was commonly used by Design Managers to tackle the challenge of people misunderstanding design. In this excerpt the Design Manager demonstrates the multiplicity of actions taken to engage executive and peers in the organisation. The process of working with other actors who have credibility, demonstrating design process on existing products, and then snowballing to other actors in the business, such as Risk managers and Audit staff, allowed a process of translation of design. The Design Manager initiates actions and conducts activities which shape and influence other actors. This activity progressively ensures more actors are enrolled in the managing by design network. It is a demanding aspect of the Design Managers role.

**Scene 4: Building a design team**

The relationships between the Design Manager and the design team are a critical set of interactions in the network. The Design Manager is attentive to building a team of designers that can be trusted and are cooperative so that the work of design can be done. The Design Manager is discerning about who needs to be part of the team and will recruit the right people to their network. The Design Manager recognises that as part of this process they need to skill up other actors who may not necessarily have design experience. The intent is to build a team that can maintain the work of design across many projects. Building and developing this design team is described:

> Design Manager: ... I came into [this business area] a couple of years ago. I was brought in to actually turn their [the business area's] project office into a design centre and that was a very interesting and terrible at times experience because it was called the Design Centre. I went in there and there were no designers in it for a start. They were all project officers. So I brought in my own staff to try and then skill the other guys up. So my sort of strategy was

45 Referring to the difference between audit research methods and user based design research methods to understand taxpayer behaviour.
okay, let’s bring in three or four designers and let’s double them up with the project managers and do some skills transfer and try and build some generic capability. [Interview, Design Manage #3, 2009]

In this scene the Design Manager describes how a design team was built with existing staff and integrated new staff with design skills. This feature of working with non-designers in the building of design capabilities draws attention to the work of the Design Manager to transfer design skills and experience to others. The Design Manager is active in skilling the design team so that they are capable of conducting design. The Design Manager creates new materials, such as presentations and training sessions, which enable skills to be developed.

Scene 5: Managing the work and allocation of work to a design team

The management of design projects and the allocation of effort across designers is another important activity of the Design Manager. The role of the Design Manager is to ensure the right projects have been identified and the design team have allocated the right people. In one area, the corporate area of design, Business Solutions, went through a number of attempts to work out how to effectively allocate work to designers. The excerpt below points out that the process of allocation is a matter of constant refinement and change over time.

Design Manager: And we were having these meetings. The directors of the different teams each of which had about 20 or 25 people in them, and we’d go through this interminable list of all the new engagements coming in and sitting in a room. Three times a week for two hours going, ‘Okay, so which team should get this? … this sounds like a user researcher thing. You should do it.’

‘Okay, yeah I’ll take that one.’

‘This one sounds like … I don’t know what it is but I don’t have any capacity. Why don’t you take it?’

‘Okay, I can make it into a user research thing because that’s all [the resources] I’ve got.’

So we then restructured it to make them blended teams which meant that when a problem came in we could actually start to think about what level should we
be operating at? Where’s the real problem? And then we could put together two or three people to attack the problem [Interview, Design Manager #1, 2009]

This Design Manager’s account of allocation of work to design teams highlights a few important characteristics of this part of the network. Firstly, the demand for work being an “interminable list of all new engagements” signifies the management of design resources is an important activity for the Design Manager. Secondly, that in some areas where there are multiple Design Managers, they come together and work out how they can fulfil this demand. The tension of capacity and team capability is the balancing act they discuss in their interactions. Thirdly, the evolution of how the designers are assigned to projects from a response of supply to demand, to ‘what is the real problem’ that the new project is addressing? This then created a more integrated view of design skills required to address the problem.

*Scene 6: Leading design projects and ensuring design is integrated*

The Design Manager is not only active in their network in terms of influencing, shaping, persuading and managing, they are also deliverers of design work as well. This is an important observation because as Design Managers they provide practical leadership in how design works. They are responsible for setting a standard of work which others in the network of managing by design see and model. The Design Manager will predominantly lead design activities by designing the design process for a project, facilitating workshop activities and leading work in other areas of design such as user research, business analysis and prototyping of changed experiences and products. In the cycle of a design project they might come in and out depending on the scope. There is a point in projects where the Design Manager forces integration of the solution from the end users experience that creates other forms of activities in the network. For example, in a project which had high visibility in the organisation because
of significant impact on a large group of taxpayers, the Design Manager discusses how the role was to ensure the proposed solution was integrated to meet expectations of a good taxpayer experience. This excerpt highlights what influence the Design Manager had in that process:

*Design Manager: ... they’ve [the project manager and project team] done months of the high level design and some of the detailed design then right at the end, we [Design team] were doing a user walkthrough and we did like a simulation of it and had it all set up with actual people off the street recruited in to go through the different processes and check for gaps in the processes and so on... we get to the end and, you know, and something’s come out. [Interview, Design Manager #4, 2009]*

The Design Manager orchestrates this event to user test the integration of all of the design work delivered by the project team. The Design Manager has a firm line of inquiry based on how well the end user experiences all of the proposed changes. These changes included new tax knowledge, new processes to comply with, and a new form to complete. The Design Manager points out that this event draws out gaps which need to be resolved for effective delivery. The Design Manager creates a network of real taxpayers, project team, designers, and non-human elements, such as mocked pathways of experiences and an organised physical space, to engage the taxpayers; a process that allows effective testing of the new idea.

**The Designer**

**A persona**

Sean* is a designer and has worked in the ATO for about four years. He has been in his design role as a design facilitator for the last fourteen months. He works for a design

---

*Sean is fictitious character. The description is not attributable to anyone. The text is based on a thematic analysis of all participants who acted this role in the case organisation.*
team in the small business area. He reports to a Design Manager. He works with five other designers. The other designers in his team include another design facilitator, two user researchers and two information designers. Sean is a highly energetic design facilitator and has a credible reputation across the business line for his facilitation and design skills. He has good working relationships across a number of areas in the organisation. He is deeply interested in design and has done a number of short courses and been mentored by some external consultants. He is willing to immerse himself in new contexts and work with new people on projects. Sean enjoys the challenges of complex tax projects. He relies on his peers in the organisation who also have design roles and he participates in the communities of practice for design facilitation. He also engages in the broader design community across the public sector. Sean prefers to see a project through than only do a part of a project. Sean is passionate about making sure things work in practice and that the users are considered in every project. Sean takes pride in designing solutions that are based on addressing real needs, and delivering something of value.

**Network described – Design Execution**

The network of the Designer is similar to that of the Design Manager. The critical differences are in the areas of the design artefact, the execution of the design work and the depth of engagement with design projects. The designer in the ATO is not a lone genius - they are interactive and engaged with other designers. The designer is part of a larger group of designers and whilst they are allocated to specific areas in the organisation they interact with other designers regularly. They are busy doing design and spend more time on a few projects and run the design process. An illustration of this network is below.
THE PUBLIC EMPLOYEE AS DESIGNER ZOOM 3
Overall Map

Public employee as Designer

New policy work

Taxpayers

Shaping the tax administration system
Designing experiences
End to end design
Workshops
Information Designer
Business Modeller

Product design
Communities of Practice
Design Facilitator

Mentoring days
Core design teams
Rapid Solution Design

ATO staff
Executive in the ATO
Design community
Work across business areas
Model Office
Design graduates

Design artefacts: blueprints, statements of intent
User researcher
Design team

Design artefacts
Design community

Materials whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work
Capability Development Centre

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials

Capability Development Centre
Whiteboards, paper, design applications
Simulator Centre
Portal user lab
IT designers

Walls to pin up work

Materials
The important relational aspects in this map are discussed below.

**Scene 1: Creating the design artefact to understand and communicate change**

In the designer’s network the development of the material, or the non-human, is a significant element. The non-human actor in focus is the creation of design artefacts which result from the process of designing solutions. The design artefacts can range from individual elements from within a design project, such as scenarios or user pathways, to a combined artefact of many types of designed elements, such as a complete end to end solution such as walkthroughs. These artefacts are important objects in the designer’s network because these objects embody significant meanings and understandings across multi-social worlds. They act as important actors in their own way when engaging other human actors in the managing by design network. The example told below by one designer refers to a complex set of changes to the ATO’s administrative systems and services, namely the Change Program. The designer breaks down what it means to design:

*Designer: We created scenarios for how Change Program worked and presented that to various ATO execs. So I started learning about Change Program at that point. And I suppose that’s where I began learning about design in the sense that it’s about making, documenting things, making them visible, showing how they affect the user and using images, I think, to convey information to people. [Interview, Designer #5, 2009]*

In some cases the design artefact is more than some scenarios sketched on a page. It can also mean a whole room dedicated to communicating the change. This is described by another designer who refers to the model office, a physical location in the ATO which is used to visually show how certain projects will work.

*Designer: So they [Model Office designers] do the visualisations. They will look at a piece of the change program, for example, like the technical components so they will have to understand how it works by interviewing people and things like that and then present it in a visualisation. When we talk about ‘visualisation’ it is like an animated presentation I suppose. You
can have voice-overs and things like that. So if it shows that a piece of data is going from one place to another you can actually see the data travel through whatever it needs to travel through to get to the spot and then what do they do with it. So what does the client have to enter? So you might have a screen pop up and what they have to enter, so you actually get to see how something is going to be designed in the future. [Interview, Designer #6, 2009]

The last point, “see how something is to be designed in the future”, emphasises the importance of the designer’s role in driving change through visualisation. The designer produces materials which communicate preferred futures, providing a common model for other actors in the network to understand the change.

**Scene 2: Create the networks to enable decision making**

The designer not only visualises the change for communication purposes, but their work creates materials which help senior leaders and other managers make decisions. This is because the designer is able to draw together many aspects of the complex change picture by working across the organisation and creating interactions with many other actors (other staff across multiple disciplines, and other materials such as reports, statistics, and research). They broker new knowledge and present it in ways which help decision makers. These materials are not just pictures and diagrams of lots of information; they are synthesised and elegant information designed representations drawing out the main issues for the decision maker’s attention. As discussed by this designer, (underlined for emphasis):

*Designer:* I guess I am putting together information that senior people can look at and make a decision. .....I guess what I have been able to do is to make visible to equip them with all the information that they need, but in a visual way. Because you can talk about it and they might not necessarily understand because some of the people that are making decisions may not really be that technical. So unless you show it in a business case and an end to end from the time the client is doing something to like going through the whole process and getting back to the client [its unclear to the decision maker], do you know what I mean? [Interview, Designer #6, 2009]

The craft of the designer is to be able to piece together information from many sources. They are expert at creating the networks which help generate this knowledge. The
extract above refers to the end to end or whole process, and this means that the designer would have interacted with all the people in that equation to generate that understanding. This helps us see that the designer is adept at working across many social worlds and at facilitating the information gathering to enable decision making. They create meaningful artefacts that can draw together many views.

**Scene 3: Learning by observation and knowledge sharing**

The designer is not always engaged in completing design activities themselves, they are also engaged in observing and learning from other designers. In their network they surround themselves with other designers who have more experience so that they can learn. This is important for designers who are more junior in the organisational hierarchy, or are new to the organisation, or are new to the public sector or to administrative design. This aspect of their network provides the designers with support to develop as designers. This is described by one designer, who joined the ATO as a design graduate (underlined for emphasis):

*Design: So I learned mostly by doing and bouncing off other designers. I didn’t learn until I was actually in the space doing it and working with experienced people. So then I came to the new policy team and did like solution designs for about a year and trained up by watching a senior experienced design manager run them and then going, okay I’ll have a burl at that and we were documenting how we did it, sort of as we went, so sort of a trial and error kind of way of doing it. [Interview, Designer #5, 2009]*

The process of learning described by the designer is characterised as immersive and action based. This learning approach by doing and watching was commonly referred to by other designers. The importance of this observation is that managing by design is situation specific and it is in the practical work day-by-day that designers become better designers. It is a collective set of actions and interactions that nurture design to be practiced. It reinforces the team based view of design – as a team this network enables managing by design.
Scene 4: Working in multi-disciplinary and intra-disciplinary teams

The designer is situated between two forms of teams in their work. The first is a multi-disciplinary team, known as a core design team. These teams bring together several, usually separate, branches of expertise to solve design problems. The other is an intra-disciplinary team, and this is between other designers in the ATO who are active in the disciplines of design, such as facilitation, information design, and user research. This team based view is important for the designers because this is how they create value in the organisation. They enable the making of designs through multi-disciplinary teams and they build their knowledge about design through their intra-disciplinary teams. Observation of the designer’s network shows they spend time in both of these teams.

The balance between the teams is achieved through the mechanisms of communities of design practice, and mentoring days which provide the intra-disciplinary focus. One Design Manager who was a community of practice leader at one point recalled:

*Design Manager: There was a massive amount of excitement. Everybody who was in that community of practice was there because they wanted to be there and it became a balance of a bit of informal training and technique skilling, but just also an opportunity for people to have a chat about what’s going on.* [Interview, Design Manager #1, 2009]

The commitment that designers make to these organised groups reflects the importance that designers place on these intra-disciplinary team approaches. These interactions strengthen the managing by design network.

The core design team, as part of the method (discussed in earlier chapters), is an important organised set of actors which the designer works with on a project by project basis. The establishment of this team allows the designer to script a cross section of people in the design process and also create opportunities to bring actors on board to the designed solution, as discussed below:
Designer Manager: They [business areas] get involved in the core design team workshops ... being able to get involved right from the beginning, they have the history from the beginning so they understand why decisions were made to do what was made [Interview, Designer manager #9, 2008]

The designer leads these workshop-based activities with the expectation that the participation from the core design team members is committed for the whole time. This is for the reason that the designer is managing the construction of knowledge and solving a design problem. The measure of success for a designer is not only in the quality of the design but also in the extent of the shared understanding of that design; how and why it resulted that way. It very much reinforces that the designer in the context of the ATO is not the genius or the lone actor who creates solutions to problems; rather they are focused on facilitating solutions:

Senior leader: To me a good designer is someone who has got some of that really good knowledge, someone that I think is average is - will be someone that can actually pull together good pictures, so that’s important to - you know, design in terms of documentation but then they sort of stand back and tend to facilitate rather than actually help drive the design. [Interview, Senior leader #4, 2008]

**Scene 5: Discerning good design from poor design in the design problem solving process**

The designer operates within specific projects and in these applied design problem solving processes they are positioned to understand whether the design work they are doing is good design. In one case the designer describes how they were busy designing a new intranet site and other products for a group of users and then it came to a point where they felt they had missed a point in the solution.

Designer: So to run through from the collaborative sessions all the way to the usability sessions ...we were working through the web site. We had our prototype and we were redesigning it as we went through the collaborative design sessions after the interview session. You know, you’d discuss what design changes you would make. And you’d move on and then... you know, we were going okay. And then we started realising through that process that we’d kind of missed a whole product... We had to sort of come to a halt and start
This excerpt points out the designer’s role is to work collaboratively with their peers and to maintain a view on the design process and the design products that are resulting from this effort.

**Scene 6: Crafting design methods and processes for each design project**

The designer is deep in the day to day activities of a design project. They are grappling with the intricacies of the work required to be done. They are applying the design methods; they are adapting the methods so that they work. They are directly engaging with the end users and dealing with the complexities that these interactions present. In the example below, the designer talks about the task of running usability sessions and what this interaction played out like in practice. This excerpt points to the adaptive role of the designer in their design situations:

Designer: [A challenge is] probably trying to understand were we asking the right questions to the right people. There were people who I guess thought they knew everything.

Researcher: And what does that mean?

Designer: So you’d go for a session and instead of trying to follow everything that we were doing they [the users] would just want to try ....to do their own design and didn’t really care what we [the designers] were doing.

Researcher: How did you get over that?

Designer: Oh, you just have to facilitate your way around it don’t you? ‘But we are here just to test this one that we’ve got here.’ And then in one of the sessions ... well me, I was a fairly new facilitator and I had three users at once for one of them, and it’s really difficult. Do you follow one path for one of them, what they want to do? Do you follow the other one? You’re trying to get the balance and trying to make sure you’re listening to them all, and you hear one user trying to take over everything and not letting the others talk. I mean it’s just all facilitation issues, I think a lot of that [Interview, Designer #3, 2009]
The excerpt from this designer highlights the facilitative role of the designer and the flexibility to shift the process to work with the situated practice of design. The fluid nature of the design process is an important non-human actor, which is shaped by the designer. The designer adapts methods to make sure they work through facilitating the dialogue. The tension managed in the design process is between the planned scripts of engagement to the actual way interactions play out. The role of the designer is to adapt and persuade using non-human actors, such as design methods like as interview and prototyping techniques, so that they can achieve human-centred design results which can be used by the project and the organisation.

**Conclusion**

In this concluding section of the chapter the point of emphasis is to draw out the collective agency of the Design Champion, the Design Manager and the Designer. These human actors work together as a set of integrated designers in the organisation. As a network of human actors they collectively act as obligatory passage points for managing by design. They set up the conditions, they draw together the necessary actors, and they ensure there are common scripts for others to follow. They each bring unique characteristics to the managing by design network as well as shared characteristics. The latter is presented as a model for the Design Public Manager.

To draw out these unique and shared characteristics a table has been created mapping all of the described scenes discussed in this chapter. The scenes are organised in columns of unique and shared characteristics. This is tabled below:
<table>
<thead>
<tr>
<th>Designers</th>
<th>Design Manager</th>
<th>Design Champions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scene 1: Learning by observation and knowledge sharing</td>
<td>Scene 2: Create the networks to enable decision-making</td>
<td>Scene 1: Leading by example</td>
</tr>
<tr>
<td>Scene 3: Discerning good design from poor design in the design problem-solving process</td>
<td>Scene 4: Crafting design methods and processes for each design project</td>
<td>Scene 2: Use existing organisational settings to inject managing by design</td>
</tr>
<tr>
<td>Scene 5: Discerning good design from poor design in the design problem-solving process</td>
<td>Scene 6: Crafting design methods and processes for each design project</td>
<td>Scene 3: Define and reference design in speeches and communications</td>
</tr>
</tbody>
</table>

Table 10 Design Public Management roles - unique and shared characteristics
As illustrated, all three roles have unique characteristics in their zoom of the managing by design network. The senior leader as Design Champion has the unique role of persuading their peers and other senior leaders. They also use existing organisational routines and settings to encourage and establish design as a credible practice. This emphasises their part in creating the space for the other design roles to enact design and thereby creating space in the organisation for managing by design.

The Design Manager has a uniquely clear role in the allocation and management of design resources. This is most important because they have their complete interest in managing by design.

The Designer has a unique role in learning and sharing knowledge. This is due to the emphasis on their role being about the practice and application of design methods and principles. They are deeply concerned with how to do design.

In the analysis of the shared characteristics across all three human-actors there are three main clusters. These clusters have been labelled as the following: ‘Building shared understanding of design’, ‘Investing and building design teams’ and ‘Participating in design projects’. These characteristics point to the collective agency of the three roles. This is what is called the Design Public Manager Model. This is presented below using the scenes as illustrations of the label:
<table>
<thead>
<tr>
<th>Shared role</th>
<th>DESIGN CHAMPIONS</th>
<th>DESIGN MANAGERS</th>
<th>DESIGNERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  “Building a shared understanding of design”</td>
<td>Scene 3: Define and reference design scripts in speeches and communications</td>
<td>Scene 3: Managing up and across the organisation to build an understanding of design</td>
<td>Scene 1: Creating the design artefact to understand and communicate change</td>
</tr>
<tr>
<td>2  “Investing and building design teams”</td>
<td>Scene 5: Invest in design resources and design projects</td>
<td>Scene 4: Building a design team</td>
<td>Scene 4: Working in multi-disciplinary and intra-disciplinary teams</td>
</tr>
<tr>
<td>3  “Participating in design projects”</td>
<td>Scene 4: As a voice of intent participate in design projects</td>
<td>Scene 6: Leading design projects and ensuring design is integrated</td>
<td>Scene 6: Crafting design methods and processes for each design project</td>
</tr>
</tbody>
</table>
This table suggests that the roles of each of the designers operate within the network to embed design. Therefore there is a strong reinforcing pattern of activity from all tiers of the organisation adopting these roles. These three roles are vitally important to the sustainability of the managing by design network. This means that these actors play a critical role in the process of early stages of translation, and are instrumental in the ongoing embeddedness of the managing by design in the ATO. The Design Public Manager Model offers other organisations a tiered model of different levels of designated actors to evolve the Designing Public Manager within their arrangements.
Conclusions and Implications

Introduction

The purpose of this study was to explore the adoption and embedding of design as a management practice in the Australian Taxation Office. Management by design is a means to bring a stronger focus on the human experience with the tax system as a core component in some of its management work. In this thesis the term ‘managing by design’ has been coined to situate the use of design in the aspects of public managers’ work which involve change and creating new futures. The study suggests that to do design is to do good public management because design is a way of working focussed on the co-creation of public value. Managing by design is characterised by performances that are observably more participatory and collaborative and that this together with an approach that is more visual, more focussed on co-production is more likely to resolve difficult problems as those occurrences in policy implementation and tax administration design. This is important because over the last few years in public sector management practice research, there has been a shift from impartial, unconnected, distant governments, to increased participation, increased co-designing, and generally to an increase in the democratisation of public policy and service design (Leadbeater, 2004). There is however a significant gap in how this is to be achieved and public managers are in need of practical models of application to best carry out this type of work. Therefore this study explored how one organisation, the Australian Taxation Office, drew from design and embedded this in its management work making a direct
contribution to a shift in public management to include a stronger emphasis on citizen-centric practice and community engagement.

The particular contribution that this study makes is the analysis of the institutionalisation of these different practices. This institutionalisation was explored through the application of Actor Network Theory which focused attention on the translations through networks of actors including human and non-human, illustrating the multiplicity of designing as a network of actions and interactions as a sustained practice. This approach has drawn attention to the human and non-human actors present in this thesis. Therefore the primary research question was framed as “How has design become a management practice in the Australian Taxation Office, a complex public sector organisation?” This inquiry emphasised the institutional and practice arrangements which are present for design to be sustained. This is an important contribution of this study because it has been noted in the literature:

... genuine engagement in co-production of policy and services requires major shifts in the culture and operations of government agencies (Holmes, 2011: 1)

This point of major shifts in culture is precisely this territory to which this study contributes.

The literature to which this study contributes is not only from the public sector management discipline, but also the design discipline. The interest in the design literature to apply design methods and approaches to more complex problems has been exemplified and promulgated by the work of Buchanan in his four orders of design (Buchanan, 1992). The problems which could be considered social or system wide (the fourth order) such as the problems explored in this study of tax administration, are increasingly considered design territory. The opportunity is to contribute to a deeper
understanding of the nature of these problems and the methods to address or resolve them. The exciting part of this study is that it contributes to what according to Buchanan is a relatively unexplored area. As Buchanan says this “could be part of a new practice of design” (Buchanan, 2007). In exploring this understanding, this study has looked at the performances of design in the management work of the ATO.

This last chapter of the thesis is structured in the following way. First is a synthesis of the empirical findings with respect to the research questions posed in the study. This section will discuss the evidence from this study supporting the main conclusions addressing the research questions. Secondly, the theoretical implications are discussed. In this section the contributions to existing theories and positions in the literature are discussed. Thirdly, this chapter will discuss the implications for the conceptual framework, namely Actor Network Theory that has guided the analysis of this study. This serves to reflect on the value of this approach in addressing the research questions and framing the case study to ensure it is rigorous and contributes to the emergent field of managing by design. Fourth, recommendations for further research are discussed in the light of where the future challenges and opportunities are in this interdisciplinary and emerging field of design in public sector management. Fifth, limitations of this study are addressed, with the purpose of highlighting how these have been managed to ensure the results are not adversely affected. Finally the chapter concludes with a statement of contribution and thanks.

**Empirical findings**

This thesis was organised to present findings progressively. The initial analytical chapter which introduced managing by design takes a snapshot at a point in time and defines what design has come to mean in the management practices of the Australian
Taxation Office. The following analytical chapters trace different movements of how design came into the organisation and what actors – human and non-human were active in network forming, permitting managing by design to become part of the fabric of the organisation. Then the next chapter zooms in on what is being designed and traces three projects which followed managing by design practices. The final analytical chapter zooms in on the human actors designated with ‘design’ in their title and traces their networks and what defines their relations to others in managing by design work.

This chapter concludes on three shared characteristics which these roles play in sustaining design in the Australian Taxation Office. Therefore rather than repeat these findings, this section will synthesise the empirical findings to answer the study’s main research question, and the three supporting questions:

**How has design become a management practice in the Australian Taxation Office, a complex public sector organisation?**

1. What is the embedded meaning of human-centred design in the Australian Taxation Office?
2. How has the Australian Taxation Office changed as it has adopted design?
3. How are practices of design being sustained through what situations of action?

**The embedded meaning of design in the organisation**

The proposition from this study is that design means something in the context of management work, and therefore the phrase ‘managing by design’ was created to embody this situated application. The meaning of this phrase as stated in an early chapter is:

“Managing by design is when management work is performed by taking a more human-centred, participatory, visual and physical approach to bring change and create preferred futures.”
This thesis states that managing by design should be viewed as a network of actors, human and non-human, which through these interactions and relations create meaning and materiality associated with managing by design. It is a fundamental social view of meaning rather than a simple set of descriptors for easy replication. The emphasis on narratives, scenes, and stories of managing by design presented throughout the thesis points to the following conclusions about the meaning of managing by design:

1. Managing by design is a ‘performance’ and brings people from different areas of expertise, including lay people, together to work through a problem or new idea or change. Throughout the thesis many types of performances were discussed highlighting the collective effort to design a new form, solve a complex strategic organisational problem, explore impacts of a new policy idea, design new organisational capability, and address community concerns.

2. Embedding these performances to create a shared meaning of managing by design is achieved through ‘standardised packages’ such as Design theory and methods. It was evident this standardised package remained relatively stable over the ten year period on which this study focussed. This stability is characterised by simple and repeatable concepts and artefacts. In the ATO these concepts are defined in terms of its design wheel, design principles, and design techniques such as pathway analysis, blueprinting and core design teams.

3. The meaning of design was evident in the ‘knowledge parcels’ or boundary objects (Briers and Wai Fong, 2001; Fujimura, 1992; Star and Griesemer, 1989) created through the design process. These boundary objects were artefacts which documented the design conversations as the work was done. The knowledge parcels captured the multiplicity of ideas and contributions from all those involved in the collaborative and participatory processes of managing by design. Managing by design work can be differentiated because the products are atypical of any other types of document in the organisation. I coined the term ‘knowledge parcels’ because the emphasis of
design is on the construction of new knowledge in a form sufficiently robust to be carried across multiple social worlds. These products act as important communication pieces which carry the design work beyond the moment they were created. These parcels also act as shared understandings which create common points across multiple groups in the organisation. In interviews, participants referred to artefacts and showed me pictures and diagrams of these knowledge parcels and used these to explain the design and impact these artefacts had in the organisational decision making. These artefacts typically emphasised the taxpayer or human experience to ensure a human perspective was located.

4. The concept of ‘participation and collaboration’ is at the core of managing by design and it is aligned with the organisational philosophy of community engagement. The organisation’s own identity and sense of purpose within the taxation system, evident from speeches made by senior leaders to external audiences, is that working with the community is fundamental strategy to achieve the outcomes of a well administered tax system. This observation of organisational philosophy aligns managing by design as a necessary means to realise this intent.

5. The meaning of design can be articulated by five descriptors as discussed in the fifth chapter. These descriptors are: collaborative and dialectic; commitment to the citizen or end user; construction of knowledge; creative, visual and material; and disciplined and rigorous. The descriptors were found to be common to all participants in the study including those who were general managers in the organisation.

How the organisation has changed as it has adopted design?

Managing by design is a network of actions and performances and the organisation has changed as a result of these networks forming and reforming over time. The beautiful aspect of presenting this change as a network is that it plays to the hand of seeing the ATO as a complex adaptive system; that is, it is not rigid or absolute but is constantly evolving and changing. The thesis traces how the ATO has changed to enable space for
managing by design and to create a lasting effect on how work is done. This is a field of growing interest. At the 2011 Australian and New Zealand School of Government Annual Conference, on the topic: Puting citizens first: engagement in policy and service delivery for the 21st Century audience participants, mostly public managers, raised questions about the change of the public sector organisation itself that would be needed to embrace taking a citizen-centric approach. It was apparent there was little research evidence to answer questions like ‘How do you get the rest of the organisation to follow along?’ or ‘How do you make citizen centric approaches stick?’ The conclusions in this section seek to contribute answers to these questions, these questions of how public organisations change to build the capacity to adopt new management methods which are more collaborative and participatory (i.e. to manage by design).

**Embedding is not a linear process of diffusion**

Embedding the practices of managing by design requires intentional multiplicity of effort and cannot be understood using simplified views of change such as adoption theory (Rogers, 1995). It is a continual process of forming and reforming a network of actors which allows the performance of managing by design to be carried out. Managing by design requires collective effort to make it happen. It is not the work of a hero or a few who are responsible for its embedding at the ATO. The conclusion from the analysis is that there are four movements in the weaving of managing by design into the warp and weft of the ATO’s fabric.

a. *Process of building a case for managing by design:* The case or argument as to why managing by design could have a place in the management work of the ATO involved the coalescence of a number of elements. In the ATO these elements were a combination of pre-existing conditions and new

---

47 Researcher’s notes 27/7/2011, 2011 ANZSOG Conference
conditions. The pre-existing conditions included a culture of strategic thinking. This was shaped by consultancies that encouraged systems thinking and integrated views of complexity. The leadership and key decision makers were well versed in seeing the connections between the behaviours in the taxpaying community and the actions by the organisation and they were bound in a complex system. In addition to this, new conditions such as the formal government review of the tax system and the introduction of design consultancies and academics brought in new terminology and concepts such as ‘integrated tax design’ and ‘interaction design’. In parallel, significant community unrest meant the pressure for the ATO to work better with its constituents was apparent. The outcome was an emphasis on new ways of working, particularly more participatory practice and a new level of engagement with the community. The permission to explore and try new models initiated the process of embedding management by design at the ATO.

b. *Developing strategies or devices to persuade others to do design*: To embed managing by design requires multiple strategies and engagement of many different actors. The focussed work of the key actors in the ATO was mapped in the chapter on translations of managing by design and highlighted multiplicity of actions to enrol others. These actions to enrol included: establishing design roles, recruiting these positions, applying design methods to real ATO projects, engaging with the taxpayer and seeking out experiences of taxpayer interactions that told compelling stories for change. Further, running events which showcased international thinking about design and how this might apply to the ATO. All of these actions and strategies highlighted and negotiated what design meant for the ATO. The codification of design practice and creating standardised packages early ensured others could be enrolled into the design network as it extended across the ATO. The variety of strategies worked at all levels of the organisation and focussed on drawing further understandings of design into the management work of the ATO.

c. *Developing strategies to gain further support*: In the early stages of managing by design the leaders in the central area chose to initiate a design
project which would eventually underpin a significant change program in the organisation. The program was called ‘Listening to the Community’. The project was a platform for the design capability to explore with taxpayers changes to improve their experiences. This project drew out the importance of managing by design – experience can be designed. In parallel, the strategy of building distributed design centres across the organisation proved over time to be a lasting feature of the managing by design network. This strategy deliberately created ‘mini’ centres of design teams across the different business areas with those leaders who showed an interest. This approach of enrolling attractors meant the support for design was done by working with advocates rather than by forcing design on those who were not interested. This approach seems to have been effective in permitting managing by design in the ATO to continue and flourish.

d. Stabilising or enrolling others in managing by design: This study suggested that there are three main packages which helped stabilise the ATO understanding and application of design in its management work. These three packages, described more fully in Stabilising Managing By Design, are: design theory and methods, design roles, teams and communities of practice, and forums and relationships defined by standardised interaction. These packages help many actors participate in the work of managing by design and coordinate their activity.

**Embedding design practically understood as paradoxical**

The embedding of design could be described in terms of paradoxes (Terrey, 2011). Taking the descriptive analysis of embedding design throughout this thesis, and abstracting a further analysis each aspect of the process of embedding design at the ATO can be (re) presented as a pair of linked statements each of which seem
contradictory. These statements help practitioners in organisations consider the realities of embedding design as a management practice. Each one will be discussed.

1. To embed design within the organisation, it must be embedded outside. This was evident in the situational maps of managing by design which included actors who were internal to the ATO and external. Sustaining managing by design as an embodied practice within the ATO requires the building of connections to many social worlds and the building of an understanding of design in these social worlds. That is, effort to enrol multiple actors is a feature of the ATO managing by design network. Further, it can be said that the boundary of managing by design is porous, which means membership and participation is fluid and not restricted to certain actors or elements. This suggests that embracing diversity of actors both within and external to the organisation is important in establishing and maintaining a sustainable managing by design practice. The ATO has maintained its network of managing by design by creating shared meaning and practice of design work spanning inside and external to its organisation over time.

2. Design needs freedom and discipline. The standardised packages of design theory and methods fashioned by the ATO discussed in this study highlight the importance of non-human actors which provide the discipline for managing by design. These standardised ways of working resist structured documents or templates or patterns of working that promote individual effort and instead drive practices of collaborative encounters from across multiple social worlds permitting creativity. This was observed when designers talked about their work and how they felt there was freedom in how they organised people to participate, how they conducted their design projects, and how they developed the artefacts of the design process. There were no templates to complete, which was different from the other practices in the ATO such as project management methods which required people to complete structured templates to seek conformity. In design there are common principles being applied such as taking a human centred approach,

48 These paradoxes were presented at the 2011 International conference on “How Public Design?” in Copenhagen, Denmark paper and presentation titled “5 Paradoxes of Embedding Design: An Australia Case Study
or design the change with end users but there are no predetermined trajectories. The performance of design as collaborative determines the form of the design processes and end products from design efforts. The novel and creative expression emerges from the encounters between actors from very diverse social worlds with different ways of seeing. What is important in the design of administrative services is to allow complexity to be fully represented. The preservation of complexity through information design artefacts was discussed in the chapter *The Problems, Practices and Challenges*.

3. *Design is mandatory and a choice.* The insight here is that to ensure managing by design was enacted within the organisation a clever tension exists in the organisation. In some situations design is mandated and in other situations it is a choice. Ongoing support for managing by design requires scripts and common agreed ways of working. In the chapter *Stabilising Managing by Design*, one of these scripts was the introduction of a practice statement which directed that certain projects were to employ a design approach. The factor that determined which projects were included under this directive was the extent to which the project had a high impact on taxpayers. If so it became mandatory for the project to engage taxpayers in the design process and to ensure the final solution(s) were human centred and would work for end users. This non-human actor, the Practice Statement was managed by the central design area Business Solutions, which acted to support and check that projects were following the practice statement.

4. *Design collaborates to compete for space.* In this study it was apparent that in the process of translating design into the management work of the organisation, the strategy was not to replace other patterns of work but rather to introduce a complimentary practice that harnessed the variety of disciplines in the organisation. The strategy to enact this was the invention of core design teams which aimed to bring together very different disciplines such as IT, communications, operations, law, human resources, together with end users to facilitate collaborative effort on real organisational work. This brokered new knowledge and enabled managing by design to carve a niche in the organisational work. It was a simple yet
powerful approach and embraced contributions from diverse areas. Because designers acted as facilitators they were able to reveal gaps in the management approaches which previously lacked collective dialogue from diverse areas in the organisation and externally. The designers articulated their roles as facilitators and knowledge creators which enabled new experiments for conversation and for generating solutions that integrated diverse views quickly and iteratively reducing the silo or baton-like approach which typically occurred in project work.

5. **Who can design is exclusive and inclusive.** The invention of new roles in the ATO early in the narrative of design in the management work created a new workforce of employees and management who would carry out the work of managing by design. These roles have carried over time and are formally recognised sets of actors in the organisational work. The organisational artefact, ‘Design Capability Framework’ demonstrates organisational recognition that these roles are central to management work and sets out the requirements for each of these roles. Deliberately placing people in these roles who can meet the role requirements enforces a discipline of designing an exclusive role as designer is created. The inclusivity part is that in practice many people in the organisation (and external to it) are involved in design practices. This means that the discipline, the process, and the methods of design are shared and co-created by many, but that the management of design discipline is tightly accounted for in the organisation. The tension held is that designers are an exclusive group but that in practice designing is inclusive of all.

**How design is being practiced in the organisation and the situations of action?**

This study set out to explore the situated practice of design – design as a process in the Australian Taxation Office. The situated interactions and practices constitutive of managing by design have been unpacked through illustrations and examples throughout the thesis. The contribution made is a detailed account of design as it is practiced in the ATO:
1. **Networks of actors.** There is a material footprint of managing by design in the ATO. Tracing networks of actors reveals the organisation doing design. Managing by design is the outcome of a network of multiple relations and is contingent upon multiple actors – human and non-human. The emphasis on the non-human is especially important because this draws to the surface how each actors’ agency, its capacity to act, to influence, to enrol, and to persuade depends on its relations with all actors in the network. A case in point is the use of workshops as a means to collaborate and do design. This activity is filled with many important non-human actors such as whiteboards, markers, pens, sticky notes, flip chart paper, model people, coloured and other materials which are used to work through the design process. These non-human elements are critically important to draw out and discuss because in organisations like the ATO numeric, text, and verbal symbols dominate communication. Managing by design works distinctly differently and requires human actors to behave differently as a group. These differences are inherently more playful and performative and more developmental. The exhibition of designing and deciding at the same time is an inherently important step that brings design from the periphery to the centre of the ATO. Practices of design are, in fact, mini networks mobilised temporarily but latched onto a wider embedded and ongoing ATO design network.

2. **Design problems not only focus on tangible products.** Managing by design is practiced on many different forms of design problems. Tax policy and administrative process are subjects of design practice. In this thesis the very conventional divides that are promulgated between policy design and administration design are challenged and this aligns with literature that explicitly links policy, management and administration. Henman and Fenger ( Henman and Fenger, 2006: 19-21) call for the explicit linking of policy, governance and administration. The production of policy does not end with legislation but continues in the production of administration and management. The specific technical means for carrying out a reform is constitutive of policy. This extension of design beyond the simple product focus was presented in the early chapter on *Introducing the Australian*
Taxation Office where the process of moving from tax policy formulation through to implementation of legislation, to administration of regulations in accordance with the legislation, and assessment of the system in action, are all domains of design problems, as illustrated below. “A” represents the problem of translating tax policy (between Treasury and the ATO), “B” represents problems within the tax administration (within the ATO) and “C” represents problems triggered by how tax policy and administration play out in reality. These three cases show application of managing by design to internal and external problems (Christensen et al., 2007: 13) thereby showing the extensibility of this management approach.

Figure 64 Design problems situated in the Tax policy, legislative, and administrative process

The importance of this is that design problems in the public context are varied and include many complex aspects which present challenges to the designers in the ATO. For example the political elements that are at play, whilst no claims about the overall political elements are made, the exploration and analyses of the three cases highlight the embeddedness of politics, the politics is not external, it is always present, and is always enacted in policy implementation. Politics is very much present in each of the case studies and is presented for instance as influencing the decisions to embed design into the practices of ATO management. The contribution this thesis makes is to demonstrate how managing by design is being performed at all of these points. This opens up the view of what is design and what can
be shaped as a design problem, and therefore what sorts of management work can be done by design.

3. *Simple set of methods.* The practice of design is translated into a simple yet powerful set of methods which designers employ. These methods are used by designers in the ATO and are observed as stable routines and approaches which are consistently applied. This standardisation of different methods explains why perhaps this way of working has managed to stay and be followed in the management work of the ATO. The association of the design method with certain methods has resonated with the organisation so that it has remained in practice. These methods, as articulated in the standardised package of design theory and methods, include developing a ‘statement of intent’ – a single page artefact that results from the initial scoping of a design problem which acts as a line of sight to why the project is being done. The development of maps of ‘user pathways’ as a tool to understand current experiences and proposed new experiences from changes to tax policy and/or administration is a second characteristic method that is routinely employed. These maps are a powerful means for creating a strong presence for user experience and facilitate a focus on a human centred view of change. The blueprint is a product developed as a result of the method of design workshops which work through the conceptual end to end design of a change. The blueprint explores a change and tells a complete narrative of the proposed change. This non-human actor is present throughout the managing by design network as a key output from the design discussions it begins to take shape early in the process. Other methods which are constitutive of design practice and implementation include various user based design methods of observation, simulation and iterative prototyping with end users. One of the important aspects in these methods is that some of them, such as user pathways, enable a presence for the end user to be created even when there are limits to engaging with real taxpayers. Moreover, the artefacts crafted at design workshops such as user pathways and the blueprint attend to the presence of the collaborative design process and relocate it as part of this act of locating design in the management
decision making processes. The evidence of how the end user is centred and located through design methods is an important contribution this case study makes.

4. *Active actors from all levels of management.* This study proposes that for design to be an embedded practice then an ‘integrated design leadership model’ is needed. This study identified three types of designers: Design Champions, Design Managers and Designers. These actors manage by design through overlapping organisational arrangements. These are corporate design forums where the top management tier works on strategic problems collaboratively. There are health of design forums where senior leaders talk about vision for design in the ATO. There are design managers’ forums that meet monthly to discuss the work, the resourcing and practical challenges. And there are communities of design practice for designers and practitioners to meet weekly or monthly to talk about methods and projects. The Design Champions, Design Managers and Designers do three important things in the practice of design: build an understanding of design; build the capability of people; and participate in design activities.

**Theoretical implications**

The study set out to contribute to an emerging interdisciplinary field of public sector management, design and organisational studies. The study was driven, not by wanting to dispute or challenge an existing theory, but to contribute to an exciting development in which design and management are converging, and where practical case studies were needed to contribute to this emerging scholarly literature. Firstly, this study contributes to the design literature by documenting and analysing in depth how design has been fashioned by a public sector organisation and embedded in its day to day management work tracing in particular the types of higher order design problems that are being solved and the methods employed to solve them. Secondly, this study contributes to the public sector organisation literature addressing the question of how public managers can
be more collaborative and engage the participation of citizens in their work through the adoption and adaption of design methods and techniques. This study has focussed on how public managers and employees are modelling designerly ways of working that reflect changing expectations propelling public sector management towards more participatory forms of democracy. Participatory forms of public management are not a replacement for representative democratic systems but as their adjuncts, indeed as necessary to address the weakening of democracy as illustrated by citizen disengagement (Pattie et al., 2004). Design practice is a productive and practical way citizen-centric management can be realised. This thesis directly contributes to the debates about citizen centric governance and community engagement in the decision making for government policy and service delivery. Managing by design as outlined in this thesis can enhance ways of delivering on public value management, especially tenets of public value management such as delivering dialogue, individual and collective interests deliberatively worked through process (Stoker, 2006; Kelly and Muers, 2002). These new forms of governance, as discussed in the chapter, New public leadership – the design public manager are creating the space in public sector organisations for participatory design and for the emergence of the networks that make the designing manager manifest. These managers and their networks offer a prototype for other public sector organisations.

Finally, this thesis contributes to the organisational studies literature exploring how organisations and especially public sector organisations can change to be more open, collaborative and participative. Moreover the thesis maps the needed changes to build the capacity and create space for new management methods and arrangements which increase their ability to collaborate and allow broader participation.
The first major contribution this study provides to the literature on design, design thinking and design in management, is that the practice of design should be viewed as a network. This exploration of design using Actor Network Theory proved valuable in accounting for how design comes about in the work of the ATO. The revelation in this actor network approach is that design must be enacted by many for it to be fruitfully executed in an organisational context. It is contingent neither on one or two people nor on one or two projects; rather it is fashioned into the very workings of the organisation. It is also guided by standardised packages of methods and approaches which permit many to participate. The emphasis that designing facilitates negotiation and interaction across multiple social worlds is an important contribution this thesis makes to the field of design. The role of designers to bring together many actors from across the Tax System was evident in this ATO case study. Understanding how design contributes to the fourth order design as enacted through the networks of facilitative dialogue and activity engaging many actors at any one point in time is also where this thesis contributes. This thesis described the complex and, at times, conceptual nature of the design problems that for the Australian Taxation Office, are system wide and can only be solved by creating multiple products and services and by engagement with multiple actors and end users. The other important contribution is the observation that managing by design did not always mean engaging directly with taxpayers or the community. There are cases where users were not able to be engaged due to political sensitivities, but then designers created artificial engagements through role play and user pathway analysis. They were still intent on taking a human centred view, even if it was a one step removed view.

The second major contribution this study makes is to the public management literature, in particular to the changing role of public managers who are increasingly called to
engage with stakeholders and citizens in public policy and administration design. This case study draws out the practical ways that public managers are engaging in one public sector organisation. Managing by design is the prototype model of working that could be taken up by public managers in their endeavour to be more participatory. Managing by design’s emphases on facilitation of multiple perspectives, and encouraging shared understandings of change, promotes how public managers themselves can facilitate greater citizen engagement in the work of government.

The study presents a new model of public management; the Design Public Manager model. This offers a prototype of what the public manager might become or what public organisations might do to evolve their management structures to be more participatory and collaborative. This model acknowledges that if a new way of working is to be embedded and embraced then these roles need to be articulated and present in the management arrangements of the organisation and that such roles are the outcome of external networks. This is an important reflection for public leadership given the tendency for hierarchy, command and control and highly bureaucratic arrangements to predominate. An important implication for public managers from this model is the new understandings of the way these new design public managers need to operate and embed themselves in new and different networks. And as actors in these networks, they need to act in ways to persuade, enrol and influence the organisation to be more participatory, collaborative and engaging with end users.

The third significant contribution this study makes to the organisational studies literature is that it discourages simplistic views of change, and that multiplicity and complexity needs to be embraced. The position proposed in this thesis follows the Actor Network Theory scholars in the field of science and technology studies, which along with other scholars such as complexity theory scholars for organisational studies,
debunk claims of heroism or simplistic accounts of adopting innovations. In many ways this thesis positioned managing by design as an innovation and, to more fully and accurately describe how it has embedded into the ATO, set out to trace and take into account all of the elements involved – the idea of design, the design process, the human actors, the design problems, the locations of action and the materiality of design. This contributes to the field of design in organisations by bringing attention to the messiness of all of these elements and their interactions, it counters tendencies to reduce explanations of innovation or innovation adoption to a handful of pre-specified variables. It means taking a case by case empirical approach and not letting things fade into the background. The emphasis should be placed on the creation and sustaining of networks through strategies pertinent to the organisation which aims to persuade, enrol and maintain support. The network acts as a means for translating design and moving it through the organisation and its work. The thesis contests and cannot agree with simplistic views of change.

The ATO might be expected to be a very good case study for exploring change given it is one of the oldest government institutions in Australia (over one hundred years old). It could be seen as necessarily being adaptable enough over its history in order to survive. But this story of change through actor network theory is not a story of evolution rather it illustrates the intentionality and ongoing work that has been undertaken for design to be embedded in its management work. The thesis provides a prototype for an important change, the embedding of design practices, which facilitate a more engaged workforce, engaged taxpayers and an engaged community in its management work. The thesis contributes to an understanding of the way large traditional bureaucratic organisations can shift toward a more open and participatory way of identifying themselves and engaging with their constituents.
Another contribution from this thesis is the understanding of what is required to institutionalise managing by design. In the governance literature this has been raised as a question needing answers (Bingham et al., 2005: 555) and this case study discussed the stabilisation of managing by design, pointing to the role of standardised packages in achieving institutionalisation. The elements of bringing about institutionalisation are both non-human standardised packages (e.g. design theory and methods, standardised space, capability frameworks), and human standardised packages (e.g. design roles, communities of practice and internal and external forums of groups of people in the tax system).

**Contribution to Actor Network Theory**

This study used Actor Network Theory (ANT) to shape both the inquiry and the analysis of managing by design. By using ANT this thesis did not apply a pre-set of causal theory rather ANT provided a grid or series of guides to be filled, looking at the local empirical level by illuminating all the elements at play, in ways that flattened the social by including all things human and non-human. The application of ANT to this study was in some ways novel because it looked at how design has been infused into the management practices of the ATO in the process of becoming a design practice with all specificities of the form it came to take in the ATO. The application of the sociology of translations gave a feel for how this co-production of design and designing organisation was done. The diverse elements which were identified and discussed offered a way to describe this case study with a greater awareness of the many things at play. In case studies it is critically important that deep description is given to enable an insightful analysis. It is hoped that the rigour of inquiry and analysis of this single case study will
give other public sector organisations seeking to embed design many ‘ahah’ moments they find valuable to guide their practice.

This study contributes to the work of ANT in the following ways:

1. This is a case study of a tax administration adopting design. It provides an important new case for ANT scholars and the field to see the usefulness of ANT in studies that are non-technology based or rather interpret technology not as hardware but in that other sense of its root word ‘techné’- technique.

2. The usefulness of understanding situational elements through the analytical technique of situational analysis (Clarke, 2003) was a helpful adjunct to investigating the applicability of actor network theory to the case study. The step of creating situational maps using situational analysis developed by Clarke, offered a well-considered foundation pre applying ANT. The initial mapping and progressive analysis using situational maps proved valuable throughout the research and was invaluable to carrying out Actor Network analysis.

3. ANT also provided an introduction to further scholars of science and technology, to complexity understandings and accounts of how what comes to count as knowledge or a success in technology comes about. This study uses boundary objects (Star and Griesemer, 1989) and standardised packages (Fujimura, 1996). This study contributes to the building of connections between multiple concepts which can be usefully combined to provide a deep analysis.
Recommendations for Future Research

Looking back on the journey and to the first stage of research, I recall being filled with many choices and ideas for a research topic. In the course of defining and designing any study it becomes very clear that the scope must be defined and the choice made about what will be done and what will not. Therefore this section of the PhD is in some ways recompense for not being able to do everything as one may have wanted. During the process of conducting this study new insights have emerged which deserve further attention because they will extend this interdisciplinary field. The areas which are recommended for future research include:

- **Understanding the effectiveness of taking a design approach in public management problems.** This study did not seek to evaluate or judge the effect of taking a design approach in the context of public management work. Are outcomes improved? Are there impacts on citizen understanding, citizen compliance with tax rules and regulations, or improved community experience with the tax system? This area will become increasingly important to understand because an implication of this study is that organisations who want to institutionalise a design approach will need to invest resources and will require justification for these resources. Therefore a quantitative study, determining the causes and effects would provide evidence to answer this question.

- **Exploring the application of design at the policy front end.** The movement in public management literature towards policy design needs to be more co-developed and co-designed with citizens (Involve, 2005; Dunston et al., 2009; Holmes, 2011), as well as designer’s increasing interest in the interface between public policy and design (Junginger and Sangiorgi, 2011) this is an emerging and important area for further research. It is a contested space that is filled with political sensitivities and it would be fruitful for further research. This study touched on the interface between the policy and administrative functions in the tax system but did not extend into policy
design territory, although the neat division between policy and its implementation is in some ways a dilemma. Further research in the specific area of co-design of public policy discourse would be a significant contribution.

- **Determining the ‘new citizen’ as the new public manager has emerged.** In the writing of the chapter *New Public Leadership* it was apparent that the citizen was an implicated actor and that more exploration and discussion was needed to understand the ‘new citizen’. A discussion about the ‘new citizen’ was omitted from the chapter however this is an important area for further study because it highlights the importance of understanding the implicated actor, the citizen, in all of the debates on citizen-centric governance. What is required of them to be more participatory? What do they need to do differently to interact as co-designers? How do they adapt and evolve to have the capacity to engage? Why do they engage and how do they perceive their participation?

- **Studying one public policy project through from idea to implementation following a design approach.** Early in my research in studying design as a management approach in the public sector the idea of selecting a policy initiative and following it ethnographically from start through to implementation was intriguing and provocative. A study of a public policy through to implementation would contribute a beginning-to-end view on what it means to take a citizen-centred and participatory approach. How far might managing by design go? And what helps and hinders it from policy through to implementation? Moreover how are the boundaries between policy and implementation produced and maintained?

- **Exploring the application of design by other public sector organisations to determine a more generic model of embedding design.** In any study where one case has been deeply explored there is an interest to conduct further case study analysis to identify the generalisability of the subject. The embedding of design in public sector organisations more generally would benefit from further case studies and a comparison of the general themes to emerge from them. This would contribute to a more general theory to
embedding design. Nevertheless it is hoped that this case study will provide some guidance to other researchers adding other cases to the management by design literature.

Limitations of this study and how these were overcome

From the outset this study aimed to look at only one case organisation – the Australian Taxation Office. This could be a point of criticism and limitation. There is sometimes preference for two or more cases to be combined into a multiple case study to provide more robust findings (Yin, 2003 : 53). However this claim is contested, for instance Bryman (Bryman, 2004) argues that adding more cases does not add to rigour or validity of a case study approach perse. This present study argued that the Australian Taxation Office case study can be considered a unique and very instructive case because it offered empirical insight into the application of design in a very large and mechanistic public sector organisation and that the ATO pursued design with great rigour earlier than many similar institutions. It was argued in the literature review that the emergent literature in design and management needed more in-depth case studies and so this study sought to present a very in-depth view of one organisation. To facilitate and enable this in-depth view, this study chose to employ actor network theory and other analytical techniques to encourage a more local and performative view which has resulted in findings that are simultaneously descriptive and explanatory.

Another potential criticism of this research is the use of my own experiences as a designer in the ATO as a source of data. The potential for bias was a concern I had and the work to gather many sources of data including in-depth exploratory interviews, document analysis and on-site observation of work environments and design project
artefacts was used to triangulate my own understandings and thoughts about my experience of design in the work of the ATO. The strategy which overcame the potential for bias was in the use of analytical techniques, such as situational analysis, whereby I was able to stand back from the data including records and accounts of my own experience, and see it present itself differently. I discuss this at length in the methods chapter. This was an unexpected experience in this study and drove many of the analytical chapters and overall findings of the study.

It is important to acknowledge that this study did not explore citizen engagement and did not interview or gather experiences from citizens or taxpayers as participants in the design work of the ATO. This means that questions about citizen equality and representativeness and the extent that citizens were empowered to shape and influence the decision making processes were unable to be asked. This could be seen as a limitation of the study because managing by design is focussed on increased citizen engagement in the management work. The way that citizens and external end users came into the study was from sources of data from inside the organisation and the organisational member’s own accounts of taxpayer experiences in doing design with them. This study chose to focus on the organisation itself giving space, and capacity to do design and how it changed to enable public managers to be designers.

The last limitation to discuss is one of generalisability from this case study. It was drawn out in the research design chapter that this single case study was not aimed at generating universal truths, nor was it about testing a hypothesis; this was an exploratory study. As stated in the previous section it would be good to be able to compare this case with other in-depth case studies on design in management work and perhaps generate a theory on design in management work and its embedding in large complex organisations. The important point to make is that this study can be considered
reliable and valid because of the research design, the iterative approach to gathering the data, analysis of the data and writing the results⁴⁹. It will be up to the reader to draw conclusions about the similarities and differences between their organisation and this story of the ATO and from this decide what aspects of this case can make a valuable contribution to their own practice.

**Conclusion**

The study aimed to explore one case study and provide an empirical study on how the Australian Taxation Office adopted, or more correctly invented and embedded, design in its management work. The idea that managing by design is a legitimate, practiced and useful management approach in a large complex public organisation is both profound and exciting. This study wanted to contribute to the growing interest and promise that public managers are embracing the idea of working more closely with their citizens and taking collaborative and participatory approaches. This study wanted to look behind the public managers who are doing this to understand more deeply the organisation that permits these interactions and performances. This study is a contribution to the fields of design, organisational studies and public management. Finally, this study gives recognition to all the Australian Taxation Office leaders and employees both present and past who had the vision to go beyond the controls and boundaries of their public organisation and embraced working openly and collaboratively – this study applauds you.

⁴⁹ See Appendix for Research Protocol
References


Last Modified: Tuesday, 24 February 2009, ATO - Treasury protocol,


Buchanan, R. 2009, 'Designers Panel: How can design be a catalyst for massive positive change?', *in* *Global Forum 2009 Business as an Agent of World Benefit: Manage by Designing in an Era of Massive Innovation* Case Western Reserve University, Weatherhead School of Management, Cleveland, Ohio, 2-5 June 2009.


Burns, K. 2008, 'Towards a Predictive Model of Organisational potential for applying design', *in* *International DMI Education Conference: Design Thinking: New*


Carmody, M. 2002a, 'The Art of Tax Administration ', in 5th International Conference on Tax Administration, Sydney, Australia, 4 April 2002.


Chang, H. 2006. Autoethnography as Method: Raising Cultural Consciousness of Self and Others Easter University, St Davids, PA,1-25.


Charmaz, K. 2006. Constructing Grounded Theory: A practical guide through qualitative analysis, SAGE Publications Ltd.

- 353 -


Clarke, A. 2009, 'Situational Analysis Workshop', in *Master Class with Adele Clarke*, University of Sydney, Australia, 20-21 July 2009.


Cooperrider, D. L. 2009, 'Key Note address: Business as An Agent of World Benefit. Manage by Designing: In an Era of Massive Innovation', in *Business as An Agent of World Benefit. Manage by Designing: In an Era of Massive Innovation*, Case Western Reserve University, Cleveland, Ohio, USA, June 2009.


D'Ascenzo, M. 2010a, 'Keynote address by the Commissioner of Taxation: Towards the next 100 years', in *Tax Institute of Australia's 25th National Convention*, Melbourne Convention and Exhibition Centre, Melbourne, Australia, 4 March 2010.

D'Ascenzo, M. 2010b, 'Working for all Australians: the ATO and the Community', in *Public Lecture to Charles Sturt University*, Albury Campus, New South Wales, Australia, 6 October 2010.


D'Ascenzo, M. September 2000, 'Towards the New Millenium A Benchmark for Tax Administration', in


2009, Reform of Australian Government Administration: Building the world's best public service,


Management, Case Western Reserve University, Cleveland, Ohio, 17-19 June 2010.


Moran, T. 2010a, Ahead of the Game: Blueprint for the Reform of Australian Government Administration, Australian Government Department of the Prime Minister and Cabinet, Canberra, Australia.


Moran, T. 2010c, 'Keynote address: Citizens, Culture and Leadership ', in Institute of Public Administration Australia (ACT), Canberra, Australia, 8 December 2010.


- 363 -


Ralph, J. 1999, A Tax System Redesign: Overview, Department of Treasury, Canberra, Australia.

Ralph, J. July 1999, Review of Business Taxation A Tax System Redesigned, Department of Treasury, Canberra, Australia.


Attorney-General’s Department, 2008, Architecture of Australia’s Tax and Transfer System, Attorney-General’s Department, Canberra, Australia.


Appendix A

Research protocol Stage 1 and 2

In-depth, open-ended interviewing

Exploring the topic of “how user-based design or human-centred design has been adopted and embedded in the organisation?” in detail to deepen my understanding; I am open to all and relevant information.

Intent is to discover new information and expand existing understanding.

Introduction

Thanks for the interview.

Consent form.

I will record this conversation, and it will be kept confidential.

A few intro details to get, then we will get into the interview.

Key demographic details to collect on the participant

- AGE__________
- SEX__________
- ROLE IN ORGANISATION__________________________________________
- CAN YOU BRIEFLY DESCRIBE THIS ROLE
- WHO DO YOU REPORT TO?__________________________________________
- WHO IS A PEER TO YOU?__________________________________________
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIME IN ORGANISATION IN CURRENT POSITION</td>
<td></td>
</tr>
<tr>
<td>TOTAL TIME IN THE ORGANISATION</td>
<td></td>
</tr>
<tr>
<td>BASED IN NATIONAL OFFICE</td>
<td></td>
</tr>
<tr>
<td>PROPORTION OF TIME TRAVELLING</td>
<td></td>
</tr>
</tbody>
</table>

Post interview:

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO ELSE DO YOU RECOMMEND FOR ME TO TALK TO?</td>
<td></td>
</tr>
</tbody>
</table>
General questions for the interview

1. I am interested in “design” and how it has been adopted and embedded by the organisation what is your understanding of “design”?  

2. Why is design here in the organisation?  

3. Has the adoption of design resulted in any changes in the organisation? (probe: in staffing, organisation, time to do other things, tensions, activities, processes; esp. over time)  

4. Can you tell me about your experiences with “design”? (probe: as a leader, as a team member, in decision making, in strategy, in various phases of design, what problems, what kinds of experiences)  

5. What have been the barriers or hurdles? (probe: people, specific areas in the organisation, distinct operational styles, structures, governance, skills, processes, culture)  

6. What have been the successes? (probe: products, people, outcomes, processes, teams, organisation, you, culture)  

7. Where do you see design going? (probe: what is the vision, who is key, how will you get there)
Research protocol Stage 3

As a volunteer interviewee you will be involved in a one on one 1 hour conversation with me. The interviews will be semi structured and you will be asked to bring along an example of best practice design that you have been involved with in the ATO.

Introduction

Thanks for the interview.

Consent form.

I will record this conversation, and it will be kept confidential.

A few intro details to get, then we will get into the interview.

Key demographic details to collect on the participant

- AGE___________
- SEX___________
- ROLE IN ORGANISATION__________________________________________
- CAN YOU BRIEFLY DESCRIBE THIS ROLE
- WHO DO YOU REPORT TO?________________________________________
- WHO IS A PEER TO YOU?_________________________________________
- TIME IN ORGANISATION IN CURRENT POISION_______________________
- TOTAL TIME IN THE ORGANISATION_________________________________
Post interview:

WHO ELSE DO YOU RECOMMEND FOR ME TO TALK TO?

General questions for the interview

1. I am interested in “design” and how it has been adopted and embedded by the organisation what is your understanding of “design”?

2. Can you tell me about your experiences with “design”? (probe: as a leader, as a team member, in decision making, in strategy, in various phases of design, what problems, what kinds of experiences)

3. What have been the barriers or hurdles? (probe: people, specific areas in the organisation, distinct operational styles, structures, governance, skills, processes, culture)

4. Can you please recall a design project that your are most proud:
   1. Why have you chosen this project?
   2. Why is this best practice for you?
   3. What was your role?
   4. Can you please tell me the story of this project?
Appendix B

Conferences and Publications during candidature

Conferences


Terrey, N. 2009, 'Complex organisations adopting human-centred design', in *Global Forum 2009 - Business as an Agent of World Benefit: “Manage by Designing in an Era of Massive Innovation”*, Case Western Reserve University, Cleveland, Ohio, USA, 2-5 June, 2009


Publications


Pending publications