

A Complex Organisation: Discovering design

By Nina Terrey

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Can a public sector organisation with over 20,000 people running a national system take on design and embed it into the fabric of the organisation? Nina Terrey presents an exploratory ethnographic study on the Australian Taxation Office and its emphasis on design across its operations over the last 8 years.

Introduction

When most people think of government or the Australian Taxation Office they don't think design. I recently was in a lecture at a local university and one of the students exclaimed that she had heard the Commissioner of Tax talk about 'co-design' and 'collaboration'. She said that she found that idea completely amazing. It was interesting sitting there listening because it seemed like such an old piece of news in my mind that the Tax Office was engaging the community but for many perhaps not.

So this paper intends to explore how this very large and complex organisation could in fact be associated with 'design'.

Let me start by telling my story.

In early 2001 I moved to Canberra for personal reasons and started working in the Australian Taxation Office (ATO) in a business reporting unit. I found myself buried in this public institution and wondered if I was ever going to survive this reporting role – being removed from the making and executing of what the organisation did, that is, administering the tax system. Then one day a colleague of mine said there was this job going in a relatively new part of the organisation called Integrated Administrative Design. The role was a 'Design Facilitator' and it said things like 'Are you confident and creative? Able to mind-map and solve problems?' And it asked for applicants who had a wide sort of background, for example, whether it was teaching, designing, business modelling, marketing or research. I figured my marketing degree and consumerable goods design experience might be

applicable. I applied. I got the job. What then transpired was an experience in the organisation which transformed my understanding of what it means to serve the public. The organisation gave permission to apply a process which addressed early and often the end user experience, called for creative and integrative thinking and a collaborative approach to designing and delivering the Tax Office's work.

Why this research?

Despite the growing awareness of the value of design theory, thinking, processes, and activities the work that has been done to date has largely taken the form of organisational studies and descriptive studies of specific methods of design management (Borja de Mozota 2003). This work predominantly discusses design linking to innovation or, in other words, design enabling firms to build competitive advantage (Filson and Lewis 2000; Olson, Slater et al. 2000; Borja de Mozota 2003; Beverland and Farrell 2007). This makes interesting reading yet it does not enrich our understanding of how design can be adopted and embedded by public service organisations with quite different objectives such as administering public policy, maintaining community confidence, and ensuring compliance (Simon 1996; Simon 1997).

The emergent discussions on designing complex systems such as Buchanan's work on four orders of design (Buchanan 1992), in particular his notion of the fourth order design, designing whole systems such as organisations, positions this research. There is little empirical study to date in this area. How can taking a design approach shape the design of the complex system called the organisation? The organisation itself with its structures, processes, people, and products captures the diversity that people in the organisation experience (Buchanan 2007). This experience is seldom studied and organisations such as the ATO give us some evidence about how design is adopted and embedded in a complex system over time.

In the absence of case studies on organisations adopting design we fall short of understanding the nature of organisations themselves and how this plays a role in how it is embedded. The ATO, a very large stable and long standing institution of the Australian government, is an ideal candidate to observe the dominant logic (Prahalad and Bettis 1986) coexisting with design logic. This co-existence of views is mentioned but not widely researched (Bettis and Prahalad 1995).

Emerging literature on ‘designing as managing’ presents arguments for the role design can play in the way business and management need to understand how to tackle complexities and business problems (Boland and Collopy 2004; Martin and Dunne 2006; Hippel 2007). Design could be another piece in the armoury of valid problem solving techniques. The value of the approach could be in the process of design just as much as it is in the designers themselves who work within the domain of organisations (Coughlan, Suri et al. 2007; Junginger 2007). The emerging argument that designing and designers are valuable to organisations, public or private, suggests a reason why this approach is gaining prominence in the ATO.

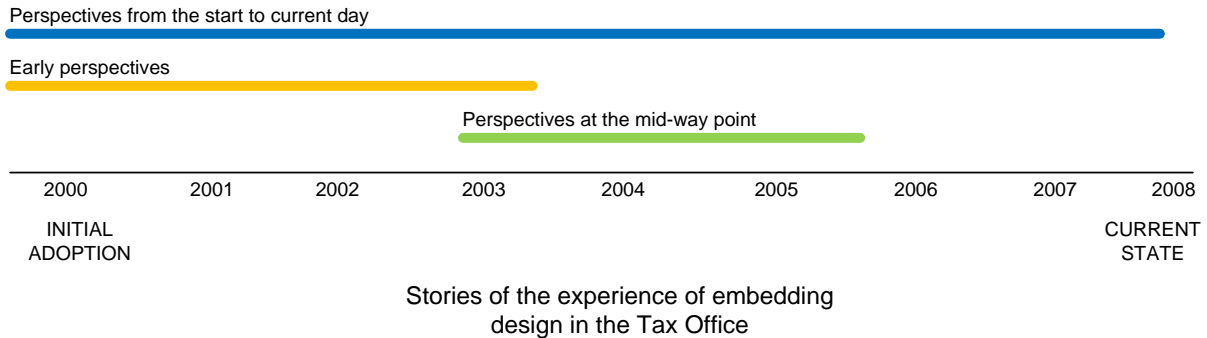
Overview of research case

The Australian Taxation Office is nationally operated from Canberra, in the Australian Capital Territory, with approximately 22,000 employees working in offices all over Australia. It has the responsibility to administer the revenue system for Australia. Around the year 2000 the organisation experienced a series of events – business tax reform, government reviews and the introduction of the goods and service tax which, despite successes, exposed significant numbers in the community who were having poor experiences with the tax system (Junginger 2006; Body 2007). The organisation decided to introduce a user based design methodology to systemically address the community’s poor experiences with the organisation. This was a hugely innovative step for a bureaucratic organisation steeped in legal and accounting mindsets and the leaders at the time invested significantly in making

design a reality for the organisation (Body 2007). This study explores this journey, because in many ways ATO still represents an innovative practice of design in government organisations.

Research design

To explore this phenomenon of how design came to be adopted and embedded in the ATO, eight years on, this study takes a constructionist position (Crotty 1998) and uses an ethnographic methodology (LeCompte, Schensul et al. 1999; Creswell 2003). This will allow me to draw on the experiences of staff from the organisation involved in design and in driving innovation in design practice in the organisation. The study is designed to construct a thickly described case study based on in-depth interviews, observations and organisational document analysis to show how design has been adopted and embedded in the case organisation (Creswell 2003; Yin 2003). For the purposes of this paper I will confine discussion to a limited range of accounts and some organisational document analysis to tell the emerging story of design in the ATO. The diagram below highlights the range of perspectives from which this paper draws its themes and insights.



The story continues...

So I was in this new role called a ‘design capability’. It seemed exciting. There was a guide with all this literature, methodology and ways of thinking which completely appealed to me. It emphasised ‘outside-in thinking’ moving away from silo thinking to ‘collaborative thinking’ and bringing together people from across the organisation and outside the organisation in running workshops and co-design

activities. It was all in this 'green book'. It was like my bible. I kept it on my desk and always at the ready as a reference. From it I learned a neat concept about design needing three voices – voice of intent, voice of experience and voice of design. I could see how I fitted into the process and what it meant for me to take this approach into project work.

There were several design areas distributed across the organisation and I was posted into an area which focussed on Information Technology (IT) solutions. At first this baffled me because I had no IT background. I came to realise that I was there because they needed someone who did not have an IT background! I was someone who could drive a human centred focus when designing their projects. One of my first design jobs was to use conceptualisation skills to map complex information which was in the form of words (and many pages of them) into simple page views which condensed the material but organised it in a way which made it more useful and usable by management. One assignment was with record keeping in the organisation. The material was extremely technical and it was meant to be written for people in the organisation to follow. I spent time with management, who were the users of this product, to understand their needs and how they intended to use this product. Over a series of paper sketches a map emerged which gave management the policy directions they needed to follow to comply. It was fun, creative and an engaging process and I felt like I was contributing to the organisation.

I worked on some IT projects which were mostly in the scoping phases. My design role involved planning the initial design intent discussions. It was like I had a license to push back on people in the organisation by asking what assumptions they were making about the users, and how we would know if we were thinking about the whole solution, not just a technical aspect.

Other experiences as a designer were being a part of a community of practice (CoP). There were three types - design facilitation, user research and information design. I was in the Design Facilitation CoP. We met on every Friday before the start of a work day. All designers came together from the various

distributed areas in the organisation. We would never have a set agenda but there were always plenty of suggestions by the group. Some weeks we would talk about collaborative group techniques such as how to consolidate ideas or issues raised by a design team when facilitating the dialogue. Or we would spend time talking about the design method and how we could do it better, such as developing user pathways or co-designing products. I remember we had a group of designers explain and show us the products they were co-designing with members of the community. It was interesting to see the prototypes and how they used quite simple sketches to engage and co-design with users.

Not long into my role in the IT design area we merged with the original design group. This meant that whilst there was a good half dozen distributed design groups across the organisation, the corporate area was being redefined. It was quite significant because it was about designers coming together with IT and application designers. In National Office we all moved to the same building on the same floor. In other locations such as Brisbane they consolidated at the usability lab site. The group was a diverse mix of people and in the re-organisation we moved into home teams and 'serviced' distinct parts of the organisation. The area worked hard to run like a practice of consultants and we were assigned to projects spread across the organisation. Our energy was focussed on the internal client. At times there was a sense of isolation from the corporate group because we spent most of our time with clients delivering design outcomes. The new structure allocated a fair bit of responsibility to the designers to allocate their time as they saw fit to deliver the design work, which I liked. One of the limitations of being an out-sourced design resource assigned to organisational projects was that the time spent was not for the whole duration of the projects. This often meant I was not able get deep into the user experiences for a particular design project or community group. I enjoyed seeing the work of my peers in distributed design capabilities where they co-designed products with external users. An example of such a design project in the business line 'Small Business' was the creation of a 'life events' chart. This emerged from co-designing with small business. The 'life events' chart mapped common life cycle stages and events experienced by many small businesses.

I found that my design efforts were concentrated on the staff experience. This was just as valuable because these were users who needed to be engaged as much as our external users.

The Analytics Project – internal facing project

I was asked in late July 2003 to join the Analytics project as a Design Facilitator. It was an important project for the organisation because it was about using complex mathematical analysis to better target non-compliant and compliant taxpayers. It was an interesting project on which to apply design practice because its users were decision makers in the ATO. It was all about designing an internal capability so it challenged the design process to think about how we apply design to ourselves and the organisation. So we took an outside in perspective and asked ourselves who would this capability serve? We focussed on management and took an outside-in view to understand the needs of this group. We then designed the processes, people, technology and tools to support these internal users and their desired experiences. I worked with the senior leader on the project who was a strong advocate for the design approach, by planning how the design method could be applied to the project.

The primary design group, we called the core design team (CDT). It was intentionally designed and guided by the senior lead, or voice of intent. In following the design principles we had an interdisciplinary team. This team was made up of 8 people from existing analytical areas, plus some project members along with me, as Design Facilitator and an Information Designer. The CDT membership was 10 to 12 people at any time. During the design process we invited people from other projects and people with relevant expertise to contribute to the design.

The CDT was a balance between strategic thinkers, experienced analytic thinkers, a strong voice of intent and designers. The balance in ‘voices’ was instrumental in the quality of each workshop. The size played an important role – it was small enough to keep everyone involved in one conversation but also sufficient in size to do group work and pairing exercises.

By taking a design approach we emphasised principles of making things visible early and often, and as the senior leader said many times we ‘put the chock behind the wheel’ by visually capturing in design artefacts the stages of the design process. This included statements of intent and the blueprint. We also stopped and reviewed critically the design in a collaborative style. For example in one session we blew up the blueprint on large paper and stuck it around the room reviewing the document from different perspectives, notably ‘If I were the Commissioner what does this tell me... or not tell me...?’. We also ripped pages and reorganised the content to test our design logic and to identify gaps, expose assumptions to drive next design versions.

I worked closely with the Information Designer, in the development of the blueprint and other visualisations of the design. It was a team effort between the two of us to make sense and capture the progressive design. A huge success in drawing a shared understanding within the CDT and with the rest of business was the development of a ‘Factory’ metaphor. This originated when we started playing with the metaphor of an ‘analytics shop’. We debated what it meant for our design and at the end of one workshop there was a sketch on the board and it was a remarkable moment when 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?’

The development of the blueprint took 8 weeks. The activities included a full day workshop every week. Midway through there was an intense two day workshop where we concentrated on progressing the content. There was rarely a weak attendance of the team, and over time there developed a healthy ‘accountability’ between all people on the CDT. I observed that the CDT members were very active outside the workshops and they were continually keeping in touch and speaking to colleagues in their respective areas about the design work. Once the blueprint was ‘finished’ and the project started to

move into prototyping, the CDT decided to meet once a month and act as a reference group to the design work that was being further developed.

The design progressed and after about a year the capability was established in the organisation. The initial design work, in the form of the blueprint, was followed through and informed the detailed design and implementation of the capability.

So what does this story tell us about the organisation at the time?

My study of the design approach introduced into the ATO reveals more than the application of design principles in action such as emphasis on visualisation; team approach; collaborative and participatory design and rapid and frequent prototyping (Buchanan 2004:59). It also has the potential to show how organisational elements have changed (Siggelkow 2002; Volkoff, Strong et al. 2007). Using some identified organisational elements discussed in organisational design literature I will discuss organisational mindsets, routines, roles, and resources to show how design has been adopted and embedded in the ATO.

1. Organisational mindset

Time to design is worthwhile. The involvement of senior management in the activity of designing, e.g. participating in workshops, is a strong and visible message to the organisation that they see this activity as worthy of their time. It is a function they do not delegate because through design they shape the future rather than simply manage it. The design process in the ATO encouraged this management involvement by giving managers a role called ‘Voice of Intent’. This ‘profile’ makes their involvement important because it gives them a way to operate in the process of design by defining their contribution such as setting the direction and scope; exercising judgement and taking accountability (ATO 2002:104) .

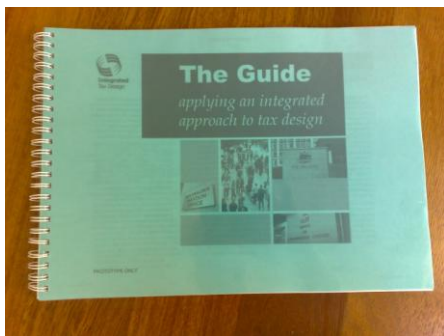
Design is collaborative. In the ATO collaboration is possible because staff and managers are aware that this is how they take a design approach. There is ready permission to let staff be involved in the design method. The Tax Office has a culture driven from the top that recognises collaboration, consultation and co-design (www.ato.gov.au).

Design is a way of thinking. In the ATO making design practical and applicable is intentional. A strong emphasis that *'outside- in thinking was needed to change the mindset'* leads much of the design dialogue. In its simplest form the organisation put in place design principles which characterises the design approach (See Body, 2007 for an elaboration on these principles).

2. Routines

Early on in the introduction of design, the organisation invested significant resources to develop its design methodology (Preston 2004). This saw the organisation address the way it designed its new projects. To establish new routines in the organisation one approach was the development of the paper

based product called 'The Guide'. As one member said

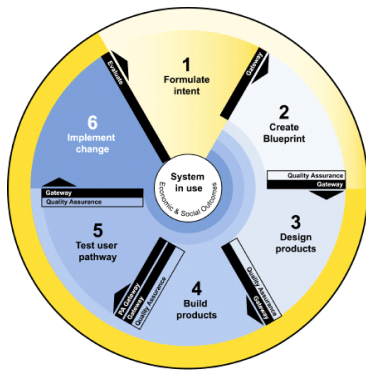


The original design guide, 2002

'The other 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 cant do anything different because they don't know what you want them to do. And then people criticise them for not doing what you didn't tell them to do. So the guide was valuable'



The design guide, 2005



interdisciplinary, user-centred, co-designed

The original guide was a paper product with over 100 pages covering two broad topics the ‘strategic framework’ and the ‘project cycle’.

The project cycle shows the design process very clearly and powerfully. It is branded “The Wheel” as illustrated.

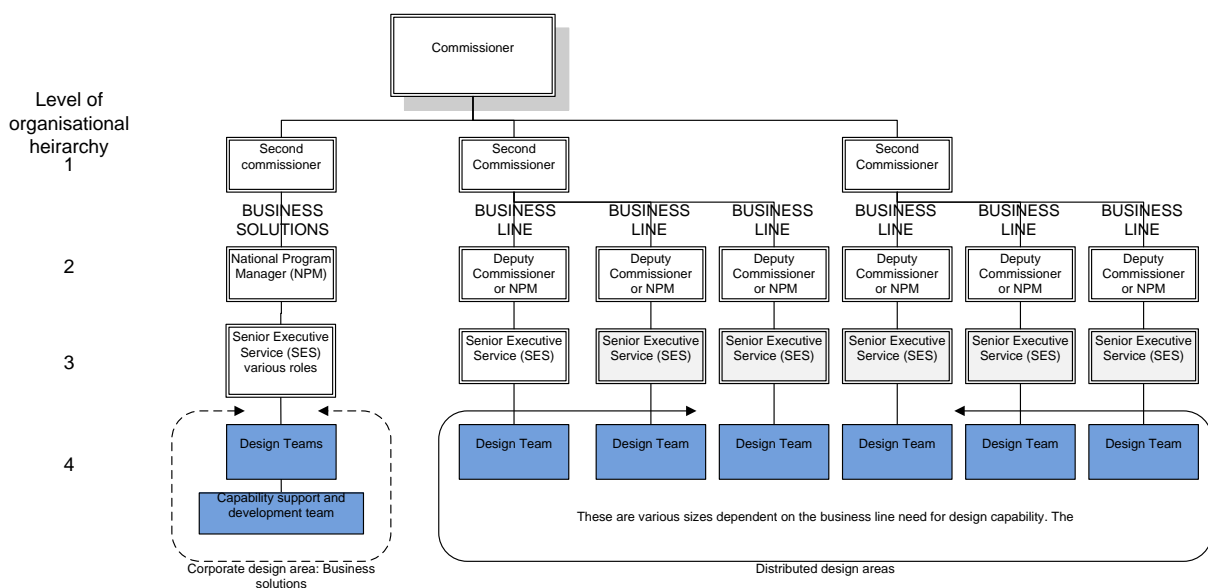
This material and its consequent use by people in the roles of designing and by the organisation are important because it gives

assurance there is a process to follow. In a very large organisation capturing this new knowledge in an accessible way supports the organisational ability to learn (Dosi and Marengo 2007).

3. Roles

To influence an organisation of around 22,000 the approach to build a distributed design capability across the organisation was one way to achieve this ambitious task. The establishment of these areas was triggered by self selection. As one leader said *‘using chaos and complexity theory guided the development of the organisation structure’* rather than forcing change we worked with those who wanted to adopt design. An illustration of this distributed model is below:

Illustrative Organisational hierarchy: Corporate and Distributed design areas only



The organisation was prescriptive about the makeup of these teams in so far as emphasising the need for design facilitators (to lead through the design processes), information designers (to synthesise and create insightful artefacts which captured the design) and user researchers (to generate insights and test prototypes with users) to be grouped to implement design method in the organisation (ATO 2002).

The strategy to organise the design capability as a distributed model (Body 2007) as one feature of organisation design, the other, as one interviewee said *'[is] about creating lots of cells and how they connect together and how they see themselves inter-relating'*. The way the cells inter-related is through established communities of practice. These formed around each of the roles in the design capability – design facilitation, information design, and user research. These knowledge management mechanisms provide the capability to learn from each other, to teach and share new techniques, and also a way to invite specialists to stimulate thinking about design. It is also a place for innovative practices to be explored (Wenger 1999; Wenger, McDermott et al. 2002).

4. Resources

The organisation recognised that to embed design it needed to support this process in specific ways. This included making a design space. Workstations were removed from part of the floor opening up the space for round tables and whiteboards. A room designated for design activities and on a separate room booking system. A simulation centre built to test designs with users. A plotter printer so very large visuals could be produced to show design artefacts.

It is also about giving design the time needed to do the activity such as workshop time and time to information design the outputs.

How have some of these features evolved?

What aspects of the organisation's elements have been developed so that design is a true feature of its fabric?

1. Roles: Design Capability Framework

Initially when design was introduced, one design leader said *'We started off with people who were very good at user-based design and user research and facilitation and information design'*. These people, sourced from both outside and inside the organisation, could demonstrate design skills and design thinking (Buchanan 1992; Martin and Dunne 2006; Junginger 2007) which were tested within assessment centres. For example, asking potential information designers to make sense of complex information on the spot and represent in more useful and useable representations; or verbally critiquing a product's information design; or facilitate a design topic with a small group of people whilst being observed. These sorts of activities allowed the right sort of people to be put into the organisations design capability. Over time these roles have been more formally accepted and this has been demonstrated by increased recruitment by various design areas in the organisation and the

development of a Design Capability Framework (DCF) in 2005.



The DCF is a significant development in embedding design because in the ATO this means that the organisation recognises design competencies and capabilities as a professional stream. This means that the 'design' skills are recognised alongside 'accounting' and 'legal'

skills:

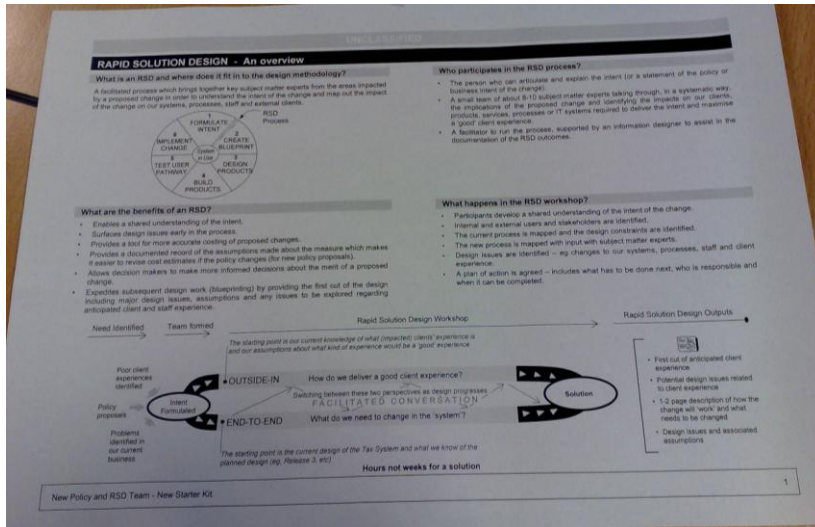
'It gives people a status in the organisation... in the same way that our lawyers and accountants have a status in the organisation'.

This means that the organisation will support the design capability with graduate recruitment programs, general recruitment, training and development. This advancement also highlights that over

time the organisation has valued the skills of designers as much as the design method. According to one design leader what really helped embed design was *'the sheer usefulness of these people who know how to do this design work'*, and upon reflecting on this comment noted further *'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'*. This idea of the designers themselves adding a distinct value proposition to the organisation is important and recognised (Cross 1995; Borja de Mozota 2003; Boland and Collopy 2004; Borja de Mozota 2006; Beverland and Farrell 2007) and especially in the government context where these skills 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 embedding design in the Australian Taxation Office.

2. Routines: Rapid Solution Design

The organisation's knowledge about design has been developed because of the codification of its design practice (Dosi and Marengo 2007) over the years and more recently improvements of the design process itself to reflect the needs of the organisation. In the beginning the emphasis was on user based design *'[we] pushed very hard about user-based design and talking to users about the kinds of products they want'* and the design work tended, according to some, to *'get dominated by the user perspective'*. This may have been necessary for the organisation to have a shift in its thinking about developing its products and services with the users in mind. However it was observed that over time the design approach needed to make stronger connections to the idea of 'constraints' because user-based design was challenged by organisational pragmatists if designs failed to acknowledge various constraints (Vandenbosch and Gallagher 2004). These constraints as one designer put it are that *'we are not designing a system from scratch we already have these huge IT systems and business processes and policies that exist... so design isn't a green field in a public system'*.

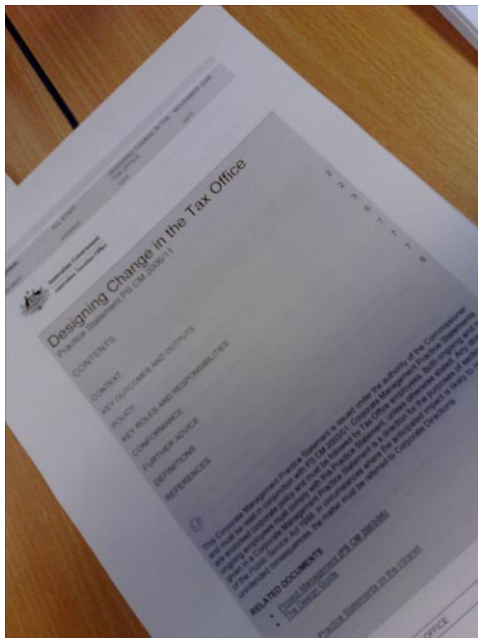


Rapid Solution Design

categorising them in terms of issues which could be 'show stoppers'. This approach rapidly exposes constraints early and gives the design method a kick start. Additional benefits from this approach are a more accurate costing of proposed changes.

3. Organisational Mindset – Practice Statements

The organisation has embedded the design method by making it clear in its practice statement (key



ATO Design Practice Statement

organisational document which governs the way the organisation operates) titled 'Designing change in the Tax Office'. This states that any project with the ability to affect on staff or users in the community must follow a design approach. The design method also is applied to the tiers of project management the organisation is following. 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 (lower on priority though still significant impact) to have the design quality assured

by the corporate area; and Tier 3 delivered by distributed design capabilities in the organisation. A large percentage, over 80 percent according to one interviewee, are projects at Tier 3 level. This has shifted the emphasis of design awareness and training to those staff who are involved in these types of projects.

What questions does this research raise?

How is it that an organisation with Weber-like features e.g. control devices (March and Simon 1993) allows design to be adopted and embedded? What does this research tell us about the complexities of a large organisation and how it managed to create a viable system of design within it? What does it say about the intentionality of effort which was needed to overcome inherent difficulties of working with large bureaucratic organisation with set world views? What does it say about the practical ways complexity can be addressed? What does it say about the people, the designers themselves as an important dimension to how it was embedded? Are there certain types of designers who can work effectively designing aspects of social and economic systems?

Where to next?

This study has raised important questions about design, design management, organisational design, and learning which this study will explore in the next phases of data collection over the next 6 months. It is hoped that this research will draw together important insights and learnings about design in a large complex organisation and inspire governments to consider design as not just an alternative but a core capability that deserves investment.

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