Translating Innovation
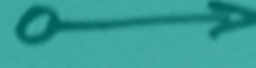
THE ADOPTION OF DESIGN THINKING IN A SINGAPOREAN MINISTRY

Katrin Dribbisch
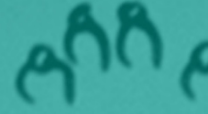
TRANSLATING INNOVATION

THE ADOPTION OF DESIGN THINKING IN A SINGAPOREAN MINISTRY

Katrin Dribbisch

DOCTORAL DISSERTATION

TABLE OF CONTENTS

TABLES

FIGURES

ABBREVIATIONS

BI	Behavioural Insights
CPD	Corporate Planning Department
CSD	Customer Service Department/Division
d.school	Hasso-Plattner Institute of Design, Stanford University
DT	Design Thinking
DTU	Design Thinking Unit
OE	Organisational Excellence
OSC	Our Singapore Conversation (public engagement initiative)
PAP	People's Action Party (Singapore)
PS21	Public Service for the 21st century
SD	Service Delivery
SDCS	Service Delivery and Customer Service divisions
SDD A	Service Delivery Department A / Service Delivery Division A
SDD B	Service Delivery Department B / Service Delivery Division B
SDD C	Service Delivery Department C / Service Delivery Division C
SDD D	Service Delivery Department D / Service Delivery Division D
Sg	Singapore
SOP	Standard Operating Procedure
SQA	Singapore Quality Award
UNDP GCPSE	United Nations Development Programme Global Centre for Public Service Excellence

DESIGN
THINKING

100 IDEAS
5 minutes?! → 5
100 Minutes
LET'S
DO IT!

See the world thru
the 👁 👁 of others

Feel the world thru
their Emotions

Understand the world
thru their experiences

1 INTRODUCTION

'If there's one thing that Design Thinking really did for us, it's to make us more aware of [...] user needs [...]. It's about putting people back in the centre of all that we do. It is [...] a big reminder that all we do is in service of people, right? [...] At the end of the day, this is the civil service. It's about people. We don't exist to serve objects, right. We don't exist to build roads. We don't exist to dish out postcards. We exist to serve people. So, what does it mean if you exist to serve people? Because right now, it really feels like we exist to serve our processes. We exist to build the infrastructure. But that's not right. But that's not what civil service is here for.' (#16-2, P28)

Singapore's civil service and government are known for being driven by efficiency concerns. Since the mid-1990s, the Federal Ministry under investigation has been trying to increase efficiency of its service delivery operations relying on Business Process Re-engineering methodology, a popular business management strategy at the time. The Ministry's service delivery was one of the fastest in the world, resulting mainly from Singapore's frontrunner position in e-government since the beginning of the new millennium.[1] At the end of the 2000s, the Ministry realised that customer satisfaction could no longer be met by additional process optimisation: They felt they reached a plateau. Hence, they started looking for something new beyond process-oriented changes to transform the service experience. This is when Design Thinking as a new problem-solving approach hit the stage. At least, this is how some organisational members recount the story of the introduction of Design Thinking. When organisations adopt innovations, organisational members translate these to their context. This shall be the subject of this study.

---

[1] Since the early 2000s Singapore has been ranking among the top ten countries of the United Nations E-Government Development Index, taking the fourth place in 2016 (https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2016, retrieved 30 Sept 2016).

1.1 Relevance

Governments and public administrations today are dealing with increasingly complex, intractable, open-ended and wicked public policy problems (Head, 2008). At the same time, they face the challenge of cutting costs and becoming more efficient (Boyne, Gould-Williams, Law, & Walker, 2005). They also have to meet the complex needs of their users and stakeholders, as well as their demands for more transparency, participation and high-quality services in order to create higher public value (Moore, 1995; Mulgan, 2007). As a result, public sector organisations are looking for new ways of addressing these problems, as well as building innovation capabilities that will help them to remain adaptive in the future. To achieve this, the adoption of external innovations is seen as a remedy in the public sector (Piening, 2011). Nevertheless, innovation implementation is challenging and innovations do not always achieve their intended benefits (Piening, 2011).

In the last decade, public administrations have increasingly turned to Design Thinking, an innovation approach inspired by the way designers think and work (Brown, 2008, 2009), based on design principles and methodology (Bason, 2010; Boland & Collopy, 2004). With a focus on user-centeredness, collaboration and iteration, this approach seems to offer a new way to engage recipients and other public service stakeholders, as well as to re-think the policy design process. Although Design Thinking started out in the private sector, early examples of adoption of the methodology in the public sector can be found in Australia, Denmark, the United Kingdom, the United States and Singapore (Bason, 2013). However, we know little about how and for which purposes Design Thinking is applied in the public sector (Terrey, 2012).

1.2 Wicked Problems and Design Thinking

For the past forty years, wicked policy problems have been a concern for scholars from many disciplines – a debate that was initiated by Rittel and Webber's (1973) seminal article 'Dilemmas in a General Theory of Planning'. Whereas Rittel and Webber originally distinguished ten properties to differentiate this type of problem from more technical issues, scholars seem to agree on three main characteristics: non-resolvability, multi-actor involvement and the challenge of problem-definition (Danken, Dribbisch, & Lange, 2016: 28). As a consequence, wicked problems can be defined as 'chronic public policy challenges that are value-laden and contested and that defy a full understanding and definition of their nature and implications' (Danken et al., 2016: 28).

Planning problems are essentially wicked problems and cannot be dealt with in the same way as technical issues (Rittel & Webber, 1973). In line with other scholars, they argue that '[…] the cognitive and occupational styles of the professions--mimicking the cognitive style of science and the occupational style of engineering---have just not worked on a wide array of social problems' (Rittel & Webber, 1973: 166). Following this logic, policymakers and public managers need to look beyond traditional scientific-rational approaches when dealing with this type of complex issues. According Rittel and Webber, one of the difficulties of defining and devising appropriate solutions to wicked problems

lies in balancing multiple and potentially conflicting demands in an increasingly plural and diverse society. Although many approaches to deal with wicked problems are discussed, the scholarly debate revolves around two dominant approaches: cross-boundary collaboration and new skills for public managers and leadership (Danken et al., 2016: 29). Whereas cross-boundary collaboration is viewed as necessary to bring diverse stakeholders in and outside of government together, public managers need to expand their skill set to include collaborative competences and the ability to distinguish wicked from tame problems (Danken et al., 2016: 29).

In concurrence with early design theorists like Rittel, Design Thinking can be seen as a problem-solving activity based on the assumption that the nature of design problems is complex and 'wicked' and designers' way of thinking presents an approach of dealing with wicked problems (Buchanan, 1992; Kimbell, 2011). Buchanan argues that design problems are indeterminate, namely they are 'potentially *universal* in scope, because Design Thinking may be applied to any area of human experience' and only in the process of application does the designer create a particular subject from a specific problem context (Buchanan, 1992: 16; emphasis in the original). Design Thinking is hence understood to encompass a broader, comprehensive understanding of design beyond product development and aims at applying design tools and processes to social, business and other issues (Cooper, Junginger, & Lockwood, 2009: 49). In other words, Design Thinking brings the way designers think and work (Brown, 2008, 2009) to fields other than design. With regard to the application of Design Thinking in the public sector, Buchanan's fourth order of design is especially relevant, as referring to the 'design of *complex systems or environments for living, working, playing, and learning*' (Buchanan, 1992: 10; emphasis in the original). Similarly, Di Russo (2016) classifies policy design and public service as design challenges concerning large-scale systems characterised by high levels of complexity.

Since the early 2000s, public administrations worldwide have taken up Design Thinking in the hope it might constitute an answer to coping with wicked problems. Like many management fashions before, Design Thinking is sold as a new panacea for solving (wicked) problems. The surge of new management concepts like Design Thinking entails both evangelists and sceptical voices who consider it old wine in new bottles (Schmiedgen, Rhinow, Köppen, & Meinel, 2015: 11).

However, we know little about how Design Thinking is applied and adapted in practice, especially in public sector organisations. The objective of this thesis is therefore to go beyond the hype about it and to clarify how Design Thinking is actually adapted and applied in a public sector context. The limited number of previously studied cases of Design Thinking's application in the public sector shows a bias towards Western democratic countries, such as Australia (Di Russo, 2016; Preston, 2004; Terrey, 2012), the United States and Denmark (Bason, 2011). In that regard, studying the adoption of Design Thinking in a non-Western country broadens the empirical basis and provides insights about its use in a non-Western bureaucracy. To investigate this, I undertook extensive field research in a Singaporean Ministry which introduced Design Thinking a few years ago. Moreover, the Singaporean Ministry was among the early adopters worldwide of Design Thinking in the public sector.

1.3 Research questions

Empirically the study explores how a Federal Ministry in Singapore introduced Design Thinking as a new problem-solving approach. From a theoretical point of view, this thesis studies the process of innovation adoption in public administrations from a translation theory perspective. Hence, it addresses the research question of how an innovation is translated to a new local context.

The overall research question addressed in this study is:

- How has Design Thinking (DT) been translated to the local context of the public sector organisation under investigation?

- And from a theoretical point of view: What can we learn from translation research about innovation adoption processes?

This study contributes a micro-perspective to innovation adoption by studying how Design Thinking is translated to a Federal government agency. It includes empirical data from an exploratory single case study of a Federal Ministry in Singapore. Besides being among the early adopters worldwide of Design Thinking in the public sector, the Singaporean Ministry was selected because it represents an organisational setting in which Design Thinking has been embedded for several years. Hence, it represents a relevant case with regard to the research question which aims at exploring the adoption of Design Thinking in a public sector organisation. Following an exploratory qualitative case study research design, 28 semi-structured interviews were conducted and analysed.

1.4 The Argument: Translating Design Thinking

Contrary to assumptions of diffusion theory, I could find some variance in the intra-organisational translation of Design Thinking. I will show how different divisions interpret Design Thinking in particular ways resulting in various translated versions of the methodology. By applying a translation theory perspective to study innovation adoption, I am able to trace the adaptation of the adopted management approach. My empirical study of innovation adoption in a single organisation focused on the intra-organisational perspective, with the aim to capture the variations of translation that occur during the adoption process. In so doing, this study wants to open the black box often assumed in implementation studies. Second, this research advances translation studies not only by showing variance, but also by deriving explanatory factors. My argument is that the main differences in the translation of Design Thinking occurred between service delivery and policy divisions, as well between the first-adopter and the rest of the organisation. For the intra-organisational translation of Design Thinking in the Singaporean Ministry the following five factors played a role.

First, the task type, in other words the different tasks of service delivery and policy work, influenced the translation of Design Thinking. Additionally, these differences in translation can be linked to the perceived fit of Design Thinking with the respective task type. Service delivery and customer service appear to be more receptive of Design Thinking than policy work. *Second,* the mode of adoption had a major impact on the translation of Design Thinking, as well as on the level of adoption. Whereas an applied, on-the-job mode of adoption of Design Thinking led to a higher level of adoption in the first-adopter division of SDD A, a training-based, off-the-job mode of adoption of Design Thinking has resulted in lower levels of adoption in all other divisions. Furthermore, the relationship between the mode of adoption and the level of adoption of Design Thinking was moderated by the time of exposure. *Third,* the type of expertise and type of template, which varied between the first-adopter division and the rest of the organisation, accounted for differences in translation among divisions. The first-adopter division was supported by external experts who shared experience-based knowledge and focused on implementation; instead, the other divisions learned about Design Thinking from the Hasso Plattner Insitute of Design (d.school) at Stanford University, which provided them with academic expertise and a strong focus on methods. *Fourth,* the sequence of adoption in the organisation influenced the intra-organisational translation of Design Thinking. Especially, the first-adopter translation seems to play a critical role for the translation of subsequent intra-organisational adopters. *Finally,* the translation of Design Thinking was reinforced when combined with similar practices, such as agile software development and Behavioural Insights.

These core findings contribute to existing research in multiple ways. First, applying a translation theory perspective to the study of innovation adoption, so far dominated by diffusion theory, discloses certain aspects of the process. This helps us understand how a global management approach like Design Thinking is adapted to the particular local setting of a Singaporean Ministry, thereby opening the black box of innovation adoption. Second, this study sheds light on practice adaptation and translation at the intra-organisational level. Third, by focusing on the travelling object, in other words the adopted innovation, the research provides insights regarding the transformative nature of the adoption process. Fourth, this study enhances the existing micro-contextualisation framework by Boxenbaum and Gond (2014), which addresses the strategies used when a practice is embedded in a new local context. Additionally, this study broadens the empirical basis of studying Design Thinking to include public sector organisations. The single case study of a Singaporean Ministry provides empirical findings on how Design Thinking has been translated in a large bureaucratic public sector organisation in a non-Western country. Moreover, the study provides insights into how Design Thinking has been applied in service delivery and policy work.

1.5 Structure of the thesis

Following the introduction, Chapter 2 provides an overview of the theoretical framework of the thesis. The main theoretical approach that was chosen for this study is a translation perspective. Chapter 3 describes the research design and methodological approach of this study, including sub-chapters on case selection, data collection, data analysis and methodological limitations. Chapter 4 includes the empirical analysis of how Design Thinking was translated. I will provide a description of contextual factors, including how Design Thinking was introduced and what templates of Design Thinking were adopted. This is followed by four case studies representing the different parts of the Ministry which have adopted Design Thinking. The Chapter closes with a synthesis of the case study findings. Chapter 5 includes a discussion of the findings, followed by the conclusion in Chapter 6. The conclusion highlights theoretical and empirical contributions of the study, discusses implications for public administration practice and avenues for future research.

HERR TOBIAS

vm

P)
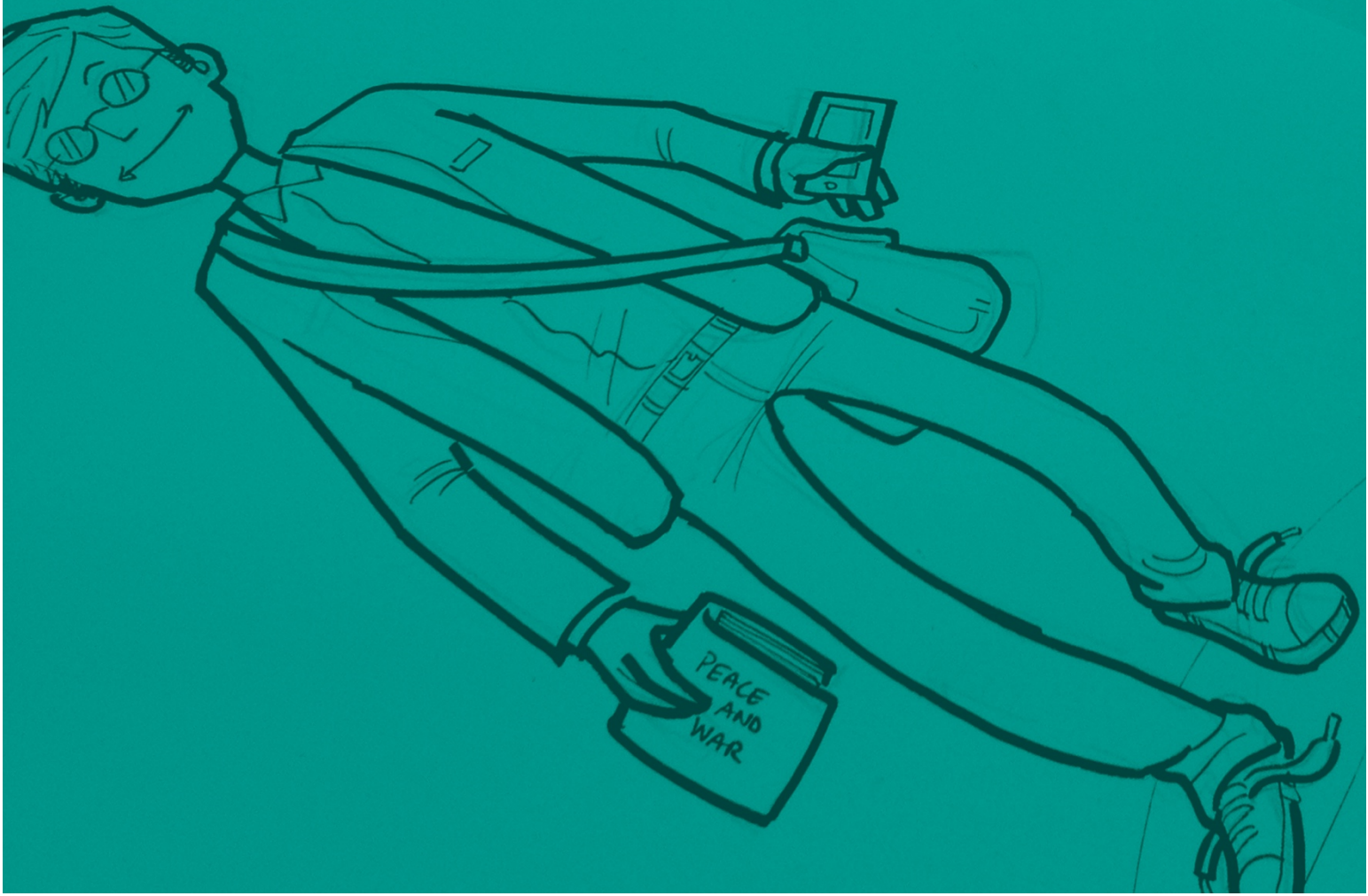
— 33
— MARRIED
— Expecting a baby
— lives in Washington
— works as a teacher
— doesn't have time to go to the supermarket
— he is not very health aware / nutrition
— He sees a box coming
— He thinks its very annoying
— it feels he ...

PEACE AND WAR
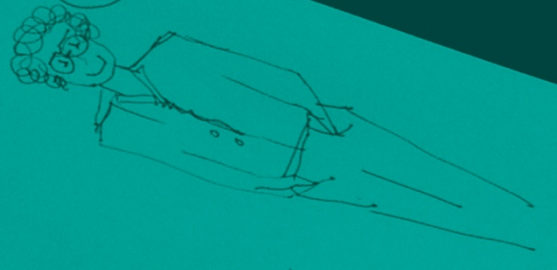
2 THEORETICAL FRAMEWORK

This chapter elaborates on the theoretical framework of this study. The main research question of this thesis is how the concept of Design Thinking has been adopted in a Singaporean Ministry. This research question touches on debates in organisational theory of how global ideas travel. It therefore links to debates on innovation diffusion and adoption as well as practice adaptation. In my thesis I am not focusing on how Design Thinking became a global concept and, hence, am not considering the source or origin of this idea. I am more interested in how this concept, once it had been packaged and travelled across time and space, becomes embedded in a new local context. I am focusing on the process of this re-contextualisation and re-embedding of Design Thinking. Unlike earlier theoretical conceptions of this process, this does not mean a mere diffusion and transposition of the concept. Rather, Design Thinking is translated, as Scandinavian institutionalism demonstrates, to fit the new local environment. This alters not only the item to be implemented, as elements are added and removed, highlighted and downplayed, but also the adopting organisation. My work is therefore closely linked to Scandinavian neo-institutionalist debates on how global ideas travel and become re-contextualised. This study defines Design Thinking as a management practice and focuses on the implementation and institutionalisation phases of innovation adoption understood as a process of translation. The translation perspective allows an in-depth analysis of the innovation adoption and adaptation process in the implementing organisation.

At the beginning of this chapter, I offer definitions of the central concepts used in this study, followed by a brief description of the Design Thinking management approach. As the study is linked to debates in organisational theory on how and why organisations adopt ideas, the chapter continues with a discussion of alternative theoretical approaches to understanding this phenomenon. Starting with innovation diffusion theory and practice adaptation, the discussion continues with neo-institutional theory and management fashion theory and concludes with Scandinavian neo-institutionalism and translation theory. This study follows the Scandinavian neo-institutionalist perspective and focuses on the micro-strategies used during the translation process. The analytical framework adopted for this study is further specified at the end of this chapter.

2.1 Definitions

This section defines the central concepts of this study. It provides a definition of innovation, specifies new management practices as the type of innovation at the centre of this study, and delineates the term innovation adoption.

This study follows the notion of innovation as 'any idea, practice, or material artefact perceived to be new by the relevant unit of adoption' (Zaltman, Duncan, & Holbek, 1973: 10) which highlights the role of perception. The perception of newness also delineates innovation from change (Slappendel, 1996: 107). It refers to cognitive (individual) and communication (interpersonal) processes within organisations. In the course of the organisational adoption of innovations, there is a lot of uncertainty and ambiguity involved. Organisations have to make sense of this (Weick, 1995: 91 ff.).

The type of innovation that is the focus of this study concerns new management approaches. A lot of terms have been used synonymously in the literature on management ideas. Management ideas can be adopted by both private companies and public-sector organisations (Abrahamson, 1991, 1996). A management idea can be defined as 'an idea on how to manage organizations' (Mamman, 2002: 379). Similarly, Zeitz et al. refer to management practices as 'those techniques and behaviours used to plan, lead, and control people in the organizational process' (Zeitz, Mittal, & McAulay, 1999: 743). The term *management innovation* includes the notion of novelty and describes 'the invention and implementation of a management practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals' (Birkinshaw, Hamel, & Mol, 2008: 825). Management innovations can also be understood as process innovations defined as 'changes in the way work is carried out in organizations' (Piening, 2011: 130). Moreover, popular management ideas have been referred to as *management fashions* (Abrahamson, 1991, 1996) but this term is associated with negative connotations compared to the more neutral term of *management idea* (Mamman, 2002: 379). Those management ideas that are promoted as cure-alls with (almost) universal applicability have been termed *management panaceas* (Örtenblad, 2015).

Some researchers make no distinction between conceptual management ideas and adopted management practices (Ansari, Fiss, & Zajac, 2010; Ansari, Reinecke, & Spaan, 2014; Zeitz et al., 1999). Örtenblad suggests differentiating between the non-implemented and implemented management concepts, reserving the term management idea for the first and *management practice* for the latter (Örtenblad, 2015: 11). For the implementation of management concepts, one might therefore refer to the notion of (social) practices, which are created by patterns of action (Reckwitz, 2002: 249–250). Such an understanding of management practices highlights the role of action in processes of re-contextualisation of management concepts (Värlander, Hinds, Thomason, Pearce, & Altman, 2016). In the following work, the terms innovation approach, management approach and management practice are used synonymously.

In order to delineate the theoretical focus of this study, it is important to clarify what we are talking about when referring to adoption. Adoption denotes the adoption decision and its initial use, whereas implementation or entrenchment defines later stages of the adoption process (Zeitz et al., 1999). This study focuses on the phases of innovation adoption following the adoption decision, including the initial

use and implementation of a new management practice in the adopting organisation. I therefore explore what happens within an organisation when a new management practice is adopted.

2.2 Design Thinking as a management practice

This sub-chapter gives a general overview of Design Thinking as a de-branded concept. It includes a description of Design Thinking on an abstract meta-level. A detailed portrayal of the two versions of Design Thinking that have been referred to as templates in the adopting organisation can be found in Chapter 4.1.2, which details the principles, process and methods.

The concept of Design Thinking is used both in practice and theory (Johansson-Sköldberg, Woodilla, & Çetinkaya, 2013: 121). One can therefore speak of a scholarly and a managerial discourse on Design Thinking. Design Thinking has commanded significant attention among practitioners for its alleged potential to drive innovation. However, only few scholars have linked the concept of Design Thinking to organisational theory (Bate, 2007; Jelinek, Romme, & Boland, 2008) and innovation theory (Hobday, Boddington, & Grantham, 2012). Design Thinking is rooted in different disciplines. However, Johansson-Sköldberg et al. (2013) distinguish between the discourse of 'designerly thinking' rooted in the field of design research and the more nascent management discourse, with only few links and cross-references between them. Whereas design research discourse focuses on conceptualising design practice and competence, the managerial discourse refers to 'design practice and competence [...] used beyond the design context [...] for and with people without a scholarly background in design' (Johansson-Sköldberg et al., 2013: 123).

This study follows the managerial practitioner-oriented discourse. Design Thinking has been described as a collaborative, user-centred innovation approach that draws on the ways designers think and work (Brown, 2008, 2009; Johansson-Sköldberg et al., 2013). In this context, Design Thinking has been identified as a resource for organisations in their search for innovation (Kimbell, 2011) and has become 'a portal for the whole design area to contribute to innovation, and design thinking enabled innovation to supersede strategic management as a way to deal with a complex reality' (Johansson-Sköldberg et al., 2013: 127).

According to the managerial practitioner-oriented discourse, Design Thinking consists of two interrelated characteristics: Design Thinking as a capability and as an approach to management, which blends design practices with a way or style of thinking (Bason, 2010: 138–139). Practitioners and educators have highlighted those two dimensions as the Design Thinking process and tools vis-à-vis a corresponding mindset (d.school bootcamp bootleg, 2010). The design methods used during the process typically include 'ethnographic-inspired user research, creative ideation processes, and visualization and modeling of service prototypes' (Bason, 2013: 16). Similarly, in an empirical study, Design Thinking has been characterised as a management approach framed by five principles: user focus, problem framing, problem framing, visualisation, experimentation and diversity (Carlgren, Rauth, & Elmquist, 2016: 46–48). According to Carlgren et al., the principle of user focus refers to empathy

building through qualitative user research and user involvement to gain a thorough understanding of the users and their needs, whereas the principle of problem framing demands challenging and reframing the initial problem formulation and expanding the solution space. The principle of visualisation refers to making ideas tangible through visual representations and prototypes, while the principle of experimentation describes an iterative way of working and testing solutions early on. Finally, the principle of diversity relates to the inclusion of multiple perspectives and a collaborative process. Although the terminology used to describe the formal methods employed in Design Thinking varies among practitioners and scholars, need finding, brainstorming, and prototyping have been identified as the three main methods (Seidel & Fixson, 2013: 19).

In order to summarise the contemporary debate and definitional struggle concerning Design Thinking, Di Russo (2016) suggests a typology including the most cited characteristics of Design Thinking by both design scholars and practitioners. According to Di Russo's typology, the myriad of Design Thinking characteristics include empathy, an abductive approach, prototyping, problem-solution framing, an optimistic mindset, located at the fuzzy front end of the innovation process, dealing with wicked problems, an inventive and innovative approach, a human-centred perspective, visualisation, a collaborative and multidisciplinary approach, an iterative and intuitive approach, an ethnographic methodology, systemic thinking, and a rapid process (Di Russo, 2016: 39–40). In Di Russo's view the current debate on Design Thinking has not created a new design sub-discipline, but seems to be a label for scholars and practitioners external to the field of design to describe how designers think and work (Di Russo, 2016: 40).

Moreover, Di Russo categorises design practice according to different levels of complexity, as depicted in Figure 1 (Di Russo, 2016: 42). In this conceptualisation of Design Thinking, the focus of design can be an artefact, such as a product or graphic, on the lowest level. The second tier of design addresses an artefact and an experience, such as in the discipline of interaction design or user experience. The third level looks at systems and behaviour, mostly focusing on services. The most complex level of design encompasses large-scale systems, including policy design, public service and infrastructure. According to Di Russo's model, the application of Design Thinking in the public sector refers to the fourth level of design. Di Russo's model can help to better gauge the use of Design Thinking in an organisation.

Figure 1: Typology of Design Thinking by Di Russo (2016: 42)

To summarise, this study has conceptualised Design Thinking as a non-technological management practice that builds on the ways designers think and work. Furthermore, Design Thinking is understood as a process innovation.

2.3 Innovation adoption and practice adaptation

The following chapter presents how prior research has conceptualised innovation adoption and practice adaptation.

DOMINANT UNDERSTANDING OF INNOVATION ADOPTION AS A PROCESS OF DIFFUSION

Innovation adoption has long been described as a process of diffusion, in the sense of a transposition from location A to B without change. In his seminal work, Rogers (1962, 1995, 2003) has shed light on the diffusion of innovations. Whereas he defined innovation as 'an idea, practice, or project that is perceived as new by an individual or other unit of adoption' (Rogers, 2003: 12), the process of diffusion means 'an innovation is communicated thorough certain channels over time among the members of a social system' (Rogers, 2003: 5). Diffusion covers both the planned and spontaneous spread of new ideas (Rogers, 2003).

Diffusion theory mainly focuses on how practices are adopted but usually neglects what happens to them afterwards (Zeitz et al., 1999: 741). In contrast to diffusion studies, adoption (with or without adaptation) studies focus on the implementation in the adopting organisation (Volberda, Van Den Bosch, & Mihalache, 2014: 1250). The diffusion of innovation research, which has mainly studied the

14

spread of ideas among individuals (Rogers, 2003), cannot easily be applied to 'complex, process-based innovations in service organizations, for which the unit of adoption [...] is the team, department, or organization in which various changes in structures or ways of working will be required' (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004: 600). Moreover, the adoption, assimilation and routinization of an innovation seldom represents a linear process, but 'an organic and often rather messy model of assimilation in which the organization moved back and forth between initiation, development, and implementation, variously punctuated by shocks, setbacks, and surprises' (Greenhalgh et al., 2004: 601; cf. Van De Ven, Polley, Garud, & Venkataraman, 1999).

PRACTICE VARIATION, ADAPTATION AND MODIFICATION DURING THE INNOVATION ADOPTION PROCESS

Most research has concentrated on the inter-organisational spread of innovations, neglecting adaptation and internal variety in diffusing practices in the implementing organisation (Ansari et al., 2010: 67; Mamman, 2002: 379). Existing models in diffusion theory focus on why practices are initially adopted by an organisation, but they do not offer much insight into what happens to such practices during and after adoption (Wolfe, 1994; Zeitz et al., 1999). Instead of mere transmission through space and time, 'diffusing practices are likely to evolve during the implementation process, requiring custom adaptation, domestication, and reconfiguration to make them meaningful and suitable within specific organizational contexts' (Ansari et al., 2010: 67–68). In this understanding, management ideas are not fixed objects, 'not monoliths' (Mamman, 2002: 380). Sometimes, adaptation means that 'ideas are modified beyond recognition' (Mamman, 2002: 380).

The process of adaptation occurs when 'an adopter tries to create a better 'fit' between a practice and the adopters' particular needs' (Ansari et al., 2014: 1315), including their objectives and circumstances (Mamman, 2002: 380). Such modification of management ideas happens consciously or unconsciously (Mamman, 2002: 380). Adaptation studies, however, seem to emphasise the deliberate nature of such modifications during the implementation process (Ansari et al., 2014; Mamman, 2002). Modification is seen as necessary and even desirable to meet organisational goals in different organisational contexts (Mamman, 2002: 387). Internal and external change agents play central roles at different stages of the adoption and adaptation process (Volberda et al., 2014).

Adaptation may have different outcomes. Practice adaptation is where the practice is modified and the organisation remains unchanged; organisational change is where the organisation but not the practice changes; and mutual adaptation is where both organisation and practice undergo change (Ansari et al., 2010, 2014: 1315–1316).

There are two dimensions of adaptation: fidelity and extensiveness (Ansari et al., 2010, 2014: 1316). Fidelity refers to the degree of similarity between the adopted practice and the previous version of it and concerns the scope and meaning of the practice (Ansari et al., 2014: 1316). Extensiveness describes the degree of implementation, where less extensive implementation means decoupling and symbolic adoption (Ansari et al., 2014: 1316).[2] Similarly, Mamman (2002: 385) distinguishes between minor or major changes that are dependent on the type of adoption process. A proactive approach means the organisation and individuals are engaging in a rational and independent search for management ideas to solve organisational problems, while a reactive adoption refers to the extent to which an organisation

---

[2] For a detailed overview on the concepts of isomorphism and decoupling consult Boxenbaum and Jonsson (2008).

or individual responds to external and institutional pressures (Mamman, 2002: 385).[3] In the latter instance, adoption might not be directly linked to solving organisational problems, but for individuals it is about satisfying psychological needs and for organisations about legitimacy and distinguishing themselves from others (Mamman, 2002: 385). During or before implementation, management ideas might be modified in pursuit of solving the organisational problems for which they were adopted (Mamman, 2002: 385). This can involve three types of modifications: addition (addition of elements); omission (removal of elements); and hybridisation (merger of ideas or combination with local elements).

Moreover, adaptation will depend on the fit between the diffusing practice used and the adopting organisation influenced by technical, cultural and political factors (Ansari et al., 2010: 68). Technical fit refers to the compatibility of a practice's features with the technologies in use by adopters (Ansari et al., 2010: 75), whereas cultural fit concerns the compatibility of a practice's features with the values, beliefs and practices of potential adopters (Ansari et al., 2010: 78). Political fit, on the other hand, refers to the compatibility of a practice's normative characteristics with the interests and agendas of potential adopters (Ansari et al., 2010: 80).

In summary, technical, cultural and political misfits produce different patterns of adaptation among adopting organisations (Ansari et al., 2010).

2.4 Neo-institutional theory and management fashion theory on the circulation of ideas

Previous research into the neo-institutional theoretical tradition has conceptualised the circulation of ideas and their adoption by organisations in terms of legitimacy (Suchman, 1995), isomorphism (DiMaggio & Powell, 1983), rational myths and decoupling (Meyer & Rowan, 1977), organisational hypocrisy (Brunsson, 2003a, 2003b) and management fashions (Abrahamson, 1991, 1996).

Organisations and individuals have been found to follow a logic of appropriateness (March, 1994) when they adopt new ideas, because they seek legitimacy from their institutional environment, providing expectations, identities and rules for (Sahlin-Andersson & Wedlin, 2008). Following this view, agency is socially constructed (Sahlin-Andersson & Wedlin, 2008: 222). Organisations and individuals adopting ideas have been characterised as fashion followers and driven by general norms of rationality and progress (Abrahamson, 1991, 1996). Management fashion theory emphasises the temporal and social aspects of the processes of adoption (Sahlin-Andersson & Wedlin, 2008: 222). Furthermore, fashion is portrayed as a driver of translation and the diffusion of ideas (Czarniawska & Sevón, 2005a) because it directs attention to specific ideas, models and practices and thereby fosters imitation (Sahlin-Andersson & Wedlin, 2008: 222).

---

[3] Proactive and reactive processes are not mutually exclusive and can be part of the same adoption process, albeit not simultaneously (Mamman, 2002: 385).

The concepts of fashion and appropriateness highlight social processes of idea circulation in which imitation represents a basic mechanism through which ideas flow (Sahlin-Andersson & Wedlin, 2008: 223). Moreover, imitation has been identified as an important mechanism through which organizations become exposed and pick up ideas - referring to concepts of identity and organisational fields (Sahlin-Andersson, 1996). The concept of organizational fields helps to explore how organisations identify themselves and what they seek to imitate (Sahlin-Andersson & Wedlin, 2008: 224). An organisational field can be understood as a group of organisations whose activities are similar (DiMaggio & Powell, 1983).[4] Moreover, it functions as a system of relationships with central and peripheral positions in which dominant organisations form the reference point or model for others (Sahlin-Andersson & Wedlin, 2008: 224). What is more, imitation and identity formation shape each other mutually (Sahlin-Andersson & Wedlin, 2008: 223).

When 'modern' organisations are facing conflicting normative institutional demands, they might respond with organisational hypocrisy in terms of decoupled talk, action and decisions (Brunsson, 2003a, 2003b). Arguing from a neo-institutionalist perspective, management ideas might therefore only be adopted ceremonially with no link between talk and action (Meyer & Rowan, 1977). This can explain why many organisations have taken up a 'fashionable' management approach, leading to isomorphism in the respective organisational field (DiMaggio & Powell, 1983). However, it does not mean that the management idea is actually put into action, nor explain how it is applied in a specific context. A functionalist approach, on the other hand, would argue differently based on the assumption that the adoption of a management idea follows a problem-solving rationale in which the organisation selects a management idea in order to solve some organisational problem. Such a functionalist explanation therefore contradicts the institutionalist assumption that a management idea is merely symbolically adopted – fulfilling expectations and therefore gaining legitimacy e.g., being perceived as a 'modern' organisation, maybe even an innovative one. A complementary approach that combines instrumental, cultural and myth perspectives is provided by Scandinavian neo-institutionalists (Christensen, Lægreid, Roness, & Røvik, 2007).

2.5 Translation Theory

Translation theory has been used in many different fields of research for the last three decades (Wæraas & Nielsen, 2015). Its origin can be traced back to French sociologists Callon (1986) and Latour (Callon, 1986; 1986, 1987) – both proponents of actor-network theory - who shaped the sociology of translations. Although many different disciplines can be linked to translation theory, in this study I therefore focus on approaches in the field of organisation and management studies.

According to Wæraas and Nielsen (2015) translation theory can be divided into three camps: actor-network theory, knowledge-based theory, and Scandinavian neo-institutionalism. Although drawing on the same origins, there seems to be a lack of cross-references among these three strands of literature

---

[4] DiMaggio and Powell define organisational fields as 'organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products' (DiMaggio & Powell, 1983: 148).

(Wæraas & Nielsen, 2015). For example, Mamman (2002) does not make any reference to the Scandinavian tradition of translation theory. The three strands of translation theory emphasise one or more of the political, semiotic and geometric aspects of the translation process (Wæraas & Nielsen, 2015).

Actor-network theory highlights the political dimension of translation understood as a process of negotiations. The translation process includes four phases or moments of translations during which actors engage in negotiations about meanings, claims and interests: problematisation, interessement, enrolment and mobilisation (Callon, 1986). Proponents of the knowledge-based perspective on translation theory highlight the semiotic and geometric dimensions of translation and focus on organisational knowledge as the object of translation (Wæraas & Nielsen, 2015: 21).

Scandinavian institutionalism revolves around concepts of loose coupling, sensemaking and translation following in the tradition of March, Weick, Latour and Callon (Boxenbaum & Strandgaard Pedersen, 2009: 187). Translation and sensemaking occur when organisations try to grasp a new organisational element and integrate it in their organisational context (Boxenbaum & Strandgaard Pedersen, 2009: 188). According to Boxenbaum and Strandgaard Pedersen (2009: 190–192) there are two streams of translation research within Scandinavian neo-institutionalism. The first stream, which originated in the mid-1990s, puts an emphasis on implicit aspects of the interpretation process and is mainly associated with the works of Czarniawska and Sevón (1996a), Sahlin-Andersson (1996) and Røvik (2007). The second stream highlights strategic choices made during the translation process and proposes that there is more than one way to translate within a given organisational context (Boxenbaum & Gond, 2006; Gond & Boxenbaum, 2013).

In this study, I follow the Scandinavian neo-institutionalist perspective on translation as it provides a fine-grained view of the translation process highlighting the mechanisms at play.

2.5.1 TRANSLATION THEORY: A SCANDINAVIAN NEO-INSTITUTIONALIST PERSPECTIVE

Translation theory highlights the active construction, supply and transfer of ideas: 'Ideas do not diffuse in a vacuum but are actively transferred and translated in a context of other ideas, actors, traditions and institutions' (Sahlin-Andersson & Wedlin, 2008: 219). An emphasis is placed on the active role of actors in the adopting organisation. Imitation is therefore not mere copying but an act of change and innovation (Sahlin-Andersson & Wedlin, 2008: 219). What is more, such local translations may lead to variation and stratification - unlike the homogeneity notion of the isomorphism concept might suggest (Sahlin-Andersson & Wedlin, 2008: 219). Scandinavian neo-institutionalists 'highlight the dynamic aspects of circulating ideas; how and why ideas become widespread, and how they are translated as they flow and with what organisational consequences' (Sahlin-Andersson & Wedlin, 2008: 219).

This understanding of translation is delineated from the concept of diffusion, which is perceived as too static and mechanical because it seems to assume the spreading of a physical entity, originating from one source. However, ideas have been found to become more powerful while they circulate, meaning no single source can be identified: 'What was spreading were not ready-made and unchangeable particles or goods, but ideas subject to repetitive translation' (Sahlin-Andersson & Wedlin, 2008: 221).

Unlike the diffusion concept and management fashion theory with its passive recipients, fashion followers suggest translation is an active process (Sahlin-Andersson & Wedlin, 2008: 224). In this realm, imitation - as the underlying mechanism of translation - has also been characterised as a performative act (Sevón, 1996). Moreover, in contrast to the physical connotations of diffusion theory, Scandinavian translation scholars highlight the dynamic and transformable nature of the transferred object (Czarniawska & Sevón, 1996b). Following this understanding, ideas and practices are not transferred per se but accounts and materialisations of them are translated and breed local versions of models and ideas in different local settings (Czarniawska & Joerges, 1996; Sahlin-Andersson & Wedlin, 2008: 225).

Despite the early notion of homogenisation proposed by the concept of isomorphism, researchers have become aware of variation and stratification that follow diffused ideas. Moreover, over time, research has shown that adopted ideas have effects on formal structures and day-to-day organisational practices. This constitutes a departure from Meyer and Rowan's (1977) earlier emphasis on the decoupling of ceremonially adopted ideas from organisational practices. (Sahlin-Andersson & Wedlin, 2008: 220) Hence, Scandinavian translation theorists assume that circulating ideas result in organisational and institutional change (Sahlin-Andersson & Wedlin, 2008: 220).

Although such ideas had been highlighted before (Westney, 1987), Scandinavian institutionalism formulated a comprehensive conceptual framework more constructivist as well as more micro- and qualitative-oriented in its approach than mainstream institutional theory in the United States (Sahlin-Andersson & Wedlin, 2008: 222).

Early translation researchers focused on travel routes of ideas, followed by research on content and form of ideas. More recent studies have moved away from earlier notions of ceremonial and symbolic adoption but focus more on the consequences of widely diffused ideas (Sahlin-Andersson & Wedlin, 2008: 220). Later studies within the Scandinavian institutionalist tradition focused on understanding the origin of ideas and how they were produced and circulated. Thereby translation is understood as an active process with clear means of transportation ((Sahlin-Andersson & Wedlin, 2008: 228). Translation carriers and mediators include, for example, researchers, the media, expert committees, and international organisations (Sahlin-Andersson & Wedlin, 2008: 229) and have been conceptualised as editors (Sahlin-Andersson, 1996) or fashion-setting communities (Abrahamson, 1996). Network models of diffusion have been criticised for over-emphasising direct interactions. Instead, indirect cultural linkages, enhanced by theorisation and the development of abstract, generalised models (Strang & Meyer, 1993), can drive imitation as well (Sahlin-Andersson & Wedlin, 2008: 230). Mediating organisations support such imitation because they help to theorise practices and models (Sahlin-Andersson & Wedlin, 2008: 230).

Røvik's virus-inspired theory of idea-handling processes in organisations provides another perspective on translation processes in organisations. It represents an alternative to management fashion theory and addresses the latter's shortcomings. According to Røvik (2011) the main theoretical limitation of management fashion theory lies in its conception of management ideas as transient and superficial. Hence, it is unable to capture how management ideas affect organisations (Røvik, 2011: 633). Røvik identifies ten idea-handling processes linked to the six features derived from virology and points to the relationship between them that can be characterised by succession, tangling or competition. Røvik's virus-inspired theory proposes a more nuanced understanding of such processes. For this study, the 'mutation' feature is of interest as it corresponds to processes of translation (Røvik, 2011: 642).

In summary, translation theory can show how something is adopted. The discipline is akin to taking a magnifying glass and looking more closely at the process of diffusion. The translation perspective acknowledges that an idea is not simply put in a new surrounding and accepted or works as if nothing had happened. Rather, it assumes that a new idea is contextualised and adapted along the way. This means it is prone to change during this process. Nor is translation understood as a straightforward, linear process. A translation perspective zooms in and can trace what is "sticky" about an idea in a specific context. It looks at innovation adoption from a process perspective in an attempt to unveil what is being translated and altered. Moreover, it helps us to understand how global ideas and management concepts become adapted in particular local settings opening the black box of innovation adoption. It provides insights about the empirical phenomenon under investigation and how it is adopted in a public sector organisation.

2.5.2 HOW TO OPERATIONALISE TRANSLATION?

Translation theory has remained fairly abstract and there remains little insight into the detailed process of translation as well as a lack of explanation about why translations succeed or fail (Boxenbaum, 2006: 939). Consequently, there has not been a lot of research that has put forward an analytical framework to analyse translation processes.

Stage models of translation

Some scholars have described translation in terms of stage models. According to Michel Callon translation is a process consisting of four phases 'during which the identity of actors, the possibility of interaction, and the margins of manoeuvre are negotiated and delimited' (Callon, 1986: 203). The four phases are problematisation, interessement, enrolment, and mobilisation; each phase may overlap with another. *Problematisation* refers to the elements responsible for creating a case for an idea in the adopting organisation. In this phase, an entity attempts to define the problem and the roles of the other actors with the goal of making itself indispensable in the sense of providing the solution to the problem – also referred to as 'obligatory point of passage' (Callon, 1986). *Interessement* discusses the 'group of actions by which an entity […] attempts to impose and stabilize the identity of the other actors it defines through its problematization' (Callon, 1986: 207–208). This is about the different devices used to create interest and to persuade others that an idea is a solution to their problems. *Enrolment* discusses the types of situations where actors come together and occupy roles that enact the idea. In this phase, a solid, stable network of alliances is established through coercion, persuasion or consent. *Mobilisation* occurs as an idea becomes more widely used and an even larger network of absent entities is created through some actors who act as spokespersons for others.

A different stage model is suggested by Czarniawska and Joerges (1996) that describes how an idea is objectified, travels and is enacted in a new context (Czarniawska & Joerges, 1996: 26). Boxenbaum and Gond (2014: 313) referred to Czarniawska and Joerges' process phases as selection, objectification and materialisation. The first step of *selection* concerns the phase in which an idea is chosen by organisational actors to address some organisational problem. Following this is the *objectification* phase in which the selected idea is (re-)labelled in order to be recognisable. Subsequently during the *materialisation* phase, the objectified idea is turned into a quasi-object, transforming words into action.

Both stage models of translation highlight the role of agency in the translation process. Callon's model places a greater emphasis on the political aspect of the translation process, unveiling the on-going negotiations of meaning etc. This can be seen even by the labels chosen to describe this process as they represent deliberate interactions: someone needs to be interested in something, enrolled and mobilised. On the contrary, Czarniawska and Joerge's model seems to be more neutral in wording, resembling biological terms, e.g. selection.

Translation strategies, rules and logics

Whereas a stage model can be used to describe the process of translation, it does not explicate the activities in which adopting actors engage during the individual steps. In order to provide a more fine-grained view of the translation process, scholars have conceptualised translation rules and strategies to describe the translation activities employed by organisational actors. This sub-chapter elaborates on the rules and strategies used during the translation process. It presents different conceptualisations and highlights similarities and differences between them.

MICRO-STRATEGIES OF CONTEXTUALISATION

Boxenbaum and Gond (2014) have described micro-strategies of contextualisation that shed some detail on how translation occurs. They distinguish between material, practice-related elements and discursive, symbolic elements with regard to how the object of diffusion is altered during the process. Whereas de-contextualisation might include the removal and addition of material aspects, discursive de- and re-contextualisation refers to the rhetorical alignment of the diffused object linking it to locally significant themes, such as local myths, current trends and events etc.

Rooted in Scandinavian neo-institutionalism, Boxenbaum and Gond (2014) put forward three such micro-strategies: filtering, reframing, and bricolage[5]. Filtering and bricolage both refer to the material, practice-related elements of translation, whereas reframing refers to the symbolic, discursive ones. During filtering, the negative aspects of the diffusing concept are downplayed or eliminated to ease acceptance in the next environment. The process of bricolage, on the other hand, entails adding new practice-related elements to the diffusing concept. This could be combining it with existing practices and thereby making it more acceptable. However, during reframing the new concept is rhetorically linked to gain support in the new environment. Such discursive alignment usually does not alter the concept itself. Another version of re-framing as part of the translation process refers to the reframing of the idea in terms of its supporting ideology (Sahlin-Andersson & Wedlin, 2008: 227). Sometimes, seemingly technical adjustments can lead to more fundamental programmatic or normative shifts in case of such ideological reframing (Sahlin-Andersson & Wedlin, 2008: 227).

In the following, the typology of micro-contextualisation by Boxenbaum and Gond (2014) is compared to earlier versions, including Boxenbaum and Gond (2006) and Gond and Boxenbaum (2013). This delineation helps to better understand the concept of contextualisation strategies and traces how the concept has been refined.

In their empirical study, Gond and Boxenbaum (2013) identify three types of contextualisation: filtering, repurposing, and coupling. These strategies are used to achieve a technical, cultural, or political fit

---

[5] Campbell (2004) offers a detailed overview of the concept of bricolage.

between the imported practice and the new local context (Gond & Boxenbaum, 2013: 708). In their views, previous approaches to globalisation have only partly captured contextualisation work, referring to only one or a few dimensions of fit. The authors therefore suggest a consolidated approach to glocalisation that they conceptualise as contextualisation work and that integrates cultural, political and technical dimensions of institutional work (Gond & Boxenbaum, 2013: 708). Gond and Boxenbaum (2013) use institutional theory and actor-network theory to advance the concept of contextualisation. Their focus is on micro-processes of globalisation in which a practice is transformed by the adopting local context, while continuing to diffuse globally. Similar to the 2014 framework, Gond and Boxenbaum (2013) highlight the role of agency in the process of translation, assuming a strategic use of contextualisation work. In contrast to their 2006 version, Gond and Boxenbaum (2013) have re-labelled some of the contextualisation micro-strategies. Filtering is the only category that remains consistent over the years. Repurposing contains the same meaning as the category of reframing with the difference that it also includes changing the use or area of application of an imported practice.

During filtering, 'actors eliminate or downplay features of the imported practice that they fear may block its adoption in the new context' (Gond & Boxenbaum, 2013: 713). Repurposing work, on the other hand, 'transforms the raison d'être of a business practice by altering its meaning or changing its use or area of application' (Gond & Boxenbaum, 2013: 715). As the third type of contextualisation, coupling refers to 'adding a new material, practice-related, symbolic, or discursive component to the foreign business practice so as to facilitate its local acceptance' (Gond & Boxenbaum, 2013: 716).

In their former empirical study, Boxenbaum and Gond (2006) propose five micro-strategies that individuals employ to contextualise a foreign business practice. These include filtering, rerouting, stowing, defusing and coupling. In their 2014 model they have only included three strategies distinguishing between the symbolic and material changes that happen during translation. It appears that rerouting, stowing and defusing have been subsumed under the category of reframing. Rerouting means that individuals assign a new purpose to a foreign business practice, thereby changing the meaning and/or the function of a business practice to make it desirable in the host society. Stowing consists of aligning the foreign business practice with a social movement or a current trend in the host society. Defusing, on the other hand, occurs when individuals transfer a practice to protect it against a widely accepted threat, whether real or perceived. The consolidation of these three micro-strategies into reframing appears to have put a stronger emphasis on rerouting and stowing, not so much on defusing. Interestingly, coupling has been relabelled as bricolage, which Boxenbaum and Gond (2006) already mention as a similar process - much like hybridisation - in their earlier work. Moreover, Boxenbaum and Gond (2006) discuss their empirical study of socially responsible investment in the light of three theoretical traditions: actor-network theory with its notion of contextualisation, translation research with links to both actor-network theory and Scandinavian neo-institutionalism, and studies of institutional transfers within the varieties of capitalism framework.

In summary, by identifying three types of contextualisation work, Boxenbaum and Gond (2014) – as well as earlier versions of their model - make the translation process explicit. Moreover, this framework 'can be used to explore how individuals promote the circulation of locally generated business practices across institutional boundaries' (Gond & Boxenbaum, 2013: 718).

As this thesis aims to bridge research on translation and innovation adoption, it seems fruitful to compare Ansari et al.'s (2014) adaptation concept to Boxenbaum and Gond's (2014) concept of contextualisation strategies. Ansari et al.'s fidelity dimension, which describes adaptation in terms of

scope and meaning, is similar to the micro-strategy of bricolage in which practice is combined with local elements. A change of meaning could also be related to reframing as a contextualisation strategy. The extensiveness dimension of adaptation distinguishes symbolic from more substantive implementation. It can therefore be linked to the filtering strategy of contextualisation that refers to the removal of some elements of the practice to better fit the local context. Another innovation adoption concept that emphasises adaptation is Mamman's (2002) modification process, which also resembles Boxenbaum and Gond's (2014) micro-strategies of contextualisation. Mamman's omission category can be related to Boxenbaum and Gond's filtering type, as both practices describe how elements are removed from the 'original' template. Modification by addition or hybridisation resembles what Boxenbaum and Gond have labelled bricolage, which means that elements are added to or combined with existing local ones. This juxtaposition of concepts from practice adaptation and translation theory shows overlapping features and the potential for cross-pollination of both scholarly debates (see Table 1).

TRANSLATION RULES

Røvik's translation rules offer another understanding of what happens during the translation process and will be discussed against the backdrop of Boxenbaum and Gond's (2014) micro-strategies of contextualisation in order to make sense of similarities and differences.

Drawing on a linguistics-inspired approach to organisational translations developed by Røvik (2007; cited in Wæraas & Sataøen, 2014: 244), Wæraas and Sataøen (2014) offer an alternative approach to studying the translation of managerial practices. Røvik describes four rules of translation: copying, addition, omission, and alteration. These translation rules shape the translation outcome. Unlike the Scandinavian institutionalist notion of translation that emphasises heterogeneity as an outcome of such processes, Røvik highlights homogeneity as a possible outcome resulting from similar patterns of use of translation rules (Wæraas & Sataøen, 2014: 242). Wæraas and Sataøen (2014) provide a refined explanation for field-level outcomes of translation, by combining the Scandinavian institutionalist notion of translation with Røvik's translation rules.

The definition of translation rules is very similar to the conceptualisation of micro-strategies of contextualisation by Boxenbaum and Gond (2006, 2014) as well as Gond and Boxenbaum (2013). Whereas *copying* occupies one extreme of the spectrum of possible translations, *alteration* occupies the other end. However, Gond and Boxenbaum do not have any equivalent of 'copying' because the premise of their contextualisation strategies is based on the idea that some sort of alteration happens in any case. In between copying and alteration, there are different degrees of *addition* and *omission* of features to or from the original template. Similarly, filtering can range from eliminating or downplaying few to many elements, thereby resembling omission as a translation rule. Coupling or bricolage can include the combination and integration with existing elements, thereby adding or altering components of the original template. What is more, Røvik's rules of translation are in part identical with the modification types proposed by Mamman (2002), such as the addition and omission categories. This is once again indicative of the common ground of both scholarly debates on innovation adoption and translation.

LOGICS OF TRANSLATION

Additionally, translation can be understood in terms of translation logics. In their empirical study of the translation of lean management in a Norwegian hospital, Andersen and Røvik (2015) identify three logics of local translation: translation as a funnel ('whispering down a lane'); copying the tools and leaving out

the philosophy ('washed out'); and the conscious sell-in of the least controversial parts of the management idea ('introductory sale'). The first logic of translation 'whispering down a lane' refers to translation as a funnel 'in which different parts of the organisation change the idea for their own use' (Andersen & Røvik, 2015: 6). 'Washing out', on the other hand, refers to a partial adoption of the management idea, thereby copying the tools and discarding the philosophy. Tools are less abstract and therefore easier to adopt than a more abstract philosophy. Such a partial transfer could be attributed to cultural and social distance between the management idea and the adopting context (Andersen & Røvik, 2015: 6; cited Lillrank, 1995). The third logic of translation, 'introductory sale' refers to downplaying the most controversial parts of the management idea to minimise resistance and create buy-in for the new idea (Andersen & Røvik, 2015: 6). The contribution of Andersen and Røvik's (2015) study lies in their depiction of a translation process within a single organisation in contrast to prior research, which has mainly focused on the translation between organisations.

The three logics of translation resemble Boxenbaum and Gond's (2014) micro-strategies of contextualization as well as Røvik's (2007) translation rules (see Table 1). 'Washing out' represents a version of filtering in which the less abstract tools are translated whereas the more abstract philosophy of the management idea is eliminated and is also similar to Røvik's translation rule of omission. The 'introductory sale' logic also refers to filtering as it downplays the elements that are incongruent with the adopting context.

EDITING RULES

In her seminal work 'Imitating by Editing Success' Sahlin-Andersson (1996) describes how organisational forms and practices circulate. Unlike prior research that 'assumed that nothing happens to these ideas during the process of diffusion' (Sahlin-Andersson, 1996: 70), Sahlin-Andersson suggests that ideas undergo a 'continuous editing process' while they travel from one setting to another (Sahlin-Andersson, 1996: 82). Her focus is on the entire process of transformation, not only the adoption phase in the imitating organisation. Moreover, she claims that experiences or practices are not diffused in their original form but are packaged as 'standardized models and presentations of such practices' (Sahlin-Andersson, 1996: 78; see also Strang & Meyer, 1993). The concept of editing therefore resembles Latour's (1986) model of translation, as models are adapted in different contexts (Sahlin-Andersson, 1996: 82).

Moreover, the editing process seems to be characterised by some regularities that are in part governed by 'social control, conformism and traditionalism' (Sahlin-Andersson, 1996: 82). These editing rules guide the translation of models and concepts (Sahlin-Andersson, 1996: 85). Sahlin-Andersson distinguishes three editing rules for when practices are packaged for export: editing for context, logic and formulation (Sahlin-Andersson, 1996: 85–87). The first editing rule for context refers to the de-contextualisation of a practice, which means excluding any time- and space-bound features from the model and thereby dis-embedding the prototype. Specific local prerequisites and properties are de-emphasised or omitted. However, when a model is adopted in a new setting it becomes contextualised and re-embedded again. This can mean that several models or elements of them are mixed or adjusted, so that they do not contradict each other. Sometimes the import of contradictory models can also lead to decoupling. (Sahlin-Andersson, 1996: 85) The second editing rule concerns the formulation and labelling of a model. A model that is formulated in more dramatised ways attracts more attention (Sahlin-Andersson, 1996: 87). This concerns how the model is packaged and may include generalisations. These generalisations are also packaged and commodified with (new) labels to make

them easy to understand and remember (Sahlin-Andersson & Wedlin, 2008: 226). The third editing rule for logic concerns the plot of stories that are often described according to a rationalistic logic, in which causes and effects are laid out. Models therefore tend to follow a problem-solving logic. Including scientific references further increases the legitimacy of the model (Sahlin-Andersson, 1996: 88). Models are also attractive if they suggest that implementation in another setting seems possible. Editing into a model means that practices and experiences are 'rationalized, scientized and theorized' (Sahlin-Andersson & Wedlin, 2008: 226; see also Strang & Meyer, 1993). Furthermore, editing can lead to changes of focus, content and meaning of organisational forms and practices (Sahlin-Andersson & Wedlin, 2008: 226).

In Sahlin-Andersson's view, the adopter assumes an active role by editing and translating the model to its local context. Such editing thus not only happens during the packaging and theorizing of a model, but also as part of the local adoption. During adoption, editing may lead to combinations of old and new, local and foreign elements, local practices and other adopted models (Sahlin-Andersson, 1996: 84). This bears a strong resemblance to Boxenbaum and Gond's (2014) bricolage strategy of contextualisation. Although the focus of Sahlin-Andersson's concept rests on the construction of standardised models, she makes clear reference to what happens when these are adopted locally. The imitating organisation is an active agent in this editing process, deliberately re-shaping the models by assigning new meaning to them as well as combining them with previously adopted models (Sahlin-Andersson, 1996: 92). Similar to other translation theory proponents (Boxenbaum & Gond, 2006, 2014; Gond & Boxenbaum, 2013), Sahlin-Andersson therefore acknowledges the active role of adopters in the imitating organisation during the editing process. Moreover, she emphasises that even within one adopting organisation there might be different translations of the same model (Sahlin-Andersson, 1996: 88). Such ambiguity might, however, impede the process of implementation (Sahlin-Andersson, 1996: 88).

Boxenbaum and Gond's (2014) model suggests that editing occurs not only during export but is also relevant when importing a practice into the host society. Although Sahlin-Andersson suggests that the editing rules guide the translation of models and concepts (Sahlin-Andersson, 1996: 85), she does not specify in detail how, nor does she explicate how the editing rules apply to the translation process in the adopting context.

Similar to Boxenbaum and Gond's (2014) micro-strategies of contextualisation, Sahlin-Andersson's editing rules are concerned with the process of translation. The editing rule for context is similar to the filtering strategy proposed by Boxenbaum and Gond (2014) and Gond and Boxenbaum (2013) as elements of the global model or practice are de-emphasised or omitted. Moreover, the rule of editing for formulation resembles the re-naming proposed by Røvik (2011) in which the model or practice is packaged and commodified with (new) labels to make it easy to understand and remember as well as to mitigate resistance in the adopting context (Røvik, 2011: 643).

To summarise this sub-chapter, Table 1 gives an overview of the translation models for the adoption phase mentioned above. As a consequence, it does not include Sahlin-Andersson's (1996) editing rules. For the overview, Boxenbaum and Gond's (2014) micro-strategies of contextualisation serve as a reference point for the other translation concepts, including Røvik's translation rules and Andersen and Røvik's logics of translation.

Table 1: Translation models for adoption phase

MICRO-STRATEGIES OF CONTEXTUALISATION (BOXENBAUM & GOND, 2014)	TRANSLATION RULES (RØVIK, 2007, 2011)	LOGICS OF TRANSLATION (ANDERSEN & RØVIK, 2015)	OTHER CONCEPTS
Filtering (Boxenbaum & Gond, 2006, 2014)	Copying, Omission (Røvik, 2007)	'Whispering down a lane' – translation as a funnel 'Washed out' – copying the tools, leaving out the philosophy 'Introductory sale' – conscious sell-in of the least controversial parts of the management idea	Selective emulation (Westney, 1987) Practice adaptation in terms of fidelity (Ansari et al., 2010, 2014) Omission (Mamman, 2002)
Reframing (Boxenbaum & Gond, 2014) Similar concepts/ other labels by same author(s): • Repurposing (Gond & Boxenbaum, 2013) • Rerouting, stowing, defusing (Boxenbaum & Gond, 2006) • Framing (Boxenbaum, 2006)	Re-naming (Røvik, 2011)		Practice adaptation in terms of extensiveness (Ansari et al., 2010, 2014)
Bricolage (Boxenbaum & Gond, 2014) Similar concepts/ other labels by same author(s): Coupling (Boxenbaum & Gond, 2006; Gond & Boxenbaum, 2013)	Addition, Alteration (Røvik, 2007)		Bricolage (Campbell, 2004) Practice adaptation in terms of fidelity (Ansari et al., 2010, 2014) Hybridization (Mamman, 2002; Pieterse, 1994 cited in Eva Boxenbaum & Gond, 2014, p. 313) Addition (Mamman, 2002)

2.6 Theoretical approach and analytical framework of this study
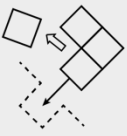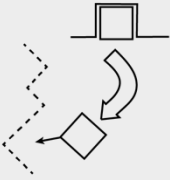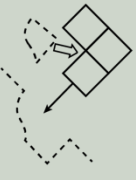
This sub-chapter summarises the theoretical approach underlying this study and the analytical framework that is used to analyse the empirical data.

For the purposes of this study, innovation adoption is framed in an institutionalist perspective addressing how global ideas are translated to local contexts (Czarniawska & Joerges, 1996; Czarniawska & Sevón, 2005b). In contrast to diffusion theory, the translation theory perspective captures the multidimensionality and 'messiness' of innovation adoption. Additionally, debates on glocalisation and practice adaptation are closely linked to translation research and share some of the same features. Following in these footsteps, this study builds on the works of Boxenbaum and Gond (2014) who have explored micro-strategies of contextualisation. Similarly, conceptualisations of practice adoption - especially in the sense of practice adaptation - are considered here. This strand of research sheds light on how practices are made to fit when moved to another context.

In this study I follow prior research that has understood global diffusion of managerial practices as a translation process to fit its local adopting context (Boxenbaum & Gond, 2006, 2014; Gond & Boxenbaum, 2013). Moreover, I study the translation process within a single organisation. This perspective is interesting as it opens the black box of what happens once a management idea enters an organisation. It allows for a more fine-grained view because it does not assume that an organisation is a monolithic entity. Previous empirical studies have suggested that there is more than one translation and thus transformation within one organisation (Andersen & Røvik, 2015: 4).

Following Boxenbaum and Gond's (2014) framework of micro-strategies, I would like to further distinguish the category of filtering. Whereas filtering has mainly been described as removing or downplaying elements that are perceived as incongruent with the local context, an alternative perspective could be that certain aspects are highlighted during the process of translation. As two sides of the same coin, downplaying and emphasising highlight different aspects of the same process. This perspective certainly adds an important nuance to the category of filtering. During the process of translation, elements relevant to the new context are not only downplayed but also highlighted and therefore become more prominent than in the original template. I therefore propose a refinement of the filtering category, distinguishing filtering by removal and filtering by emphasis. Although they do not explicitly include filtering as a form of emphasis in their set of micro-contextualisation strategies, Gond and Boxenbaum (2013: 717) suggest that a feature in the original practice can be either accentuated or downplayed in a given local context. This means filtering not only eliminates elements but can also mean that certain features of the original concept may be highlighted during contextualisation. Table 2 summarises the analytical framework of this study.

Table 2: Micro-strategies of contextualisation

LABEL	FOCUS	IMAGE CAPTURING THE MOVEMENT OF THE CONTEXTUALISATION WORK	DEFINITION
(1) Filtering			Refers to the material/practice-related elements in the globalised construct/imported practice that are adapted to the new context.
(1a) Filtering by removal	Removal of practice-related/ material elements	 (Gond & Boxenbaum, 2013: 713)	Removal or downplaying of elements in the globalised construct/imported practice that could be perceived as 'incongruent' with the new context (Boxenbaum & Gond, 2014: 316; Gond & Boxenbaum, 2013: 713).
(1b) Filtering by emphasis	Emphasis of practice-related/ material elements	 (Gond & Boxenbaum, 2013: 713)	Emphasis or highlighting of specific elements in the globalised construct/imported practice that could be perceived as 'congruent' with the new context (adapted from Boxenbaum & Gond, 2014).
(2) Reframing	Addition/removal of discursive/ symbolic elements and/or change of use/area of application	 (Gond & Boxenbaum, 2013: 713)	Discursive alignment with local myths, past history, social movements, or current trends and/or change of use/ area of application in order to make the globalised concept/imported practice more acceptable in the new context (Boxenbaum & Gond, 2014: 316; Gond & Boxenbaum, 2013: 713).
(3) Bricolage	Addition of new practice-related/ material elements	 (Gond & Boxenbaum, 2013: 713)	Integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalised construct/imported practice in this context (Boxenbaum & Gond, 2014: 316; Gond & Boxenbaum, 2013: 713).

This table is adapted from Boxenbaum and Gond (2014: 316) as well as Gond and Boxenbaum (2013: 713)..

2.7 Research gaps

Diffusion theory is mainly concerned with individual adopters, not organisations (Rogers, 1962, 1995, 2003). Moreover, it offers a limited view of the adoption process. It characterises the adopting organisation and its members as passive recipients. What is more, its characterisation of a physical-object-like nature of transferred ideas assumes a mere transposition. Thereby diffusion theory presupposes that an idea is directly and simply transferred to a new context. But this is definitely not a linear process. This perspective does not account for any changes to the transferred idea or practice. During the diffusion process, the object as well as the receiving organisation might, however, undergo some changes. The diffusing object will not arrive in the same form in its new context but will be altered during that process, especially by the adopting organisation.

A limitation of neo-institutional theory and management fashion theory, on the other hand, is the view of symbolic adoption. Both approaches assume that, due to decoupling, there are no real effects of adopted management concepts and practices. Moreover, management fashion theory, in particular, characterises the adopting organisation and its members as passive agents in the sense of fashion followers.

This study rejects simplistic views of the innovation adoption process, in which an idea diffuses to another setting without adaptation. It therefore follows conceptualisations of innovation adoption that assume a transformation of the innovation and the adopting organisation where the original template is made to fit the adopting environment (Ansari et al., 2010, 2014). This study further concentrates on the adaptation of a practice as an outcome rather than the organisational change and assumes an active role of adopting agents.

What is more, previous research on innovation adoption and translation has focused on the global and inter-organisational transfer of practices at the field or industry level (Värlander et al., 2016: 80). Implementation processes are largely treated as a black box in existing research (Piening, 2011: 128). We know very little about 'what happens within organisations when new practices are adopted' (Gondo & Amis, 2013: 229). This study therefore aims at addressing this research gap by analysing innovation adoption and adaptation processes at the intra-organisational level. To achieve this, I adopt a Scandinavian neo-institutionalist perspective on translation theory and Boxenbaum and Gond's (2014) micro-strategies of contextualisation as an analytical framework.

Regarding the empirical phenomenon, there are only few studies on organisations adopting Design Thinking and most of them focus on private organisations (Brown, 2009; Carlgren, Elmquist, & Rauth, 2014; Carlgren, Rauth, et al., 2016). As pointed out in the introduction, few empirical studies exist of how Design Thinking is embedded in public sector organisations (Terrey, 2012) and most of them focus on Western democratic countries. We know little about how Design Thinking is applied in service delivery and even less about its use in policy work. The application of Design Thinking to policy work seems to be an especially promising area for future research as public management literature on policy design tends to emphasise more participatory and collaborative approaches (Terrey, 2012: 343).

The Fashion Truck 22:30

ELEVATOR PITCH

User:
Password:
LOGIN   SIGNUP

VIDEO

LEARN MORE →
SET AN APPOINTMENT

FOLLOW THE TRUCK!

BRANDS:

ABC
Exclusive accessories made from eco materials

CANCAN
accessories for special moments

NEXT APPOINTMENT:
30/09
15h
Berlin

NEWS!

HIEN LI
Designer Profile

NEXT CONCERTS IN TOWN:
-LYKKIE LI
30/09
NEW BAR NEUKÖLLN!!

NOW AVAILABLE

#SHARE YOUR EXPERIENCE

...STIONS FOR ...CHRIS:

3 RESEARCH DESIGN

This thesis explores the research question of how Design Thinking was adopted in a Singaporean Ministry from a translation theory perspective. To answer this research question, a qualitative research design was chosen. More specifically, I conducted an explorative in-depth single case study. This research design aims at generating theoretical ideas from case-study research and is based on a highly iterative process that is tightly linked to the empirical data (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). To this end, I draw on an approach inspired by Grounded Theory that allows for a fine-grained empirical analysis. 'Grounded Theory' that emerges from the data is often novel, testable and empirically valid (Glaser & Strauss, 1967). In that sense a grounded theory 'is inductively derived from the study of the phenomena it represents' (Corbin & Strauss, 2008: 23). Such an inductive analytical process aims to generate and develop theory rather than verify and test existing theories. However, it is argued that researchers cannot and even should not entirely free themselves from theoretical preconceptions during data collection and analysis as originally suggested by Glaser and Strauss (Cutcliffe, 2000; Eisenhardt, 2002). A middle ground has been suggested that advises researchers to acquaint themselves with the extant literature and reflect on how this influences their research (Dunne, 2011; Suddaby, 2006). Accordingly, this study dealt with the extant literature and theory in the sense of sensitising concepts (Blumer, 1969; Coffey & Atkinson, 1996) to avoid conceptual and methodological pitfalls (McGhee, Marland, & Atkinson, 2007).

In summary, a research strategy that aims at building theory from case study research is especially suited 'in the early stages of research on a topic or to provide freshness in perspective to an already researched topic' (Eisenhardt, 1989: 548). The scholarly debate on the adoption of Design Thinking in the public sector is a nascent field. Furthermore, this thesis adds a new perspective to studying innovation adoption by embracing a translation theory perspective. A case study research strategy inspired by Grounded Theory is therefore promising to accumulate more scholarly knowledge firstly on the empirical phenomenon of Design Thinking in the public sector, and secondly on the advancement of innovation adoption and translation theory. Moreover, this study followed an iterative research process based on the continuous comparison of data and theory.

3.1 Case study approach

Different theoretical perspectives on organisational innovation have employed particular methodological approaches (Slappendel, 1996: 123–124). According to Slappendel, research adopting an individualist or structuralist perspective tends to be expressed as a variance model of research that tests determinants of innovation (e.g. Damanpour, 1991), whereas the interactive process perspective tends to adopt a process model of research often associated with the case study method (Van De Ven et al., 1999: e.g.). Case study research yields 'fresh understandings and new conceptualizations' for studying organisational innovation (Slappendel, 1996: 124).

Research on Design Thinking in the public sector constitutes a nascent field. Nina Terrey's (2012) case study of the Australian Tax Office was one of the first in-depth studies of the adoption of Design Thinking in a government agency. Further case studies and comparative analyses would enhance our understanding of a more generic model of embedding design (Terrey, 2012: 344). An exploratory, inductive case study approach was therefore chosen to reveal insights about this new empirical phenomenon.

Moreover, case study research is good at producing context-specific knowledge (Flyvbjerg, 2006: 223). Yin (2009: 18) has also defined case study analysis as the study of empirical phenomena in their real-world contexts. Producing context-specific knowledge is especially relevant when we try to understand how global ideas and management practices travel and become (re-)embedded in new local contexts. Moreover, public administration researchers have highlighted the importance of context-specific theories (Pollitt, 2013). A case study approach is therefore the appropriate method to study the translation of Design Thinking in a new local setting.

The focus of this study is the intra-organisational innovation adoption process analysed from a translation theory perspective. Hence, the *explanandum* of this study is the translation of Design Thinking. Previous research on innovation adoption and translation has mainly been situated at the inter-organisational level. This study shifts the focus to the intra-organisation level with the aim of generating new insights about intra-organisational innovation adoption and translation. A case study research strategy seems hence appropriate, since inductive, longitudinal, field-based case studies are well-suited for developing empirically grounded theory (Eisenhardt, 1989; Glaser & Strauss, 1967).

For this thesis, I chose a single case study approach because I am interested in what happens within an organisation when a new practice like Design Thinking is adopted. During the data analysis intra-organisational differences emerged from the empirical data. An 'embedded', single-case study design allows the capture of different units of analyses within a single case study (Yin, 2012: 7–8). After identifying differences in translation at the sub-organisational level, I conducted within-case studies for four different divisions or sets of divisions. The units of analysis are the translations of Design Thinking at the sub-organisational and the aggregated translation at the organisational level.
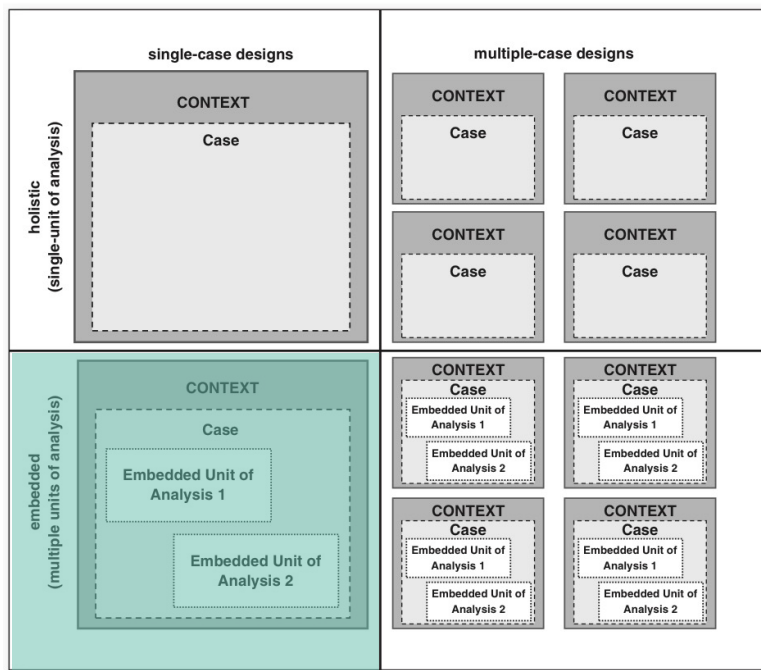
Figure 2: Yin's (2012) basic types of designs for case studies[6]

3.2 Case selection

Case study research usually involves one or a small number of cases (small-N) that generate insights about a larger population (Gerring, 2007: 86). This has implications for case selection. There are different methods for selecting cases. Gerring (2007: 88) describes nine such types, including typical, diverse, extreme, deviant, influential, crucial, pathway, and most-similar and most-different cases. These types of cases are not mutually exclusive but a case can simultaneously fulfil different criteria (Flyvbjerg, 2006: 233). According to Miles and Huberman (1994: 27), qualitative samples are usually small and purposive. Unlike probability sampling in quantitative research, purposive sampling indicates that 'the selection of participants, settings or other sampling units is criterion-based' (Ritchie, Lewis, Elam, Tennant, & Rahim, 2014: 113).

The Singaporean Ministry was selected because it belongs to the early adopters worldwide of Design Thinking in the public sector. The case was hence chosen because it represents an organisational setting in which Design Thinking has been embedded for several years. At the time of my field research in early 2014, Design Thinking had been around for five years since the organisation first adopted the approach. Following a purposive sampling approach, this makes it a relevant case with regard to the research question that aims to explore the adoption and application of Design Thinking in a public sector organisation.

Furthermore, the case selection is based on theoretical sampling that is 'particularly suitable for illuminating and extending relationships and logic among constructs' (Eisenhardt & Graebner, 2007: 27)

---

[6] The figure is taken from Yin (2012: 8), highlights are my own.

and represents a sub-type of purposive sampling (Ritchie et al., 2014: 144).[7] Hence, theoretical reasons guide the case selection, 'such as revelation of an unusual phenomenon, replication of findings from other cases, contrary replication, elimination of alternative explanations, and elaboration of the emergent theory' (Eisenhardt & Graebner, 2007: 27). I chose to study the adoption of Design Thinking in a federal ministry in Singapore for theoretical purposes, with the aim of extending our theoretical understanding of innovation adoption. My first aim was to focus on the intra-organisational level, and the second was to apply a translation theory perspective.

The adoption of Design Thinking has been predominantly studied in the private sector (Carlgren et al., 2014; Carlgren, Elmquist, & Rauth, 2016). The few studies that exist on Design Thinking's adoption in the public sector have focused on the highly developed democratic Western context, such as Nina Terrey's (2012) in-depth study of the Australian Tax Office. The Australian Tax Office is a well-studied case (Di Russo, 2016; Preston, 2004). A similarly prominent case is the Danish government lab MindLab (Bason, 2011, 2013). The selection of a Singaporean federal ministry therefore offers a potentially contrasting perspective for studying the translation of Design Thinking compared to previously studied cases. It hence explores Design Thinking's application in a non-Western setting. In order to advance our scholarly understanding of how Design Thinking is embedded and used in the public sector, studying a federal ministry in Singapore yields new insights about the empirical phenomenon in a different cultural and political context.

The following sections will present contextual information about the case selected. This case description lays the foundation for the empirical analysis in Chapter 4. First, the local-institutional context provides background information on the political and administrative system of Singapore. The subsequent section describes the adopting organisation, a federal ministry in Singapore, in more detail. Finally, the case description gives a brief chronology of events during the adoption process.

3.2.1 LOCAL INSTITUTIONAL CONTEXT

Singapore's political system is controversial among scholars who generally do not count it as a liberal democracy for a number of reasons, including 'a lack of an autonomous civil society that can check a powerful state, a viable political opposition, and an independent media' (Peng Er, 1999: 258). Singapore has been ruled by the People's Action Party's (PAP) non-communist leaders since 1959 (Bellows, 2009). Nevertheless, Singapore belongs to the wealthiest nations in the world, appearing among the top ten countries in 2016 in terms of Gross Domestic Product (GDP) per capita according to the World Bank.[8] Singapore has been characterised by the successful combination of high capitalism and modern authoritarianism based on the relationship between the government and the people, where the state guarantees security and wealth in exchange for legitimacy (Wong & Huang, 2010). Legitimacy is hence threatened if the government cannot deliver on the promise of prosperity (Wong & Huang, 2010). The People's Action Party's long-term success is attributed to 'meritocracy, incorruptibility and effective policies' (Bellows, 2009).

---

[7] This definition of theoretical sampling regarding case selection deviates slightly from the one used in Grounded Theory which refers mainly to a sampling strategy regarding data sources (Glaser & Strauss, 1967). Gentles et al. (2015) provide a comprehensive review of sampling in qualitative research which compares approaches of case study research, grounded theory and phenomenology.
[8] http://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=SG&year_high_desc=true, retrieved 12 October 2016.

One of the building blocks of justifying Singapore's authoritarian government and pro-capitalist orientations has been the principle of meritocracy, according to which the best people are attracted and recruited for government services (Bellows, 2009; Tan, 2008). This strategy has been followed by the ruling People's Action Party since 1959 (Bellows, 2009) and includes competitive scholarships, rigorous selection criteria for party candidacy, and high, market-oriented ministerial salaries (Quah, 2010: 6; Tan, 2008). Singapore's elected officials and top civil servants are among the highest paid in the world (Bellows, 2009).

It is not surprising that Design Thinking has been picked up by Singapore's public service. Singapore has been 'engaged in several decades of sustained public sector reform involving selective borrowing and modification of foreign models while simultaneously pursuing domestic innovation' (Turner, 2002: 1497). In 1995 the public service brought forward the Public Service for the 21st Century initiative (PS21), which builds on two established public sector management principles in Singapore: the promotion of a culture of excellence and continuous improvement (Turner, 2002: 1498).). Its aim is to encourage 'a Public Service that is responsive, flexible and innovative' (PS21 Website).[9] In 2012 the Prime Minister's Public Service Division established a Design Thinking unit called the Human Experience Lab, which should help Singapore's public agencies to 'involve users in redesigning policies and services' (Bason, 2013: 17).

The organisation's external environment, especially the political context, can be seen as favourable for the intensification of Design Thinking implementation efforts in the Ministry and was mentioned by many interviewees. The general election of 2011 was seen as a 'watershed election' in which the opposition gained significant support vis-à-vis the ruling party People's Action Party (PAP), which has been in power since Singapore's independence in 1965 (BBC News, 9 May 2011).[10] Although the ruling party retained the two-thirds majority (Ibid.), the election was a 'call for government to understand the citizens better', as one interviewee described it (#3, P11). During the 2011 election citizens more openly voiced their dissatisfaction about current problems in Singapore (#6). The perceived loss of trust in the government has put pressure on the administration and has led to a number of public engagement sessions, such as the 'Our Singapore Conversation'.

3.2.2 THE ADOPTING ORGANISATION

The organisation at the centre of this study is a Singaporean Government Department consisting of policy and operational divisions as well as a Corporate Services Department. The Ministry in its current form was established in the late 1990s with a new portfolio, and renewed its mission, vision and values in the early 2000s. Its values emphasise people-centredness with an internal and external focus on people development as well as customer-centricity. A Customer Service Department (CSD) was established to head the planning and delivery of all services and customer services initiatives in the Ministry (Ministry's website). The organisation's proclaimed goal with regard to service delivery and customer services is to act as one ministry (Singapore Quality Award – SQA Winner Executive Summary Report 2010, p. 41).

---

[9] http://www.psd.gov.sg/what-we-do/ps21-building-a-future-ready-public-service/why-ps21, retrieved 28 October 2016.
[10] BBC News Asia-Pacific (9 May 2011): Singapore opposition make 'landmark' election gains, http://www.bbc.com/news/world-asia-pacific-13313695, retrieved 28 October 2016.

The Ministry also postulates a clear focus on innovation and progress. In the mid-2000s, the Corporate Planning Department (CPD) was commissioned 'to spearhead innovation efforts across the Ministry to ensure strategic alignment between innovation and business priorities' (SQA Winner Executive Summary Report 2010, p. 19). The innovation work includes extensive comparison and benchmarking activities (SQA Winner Executive Summary Report 2010, p. 36) as well as regular thematic, issue-driven study trips in Singapore and abroad to learn from best practices. In order to promote a culture of innovation and progress, the Ministry has established a number of non-monetary innovation awards and an annual innovation summit showcases new ideas and projects from across the Ministry (SQA Winner Executive Summary Report 2010, p. 45). The Ministry has also put in place various knowledge management tools to facilitate innovation and collaboration (SQA Winner Executive Summary Report 2010, p. 36). An electronic staff suggestion system was established to encourage employees to share ideas and contribute to change and innovation (SQA Winner Executive Summary Report 2010, p. 20). Moreover, informal platforms exist such as brown-bag lunches, work improvement teams and communities of practice and, at the department level, learning circles and days ensure regular exchange among staff (SQA Winner Executive Summary Report 2010, p. 34).

The organisation was described by several interviewees as having a caring, friendly, open and cooperative culture and therefore considered less transactional (interviewees #2, #3, #4, #6). Moreover, senior management in the Ministry was described as building the culture and being open (interviewees #4, #6). A low turnover of heads of departments was reported, as most senior managers have worked for the Ministry for a long time (interviewee #6). Additionally, the high-potential employees in the Ministry rotate across departments frequently during their careers (every 3-4 years). This provides longer-term staff with extensive personal networks. This human resources management practice is linked to the principle of meritocracy on which Singapore's civil service is founded (see Chapter 3.2.1).

3.2.3 CHRONOLOGY OF DESIGN THINKING ADOPTION

Design Thinking was first introduced into the organisation by an external design agency in 2009 to support a business process redesign in one division, Service Delivery Division A (SDD A). Two study visits by top and senior management in 2008 and 2009 to the design agency in the United States preceded the first introduction. The second visit was part of the tender process for the business process redesign project in SDD A. During the three-year collaboration with the design agency (2009-2011), a number of projects were carried out with SDD A. This involved the re-design of a service centre in 2009, which demonstrated a 'proof of concept' within the organisation. Following the initial collaboration with the design agency and the success of the service centre, the Ministry's top management decided to roll out Design Thinking for the whole organisation. The aim was to build Design Thinking capabilities across the organisation and to reduce the reliance on external consultants. This was carried out centrally by the Corporate Planning Department (CPD) and consisted of two parts: a Design Thinking training programme and departmental support for DT projects. In October 2010, a group of 20 officers, selected from across the Ministry, was sent to attend a training course at the Hasso Plattner Institute of Design (d.school) at Stanford University with two follow-up training courses in early 2011 in Singapore. The aim was that the initial group become catalysts and facilitators for Design Thinking in the organisation. In addition to the training programme, CPD aimed at spreading DT by providing departments with assistance in carrying out their own DT projects, including monetary resources via a central fund (until 2012, the Core Innovation Fund), manpower via free facilitation services, and free use of an innovation

and prototyping space for their Design Thinking activities. In early 2013 a dedicated central work unit was established to support the design thinking portfolio full-time.

3.3 Data collection

Following a qualitative single-case study research design, 28 semi-structured interviews with employees and managers were conducted. The data collection was completed during my research stay in Singapore from 2 January to 16 February 2014. In total, I spent seven weeks in Singapore to conduct the field research. A second two-week field research visit took place in May 2014.

The data collection approach was based on a triangulation of multiple data sources, which is characteristic of case-study research (Yin 2012: 10-13). More specifically, the data sources included semi-structured interviews, group discussions, observation and document analysis. Interviews represent the primary source for data collection in the organisation being studied that was complemented by participant observation and internal documents.

3.3.1 FIELD RESEARCH

Access is critical when it comes to studying organisational phenomena, especially because many organisations might be hesitant to invite researchers in (Bryman, 2003: 2). Conducting field research in Singapore – compared, for example, to studying a State Ministry in Brandenburg or Bavaria – posed additional challenges to gaining field access, firstly because of the different cultural context and, secondly because negotiations regarding the terms of my research stay had to be carried out remotely because of the distance. For this study, the negotiations about field access took several months, from May to December 2013. During that time, I conducted several Skype interviews with members of the Corporate Planning Department in preparation for my field research. These exploratory interviews were conducted to acquire additional information about the case and the organisation, build rapport and secure field access.

The first field research stay from January to February 2014 was important to acquaint myself with the organisation as well as the cultural context of Singapore. Being on site was also central to enabling familiarisation with the Ministry. It helped me to understand better what my interviewees were talking about, especially when they referred to the organisational context. Moreover, the field research provided unique access to interview partners, research opportunities and internal documents that would otherwise not have been available.

A second field research visit of two weeks was carried out in May 2014. During the second research stay, group discussions with representatives from the four divisions or clusters of divisions were conducted. I used these group discussions to talk about preliminary findings and therefore substantiate my interpretation with the perceptions of my interview partners. Such respondent validation is an important step in qualitative data collection because it aligns the interviewer's interpretation with the interpretations of organisational members and thereby mitigates the problem of biased interpretation

(Bryman, 2003: 136–137). My data collection approach was hence iterative and the second round of data collection further enhanced my understanding of the organisational context.

3.3.2 SAMPLING STRATEGY AND INTERVIEW SAMPLE

Prior to the first field research visit, I had identified interviewee profiles that seemed of interest in answering the research question and exploring the empirical phenomenon. Based on a purposive sampling strategy (Ritchie et al., 2014: 113–114), these were designed for a maximum of diversity to capture multiple perspectives on the adoption and implementation of Design Thinking in the organisation. Contrasting perspectives meant including both regular staff and managers, divisions having implemented and used Design Thinking, those not having implemented or used Design Thinking, proponents and sceptics, and internal and external agents, such as the design agency.

However, before my departure only a few interviews had been scheduled. Most interviews were arranged during my stay, which helped to extend the interview sample. My points of contact in the central Corporate Planning Department were critical in linking me up with other interviewees. Although this was extremely helpful, it also meant that I had to follow their suggestions. They were responsive to most of my requests but at first hesitant to arrange interviews with more critical Ministry employees. Towards the end of my stay, I was granted permission to interview two people who provided additional insights.

Snowball sampling (Ritchie et al., 2014: 129) also played a role, as some people pointed me towards additional interviewees. This was especially helpful in gaining some background and contextual information. I interviewed a member of the Public Service Division's Design Thinking team who enhanced my understanding of how Design Thinking has diffused across Singapore's civil service and brought me into contact with interviewees from another Singaporean government agency. This interview with two representatives of a government agency that had just started to adopt Design Thinking was a good way to contrast the case of the Ministry I was studying in depth.

In total, I conducted 28 interviews with members of the organisation during my field research period in Singapore. Figure 3 visualises the interviewees within the organisational structure. Three people were interviewed twice (#4-2, #16-2, #22-2) to continue the conversation. Additionally, some interviewees occupied different functions in more than one department during the time of adoption (#23, #24, #25). They were hence grouped in several case studies. A full list of interviewees can be found in the Appendix 8.2 in Table 17. The interviews lasted 45 to 100 minutes each and were carried out in a one-to-one setting in office spaces in the Ministry.[11] According to Yin (2011: 91) this represents an appropriate sample size for a single case study, which ideally ranges between 25-50 units referring to interviewees, practices, policies, or actions.

---

[11] The interview #4-2 was an exception. It lasted 20 minutes and was conducted as a follow-up skype interview in May 2014. Interview #3 lasted approximately 60 minutes, due to a technical error the audio tape only contains 33 minutes.
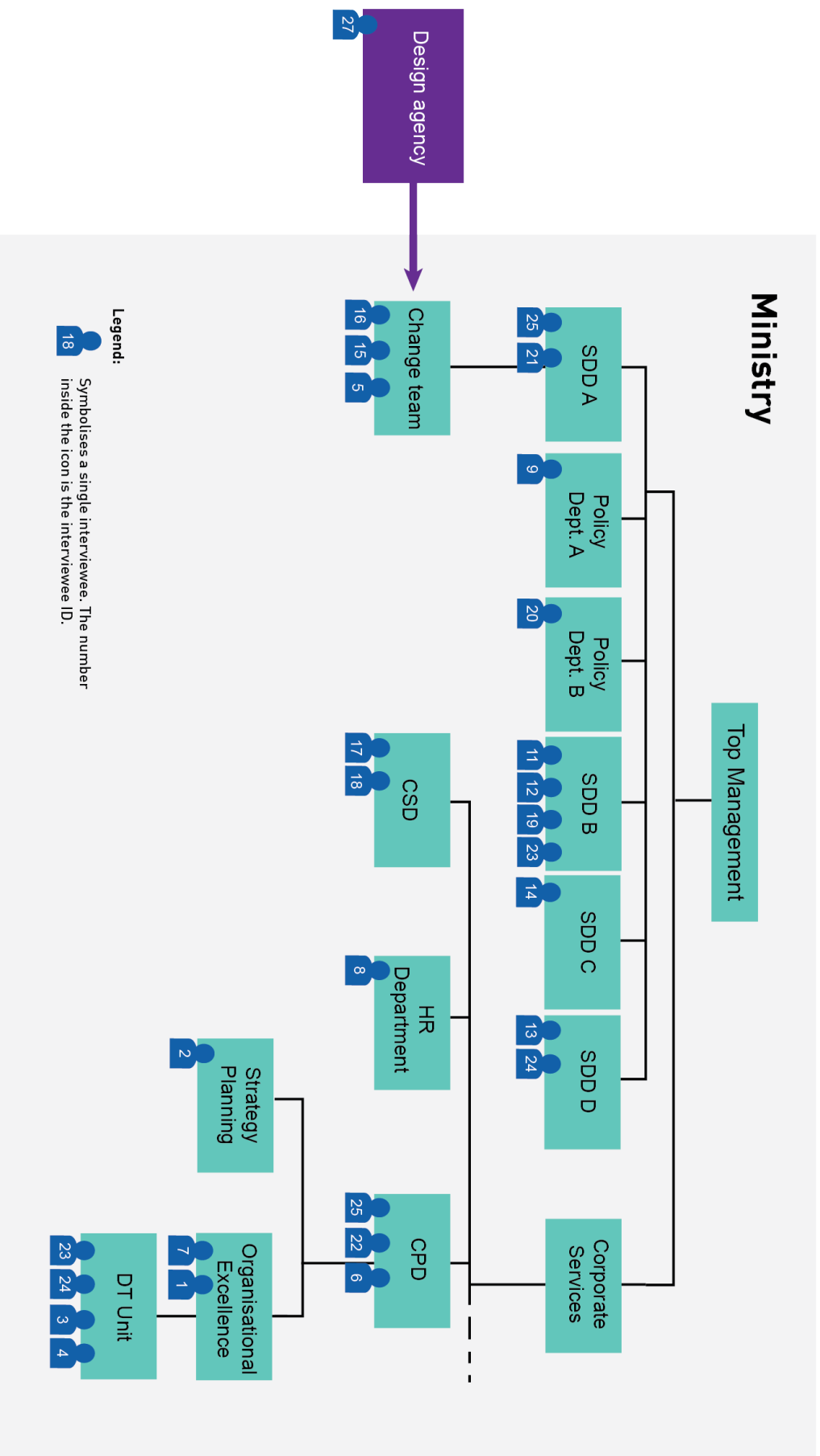
Figure 3: Visualisation of interviewees within the organisational structure (own depiction)

3.3.3 SEMI-STRUCTURED INTERVIEWS

Following a qualitative, exploratory in-depth case study, I chose semi-structured interviews as the main data collection method. Apart from observations, open-ended interviews are a common source of evidence in case study research (Yin, 2012: 12).

The semi-structured nature of the interview guide provided an overall framework and ensured that all the interviewees were asked about the same aspects. At the same time, it was flexible enough to digress from the main questions and follow interviewee cues during the conversation. Due to the exploratory nature of the case study, it was important to learn as much as possible about the empirical phenomenon. Different interviewees could provide different perspectives that meant that I followed cues of interviews and adapted interview questions where necessary.

Each interview started with an introduction, the overall research topic and remarks on data protection. After that, I opened the interview with an icebreaker question which successfully served the function of a conversation starter: 'To start the interview off, I would like you to introduce yourself, say for how long you have worked with the Ministry and how your current role relates to Design Thinking.' This question provided more information about the interviewee and his or her role during the adoption of Design Thinking in the Ministry. This contextual knowledge was valuable for the rest of the interview because it helped to assess subsequent statements regarding Design Thinking. Aspects of interest during data collection were:

1. Reasons for and associated expectations regarding the adoption of Design Thinking at the time of its initial and subsequent adoption by other departments

2. (Perceived) changes in the organisations after the adoption of Design Thinking

3. The current use of Design Thinking in the organisation and how the use of Design Thinking might have changed regarding domains of application, different foci and purposes etc.

4. Diffusion throughout the organisation and barriers to implementation

5. Outlook and expectations regarding the future use of Design Thinking in the Ministry

The interview guide hence consisted of five sections: 1) Initial adoption and understanding of Design Thinking; 2) Adoption process and changes; 3) Current use of Design Thinking; 4) Organisational diffusion of Design Thinking; and 5) Outlook (see Appendix 8.1).

3.3.4 DATA TRIANGULATION WITH OBSERVATION AND DOCUMENTS

To complement the interviews, which were the main data source, field observations were used for data triangulation. Observation was also a way for me to immerse myself in the organisational context. All my interviews were conducted in the Ministry buildings, which provided further opportunity for me to observe the work environment, including work spaces and meeting rooms. Apart from the Ministry headquarters, I also visited another site where the innovation space is located, as well as the two service centres that were re-designed using Design Thinking. Moreover, I attended several meetings, for example a Design Thinking project kick-off and a public engagement training session, as well as going on a visit to another government agency to understand how they had used Design Thinking.

During my field research stay, I also conducted a Design Thinking refresher training course for the Design Thinking facilitators and two lunch meet-ups, which included short input presentations on service design methods and hands-on exercises. These training sessions allowed me to better comprehend the skill level and understanding of Design Thinking exposed by the facilitators and other Ministry employees.

Additional data was collected in the form of internal documents that were made available during the field research stay. This included mission statements, website information, project descriptions and documentation, training material such as slides, e-mail communication, and other internal documents. These documents were used to gain additional information about the research context and complemented my understanding of the interview data. Moreover, they served as a means to access written text as a manifestation of translation. A list of primary documents cited in this study can be found in the Appendix 8.3 in Table 18. During my field research I also took pictures to document physical artefacts and the work environment. These photos served as a visual reminder of the organisational context during the data analysis.

3.4 Data analysis

All 28 interviews were transcribed and analysed using qualitative data analysis software (MAXQDA).[12] Following a methodology inspired by grounded theory (Strauss & Corbin, 1990), I developed a preliminary coding system (open coding). The coding was conducted on the basis of the written interview notes and complemented by listening to the audio records when deemed necessary for clarification. In a first step, interview statements were coded, clustered on the basis of similar themes and summarised into codes. In a second step, these codes were compared to each other and further differentiated by adding sub-categories. Additionally, I relied on code and other memos to document insights during the data analysis process.

This first round of inductive coding resulted in 18 different codes. Some of these codes were based on the semi-structured interview guide, including 'Use of Design Thinking', 'Definition of Design Thinking', and 'Implementation difficulties and barriers'. The code 'Use of Design Thinking' includes the most code categories (1001 of 6035 codes) and a number of important sub-codes, such as the 'Use of Design Thinking elements', 'Reasons/motivation for introducing and using Design Thinking', 'Design Thinking adaptation', 'Use of Design Thinking in service delivery', and 'Use of Design Thinking in policy work'. In the course of the data analysis, the code 'Design Thinking adaptation', which included statements about any adaptation of the approach, including which aspects are emphasised, and what is specific about the organisation's use of Design Thinking, became the central category. This resulted in the adoption of Boxenbaum and Gond's (2014) translation model.

Although translation theory has served as a major sensitizing concept since the outset of the dissertation, I only later adopted a specification of the translation concept in the form of Boxenbaum and Gond's (2014) micro-contextualisation strategies. I found this translation model fruitful for analysing my empirical data. As part of the qualitative research process, I therefore decided to

---

[12] All interview transcripts are attached to this thesis on a separate CD.

supplement my data analysis with this translation model. In order to emulate this in the coding scheme, I conducted a second round of coding following the procedure below:

a) In order to combine the inductive coding scheme with the theoretical model, I first identified relevant codes from the code system, which seemed to yield insights about translation activities.

b) I checked the code memos of the pre-identified set of codes from the inductive scheme to see if the theoretical codes fitted with the data.

c) After this was confirmed, I then added the theoretical codes from Boxenbaum and Gonds's (2014) translation model to the coding scheme and re-coded the interviews.

d) For the re-coding I went through code memos of relevant codes again and subsequently re-coded new theoretical codes. For example, the codings from the inductive code 'DT adaptation' included clues about the theoretical code 'filtering by removal', which I added as new codings to the existing coding scheme.

As described above, this iterative process of moving between data and theory is typical when doing qualitative research. In total, the first and second data analysis rounds resulted in 6,035 codes from 28 interview transcripts in MAXQDA. The coding scheme can be found in the Appendix 0.

3.5 Critical reflection and limitations

Small-N studies like this one bear the risk of subjective bias. Therefore, researchers must familiarise themselves with the context of each case. Deep immersion is necessary to understand meanings in the field. This requires data triangulation and rigour in relation to field notes, memos and self-reflection. Triangulation of data sources has been identified as a strategy, for example, to counterbalance interview data with observations and archival data (Yin, 2012: 13).

Moreover, qualitative data analysis encounters the problem of interpretation (Bryman, 2003: 136–137). In order to ensure reliability during the qualitative data analysis process and enhance inter-subjective comprehension, I took a number of measures:

a) **Multiple coding cycles:** My data analysis included multiple cycles of coding, which meant that I analysed the data several times. This helped to achieve saturation of the material.

b) **Memo writing:** I used code memos to document how I coded each category. These memos paraphrased and summarised the content of the codings and included exemplary quotes. This also ensured a close link between the data analysis in MAXQDA and the write-up of the case study.

c) **Coding over a long period time:** The initial data analysis started in April 2014 and went on until January 2016 (with an interruption of six months in 2015). The theoretical codes were added in a second round from April to July 2016. Although I analysed the material myself, coding over such a long time ensured that I looked at the data at different points in time, which provided a fresh perspective, especially after the interruption in 2015.

d) **Inter-coder reliability:** I regularly discussed emergent codes and the merger of codes with my doctoral supervisors. During an initial data analysis in May 2014, I consulted another researcher to discuss emergent codes. Additionally, I discussed unclear codings and questions regarding my coding scheme and procedure with two other researchers for a workshop in April 2016, where I discussed my data analysis and reflected on my interpretations.

e) **Respondent validation:** As described above, I discussed my initial interpretations with the interviewees during a second field research stay.

4 EMPIRICAL ANALYSIS

In this chapter, I analyse how different parts of the organisation have translated Design Thinking, based on the refined translation model proposed by Boxenbaum and Gond (2014) (see Chapter 2.6).

4.1 The organisational context of Design Thinking's translation

The data analysis identified intra-organisational variations in the translation of Design Thinking, which run along two main lines: 1) along different departments i.e. service delivery, policy and corporate affairs and 2) along a temporal line of early and late adopters. Based on this emerging variance, I have chosen to present the data in the form of four case studies in order to further analyse the translation of Design Thinking along these lines.

The empirical analysis is structured as follows. First, I show how the first adopter in the organisation, Service Delivery Department A (SDD A), [13] has translated Design Thinking. The second case study analyses how the central Corporate Planning Department (CPD), which was in charge of further disseminating the approach in the organisation, has interpreted Design Thinking. The other two case studies focus on how service delivery and customer service divisions (SDCS), as well as policy divisions, have translated this approach. Figure 4 shows an overview of the case studies.

To contextualise the different case studies, this sub-chapter will elucidate 1) how the respective department introduced Design Thinking and 2) which template of Design Thinking served as its source, as far as such identification is possible. Figure 5 to Figure 10 visualise the sequence of adoption step by step including the template that was adopted.

---

[13] The names of the organisation, its departments as well as the design consultancy were de-identified to ensure anonymity. I created new labels, such as Service Department A. The organisation itself is referred to as the Ministry and the consultancy simply as the design consultancy or design agency.
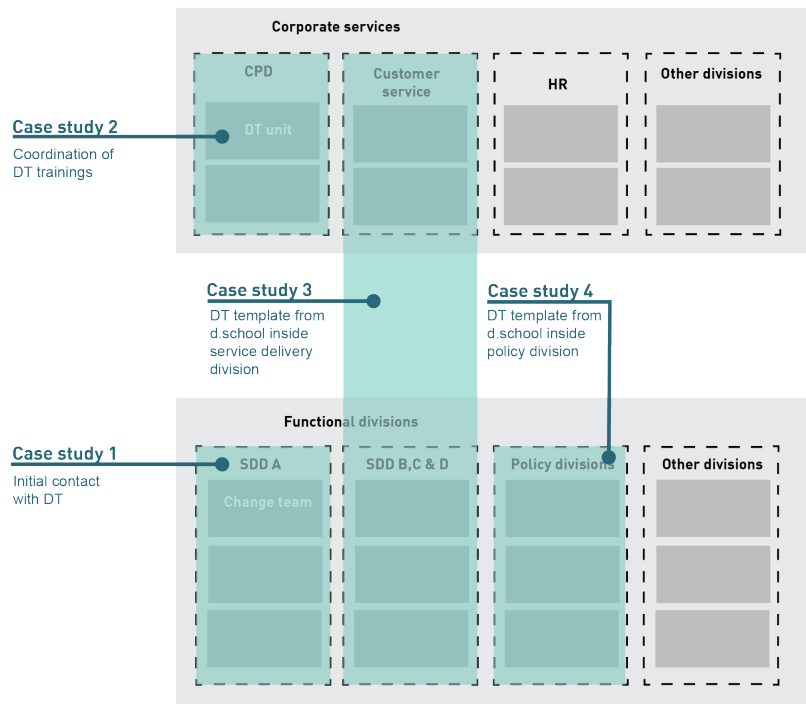
Figure 4: Overview of the case studies
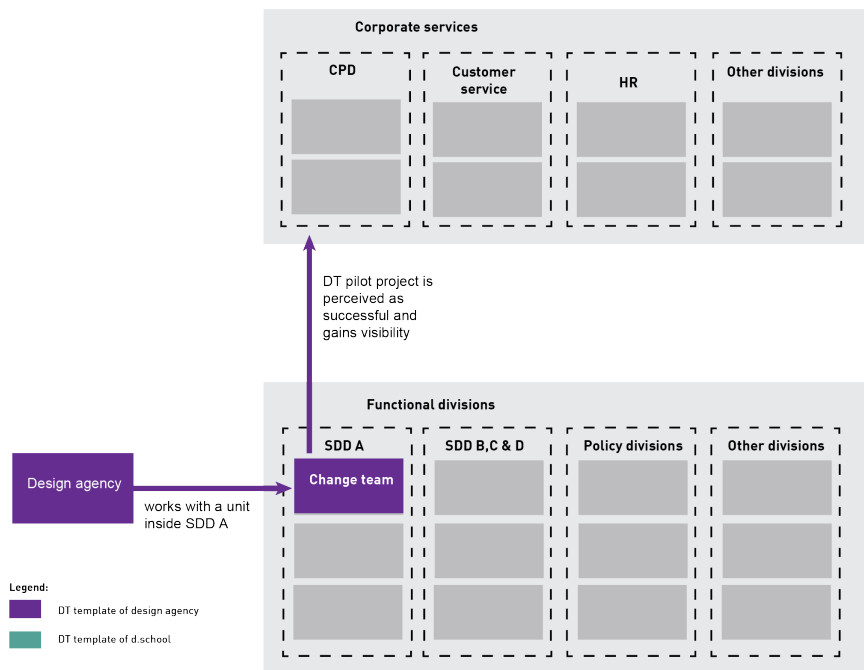
Figure 5: Sequence of adoption, Step 1 - SDD A introduces DT (own depiction)
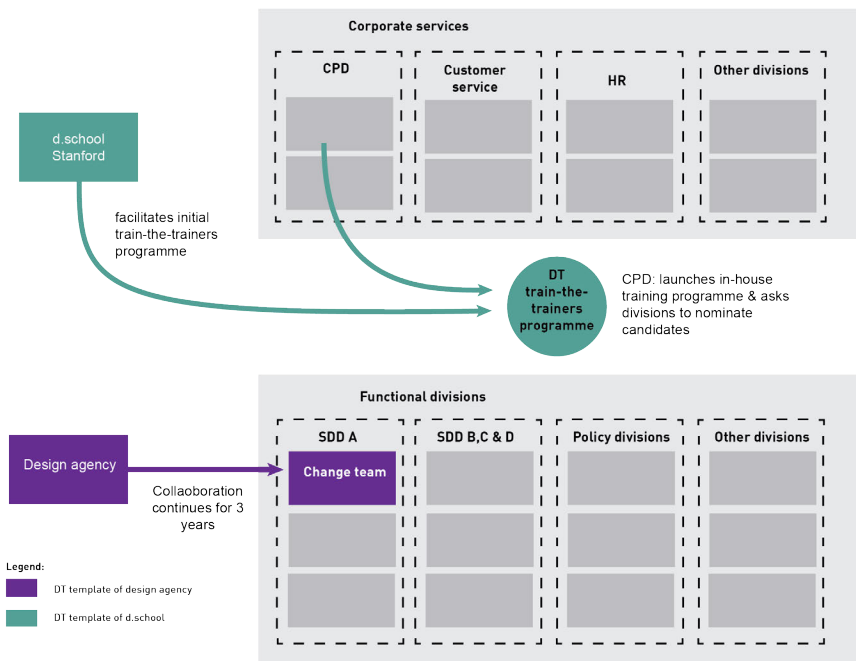
Figure 6: Template, source and sequence of adoption: Step 2 - CPD launches in-house training programme (own depiction)
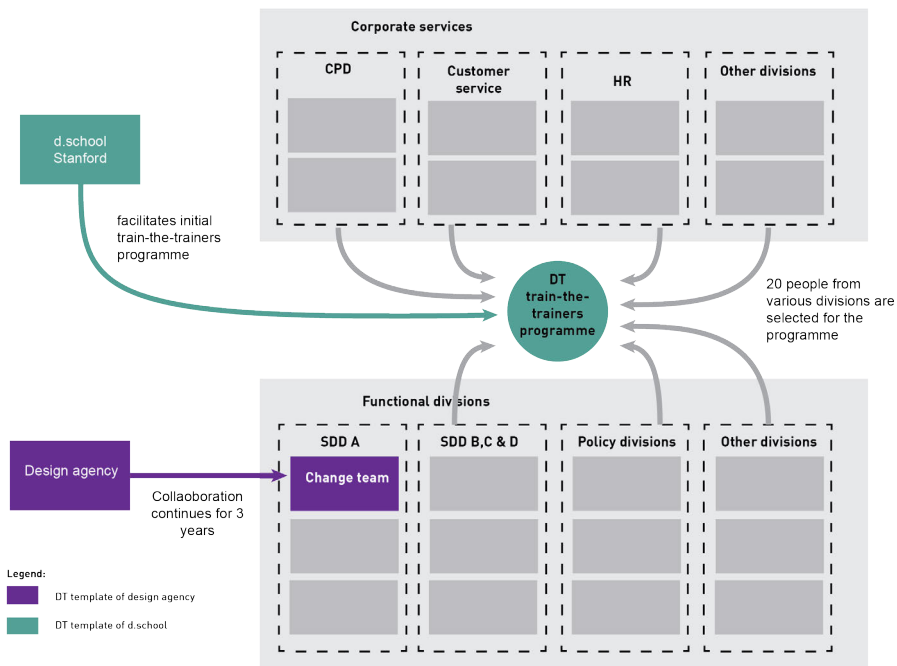
Figure 7: Sequence of adoption, Step 3 – 20 people from various divisions are selected for the programme (own depiction)
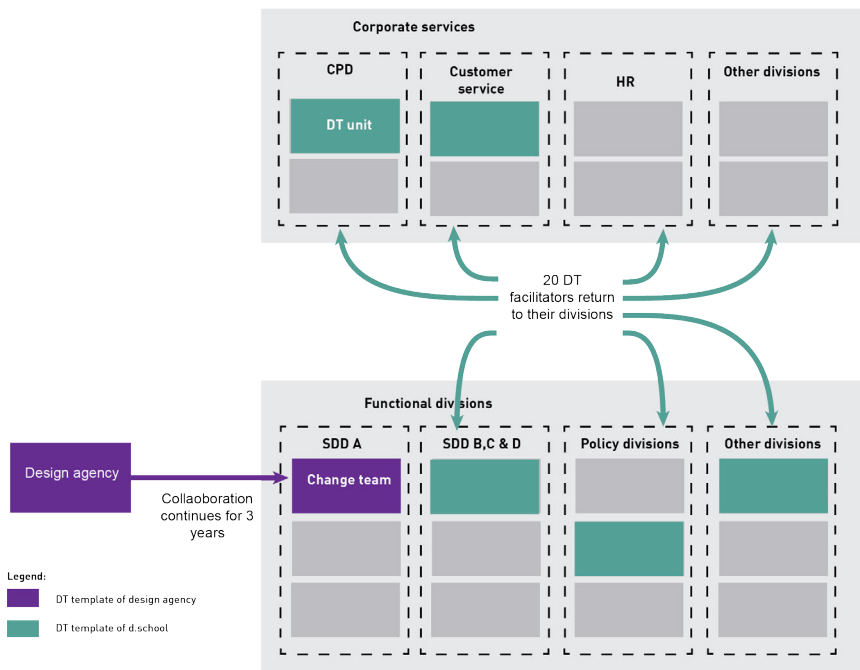
Figure 8: Sequence of adoption, Step 4 – 20 DT facilitators return to their divisions (own depiction)
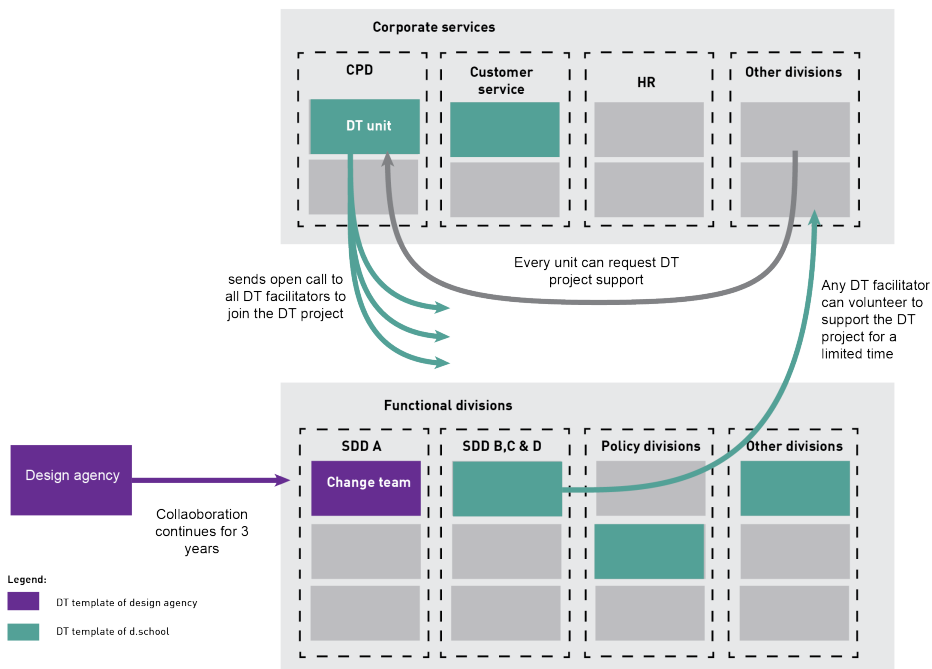
Figure 9: Sequence of adoption, Step 5a – Units can request DT training through volunteer DT facilitators (own depiction)
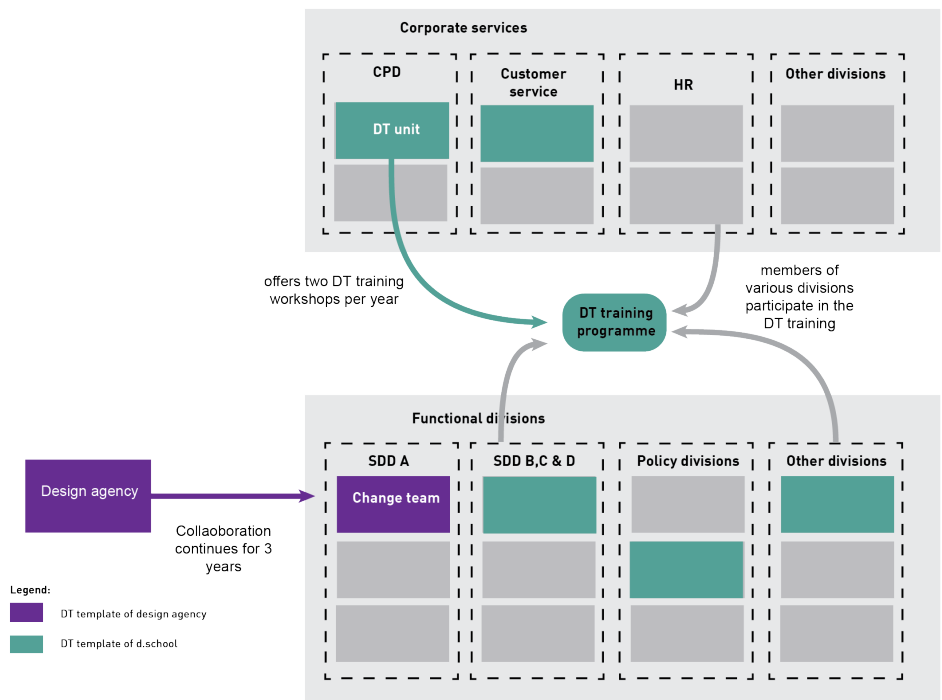
Figure 10: Sequence of adoption, Step 5b – CPD offers two DT training programmes per year for members of various divisions (own depiction)

4.1.1 HOW DID THE DEPARTMENTS INTRODUCE DESIGN THINKING?

The four departments analysed here – the SDD, the CPD, the SDCS and Policy – all have slightly different histories of how Design Thinking was introduced. These can be linked to the design agency and the d.school Stanford's role in the Ministry's adoption of the approach. The Singaporean Ministry first encountered Design Thinking during a study visit to the design agency in 2008, which included client meetings and generally served as a way of acquainting the Ministry with the agency's approach. Members of the Service Delivery Department A, the Corporate Planning Department and the Customer Services Department took part in this study trip.

Service Delivery Department A (SDD A) was the first division to introduce Design Thinking to the Ministry and is considered a frontrunner, pilot and even catalyst of its adoption (#16-1, P25, P27; #21, P33, P50; #25, P76, P90, P114, P204, P220, P250). The Department engaged an international design consultancy to apply and adopt Design Thinking. This was a consultancy that differed from the usual ones because it offered a new approach (#15, P41; #24, P23, P167, P238, P279) by placing more emphasis on collaboration thereby allowing employees to work alongside consultants and train on the job. SDD A's collaboration with the design company lasted three years (2009 to 2011), with a follow-up in 2014. Design Thinking was introduced gradually and over a comparatively long period of time. A dedicated unit in SDD A oversaw the project, its staff of 10 part-time officers working alongside the design agency for over a year.

The Corporate Planning Department (CPD), meanwhile, played the most central role in spreading Design Thinking to the rest of the organisation and established a dedicated team to centrally coordinate all Design Thinking efforts. The CPD first became involved with the new approach during a study visit in 2008. For their in-house Design Thinking training programme, the Corporate Planning Department enlisted the d.school Stanford to carry out a train-the-trainers programme that included several short-term training courses at the d.school Stanford and in Singapore. The training programme's primary goal was to educate Ministry staff in the new approach's methodology and enable them to facilitate training courses themselves. Employees could become Design Thinking facilitators after hosting two training workshops. The Ministry engaged the d.school rather than the design agency for the training programme because it was looking for an academic approach (#23, P29) and a theoretical framework to guide its members (#13, P11, P16).

> 'Oh, we engaged d.school in the end because we feel that [the design agency] is more of a commercial thing, they are like consultants. But [...] we need academics for us to learn about the methodology and for us to be able to coach other people. [...] That's why [...] in the end we decided on d.school.' (#23, P29)

The third set of departments this chapter analyses are other service delivery and customer services divisions in the Ministry, excluding Service Delivery Department A. These divisions are mainly operational units. This section includes the Customer Services Department (CSD), which centrally handles the service frontline of the whole Ministry, although divisions may have their own frontline contact. In contrast to Service Delivery Department A, Design Thinking in other operational and service delivery divisions was mainly driven by the Corporate Planning Department's training and project support initiative. Officers from these divisions were selected and participated in one-off training sessions in the new approach, and Corporate Planning Department supported the divisions in enlisting Design Thinking facilitators. Some divisions started to conduct their own training workshops for staff

members to extend its usage in their departments with the result that some divisions have a higher density of officers trained in Design Thinking than others.

The organisation's policy divisions were among the latest to adopt the new approach (#1, P170, P174). The years 2013 and 2014 saw an uptick in policy-related Design Thinking projects (#1, P170), and the Corporate Planning Department's (CPD) initiative played a major role in spreading Design Thinking to the Policy Departments. Of the officers who were trained in this first phase and attended Stanford, only one came from policy divisions (email correspondence regarding the Design Thinking training programme, September 2010).

4.1.2 DESIGN THINKING TEMPLATES

The two templates of Design Thinking mentioned above exhibit both similarities and differences. In the following, I will describe both in more detail.

The first version of Design Thinking is the one promoted by the U.S.-founded international design consultancy. The second version of Design Thinking is closely linked to the first, as members of the design consultancy have been involved with the establishment of the Hasso Plattner Institute of Design (d.school) at the University of Stanford. Despite the close link, the d.school has proliferated its own version of Design Thinking and promoted it with widely published educational material. This section starts with a brief overview of the two versions adopted by the organisation, followed by a description of the templates the respective divisions in the Ministry have used.

Design Thinking by the design agency

The U.S.-based design agency was launched in the early 1990s as the product of a merger. With a background in industrial design, its main focus in the 90s was on consumer products. In the early 2000s, the company then moved into designing service experiences and now calls itself a design and innovation consulting firm (company website). The company has been linked to the founding of the Hasso Plattner Institute of Design (d.school) at Stanford University in 2006. Moreover, the serving CEO is a prominent figure in promoting Design Thinking in the business sphere.

In the past decades, the design agency has used Design Thinking, or what they have termed 'human-centred design', to create products, services, experiences and social enterprises that have been accepted because they address people's needs (Design Kit, 2015, p. 9). The design consultancy portrays this approach as follows:

> 'Embracing human-centered design means believing that all problems, even the seemingly intractable ones like poverty, gender equality, and clean water, are solvable. Moreover, it means believing that the people who face those problems every day are the ones who hold the key to their answer. Human-centered design offers problem solvers of any stripe a chance to design with communities, to deeply understand the people they're looking to serve, to dream up scores of ideas, and to create innovative new solutions rooted in people's actual needs.' (Design Kit, 2015, p. 9)

The design agency's definition of Design Thinking implicitly refers to 'wicked problems'. The agency believes that intractable problems are solvable using a human-centred design approach. Such intractable issues can include poverty, gender equality and access to clean water and have been

described as 'wicked problems' in the scholarly debate (Danken et al., 2016: 20). According to the design agency, Design Thinking is a creative problem-solving approach (Design Kit 2015, p. 11) and 'a structured approach to generating and evolving ideas' (Design Thinking for Educators Toolkit, 2011, p. 14). Additionally, the design agency understands Design Thinking both as a mindset and a structuring process. Moreover, the design agency assumes that Design Thinking can be used to address any challenge, e.g. products, programmes, spaces, processes and services (Design Thinking for Educators Toolkit, 2011, p. 12).

MINDSETS AND PRINCIPLES

The design agency describes seven mindsets as essential for human-centred design: empathy, optimism, iteration, creative confidence, making, embracing ambiguity and learning from failure (Design Kit, 2015, p. 10). Empathy is about understanding different perspectives, people's needs and motivations. Optimism is said to drive a project forward by focusing on what is possible. Iteration means validating, adjusting and refining ideas along the way by incorporating user feedback from an early stage. Creative confidence describes the belief that everyone can be a creative problem-solver and trust in the process. Making implies prototyping, visualising and building up ideas to make them tangible. Embracing ambiguity refers to being comfortable with an open-ended process in which there are no answers from the outset and many options are explored before settling on a solution. Learning from failure is linked to a culture of experimentation that allows participants to learn from doing and from their mistakes (Design Kit, 2015, p. 19-25). In previous conceptualisations, the design agency referred to four mindsets – human-centred, collaborative, optimistic and experimental – that resemble the newer version (Design Thinking for Educators Toolkit 2011, p. 11). The collaborative element refers to including multiple perspectives and working in teams.

Apart from these seven mindsets, the design agency's version of Design Thinking encompasses a focus on teams, spaces and materials to support the creative design process (Design Thinking for Educators Toolkit, 2011, p. 23).

PROCESS

The design process used by the design consultancy is depicted as a three- or five-phase process (see Figure 11), ranging from identifying a challenge to finding and building a solution (Design Thinking for Educators Toolkit, 2011, pp. 14-15).

PHASES

1 DISCOVERY
I have a challenge.
How do I approach it?

2 INTERPRETATION
I learned something.
How do I interpret it?

3 IDEATION
I see an opportunity.
What do I create?

4 EXPERIMENTATION
I have an idea.
How do I build it?

5 EVOLUTION
I tried something new.
How do I evolve it?

STEPS

1-1 Understand the Challenge

1-2 Prepare Research

1-3 Gather Inspiration

2-1 Tell Stories

2-2 Search for Meaning

2-3 Frame Opportunities

3-1 Generate Ideas

3-2 Refine Ideas

4-1 Make Prototypes

4-1 Get Feedback

5-1 Track Learnings

5-2 Move Forward

Figure 11: Design Thinking process by the design agency, adapted from 'Design Thinking for Educators'[14]

Both process models capture similar components and are understood as non-linear, allowing for a back-and-forth application. These phases are understood as overlapping spaces rather than subsequent steps in the design process. The three phases consist of inspiration, ideation and implementation. Inspiration is concerned with building empathy with people and understanding the problem. The ideation phase then translates insights from the inspiration phase into new solutions, which includes brainstorming many ideas as well as identifying opportunity areas for design. It also includes building, testing and refining ideas. The implementation phase makes sure to find a way of bringing the idea to market and creating a lasting impact (Design Kit, 2015, p. 11). Similarly, the five-step process consists of discovery, interpretation, ideation, experimentation and evolution. Discovery and interpretation cover understanding the problem, preparing and conducting research, interpreting findings and extracting insights by telling stories, searching for meaning and framing design opportunities – tasks that are identical to the inspiration phase. The ideation phase is the same in both process models and includes generating and refining ideas. Experimentation and evolution match the implementation phase, consisting of making prototypes and getting feedback, tracking learning and iterating. (Design Thinking for Educators, 2011, p. 14-15)

According to the design consultancy, their human-centred design process is open-ended and characterised by converging and diverging phases (Design Kit, 2015, p. 13). This means encouraging openness during the inspiration phase when getting to know people's problems, needs, desires etc., before narrowing down the focus to define a concrete design challenge. It includes opening up while generating as many ideas as possible before converging again while testing and refining the ideas and even further during the implementation phase (see Figure 12; Design Kit, 2015, p. 13).

---

[14] The process depiction is adapted from the design agency's 'Design Thinking for Educators' (2011, p. 14-15) and its Design Kit (2015, p. 11).
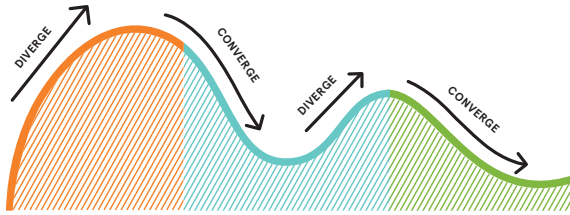
Figure 12: Converging and diverging phases during human-centred design process[15]
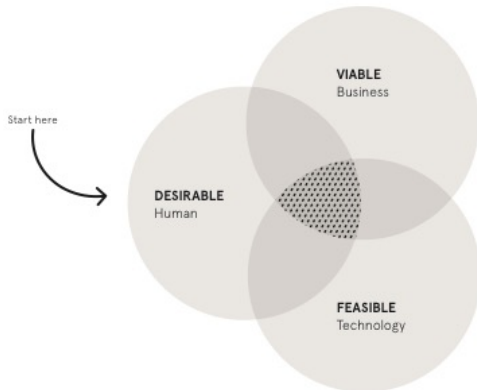
Figure 13: Venn diagram of human-centred design[16]

According to the agency, a human-centred design approach creates desirable, technically feasible and financially viable solutions, as seen in the Venn diagram above (Figure 13; Design Kit, 2015, p. 14). Practitioners must find the right balance to make a solution both effective and sustainable, attributes that are especially important during the implementation phase.

METHODS AND TOOLS

The design consultancy names 57 methods and tools in their 2015 Design Kit. However, the agency acknowledges that every project requires a different approach and a different set of tools (Design Thinking for Educators Toolkit, 2011, p. 14). The following table gives an overview of some tools and methods that can be used during the different phases of the design process (see Table 3).

---

[15] Design Kit 2015, p. 13.
[16] Design Kit 2015, p. 14.

Table 3: Design Thinking phases, steps, methods and tools as proposed by the design agency

PHASES	EXEMPLARY TOOLS
Inspiration (Discovery)	Interviews (user, group or expert interview) (p. 39-43)
	Extremes and Mainstreams (p. 49-51)
	Immersion (p. 52)
	Analogous Inspiration (p. 53-54)
	Card Sort (p. 57-59)
	Observations (peers observing peers, guided tour) (p. 60, p. 64)
	Collage (p. 61-63)
	Draw It (p. 65)
Ideation (Interpretation, Ideation)	Download Your Learnings (p. 77)
	Share Inspiring Stories (p. 78)
	Top Five (p. 79)
	Find Themes (p. 80)
	Create Insight Statements (p. 81-83)
	How Might We-questions (p. 85)
	Create Frameworks (p. 89-93)
	Brainstorm Rules (p. 95)
	Get Visual (p. 101)
	Design Principles (p. 105)
	Co-Creation Session (p. 109)
	Determine What to Prototype (p.111)
	Storyboard (p. 113)
	Role Playing (p. 118)
	Rapid Prototyping (p. 199)
	Business Model Canvas (p. 123)
	Get Feedback (p. 126)
	Integrate Feedback and Iterate (p. 127)
Implementation (Experimentation, Evaluation)	Live Prototyping (p. 135)
	Roadmap (p. 136)
	Resource Assessment (p. 137)
	Build Partnerships (p. 140)
	Ways to Grow Framework (p. 141)
	Staff Your Project (p. 144)
	Funding Strategy (p.145)
	Pilot (p. 146)
	Define Success (p. 147)
	Keep Iterating (p. 148)
	Create a Pitch (p. 149)
	Sustainable Revenue (p. 152)
	Monitor and Evaluate (p. 153)
	Keep Getting Feedback (p. 157)

Design Thinking by the d.school Stanford

In 2006, the Hasso Plattner Institute of Design (d.school) was founded at Stanford University and began to teach Design Thinking (Carlgren et al., 2014: 25). It offers a fellowship programme for students enrolled in different faculties. The programme lasts one year and is structured into different course modules, with a focus on practical learning. Other research centres and universities have also established design centres. At the Hasso Plattner Insitute in Potsdam, Germany, the School of Design Thinking opened its doors in 2006 to create a similar learning environment (Carlgren et al., 2014: 25).

According to the d.school, Design Thinking is understood as 'a methodology for innovation that combines creative and analytical approaches, and requires collaboration across disciplines' (d.school website).[17] This methodology is said to be rooted in engineering and design, complemented with tools and insights from the arts, social sciences and business. The idea is that students apply and appropriate the Design Thinking approach to their disciplines.

MINDSETS AND PRINCIPLES

The mindset has been described as human-centred, based on collaboration and diversity, an iterative way of thinking that frames the problem and challenges the initial thought process by being disruptive and out-of-the box (d.school bootcamp bootleg, 2010). The d.school has laid out seven mindsets characteristic of Design Thinking in more detail (see Figure 14). 'Show don't tell' is the first of these mindsets and refers to communicating ideas by storytelling, making them tangible and using visuals. A focus on human values means using empathy throughout the design process, from research to testing. Embracing experimentation builds on prototyping and learning from mistakes. Bias toward action expresses a preference for doing over talking. Radical collaboration stands for bringing people from diverse backgrounds and viewpoints together to craft solutions (see Figure 15; d.school website).[18] In that sense, Design Thinking is described as a collaborative, team-based approach in which the design process acts as 'a glue that holds teams together' meaning teams who come from different disciplines (d.school website).[19] 'Be mindful of the process' is a reminder to be aware of the different design phases and to use appropriate tools for each. Crafting clarity refers to dealing with uncertainty by creating tangible prototypes (d.school bootcamp bootleg, 2010, p. III). Design Thinking also builds on a playful approach in which judgment is deferred 'long enough to build on each other's ideas' (d.school website).[20] Moreover, the d.school Stanford stresses that Design Thinking focuses on the open-ended nature of innovation and suggests that design innovation lies at the intersection of human values, business and technology, capable of offering usable, desirable, financially viable and technically feasible solutions (see Figure 16; d.school website).[21]

---

[17] D.school website: http://dschool.stanford.edu/our-point-of-view/#design-thinking, retrieved 26 October 2016.
[18] Ibid.
[19] Ibid.
[20] Ibid.
[21] Ibid.

SHOW DON'T TELL
Communicate your vision in an impactful and meaningful way by creating experiences, using illustrative visuals, and telling good stories.

FOCUS ON HUMAN VALUES
Empathy for the people you are designing for and feedback from these users is fundamental to good design.

CRAFT CLARITY
Produce a coherent vision out of messy problems. Frame it in a way to inspire others and to fuel ideation.

EMBRACE EXPERIMENTATION
Prototyping is not simply a way to validate your idea; it is an integral part of your innovation process. We build to think and learn.

BE MINDFUL OF PROCESS
Know where you are in the design process, what methods to use in that stage, and what your goals are.

BIAS TOWARD ACTION
Design thinking is a misnomer; it is more about doing that thinking. Bias toward doing and making over thinking and meeting.

RADICAL COLLABORATION
Bring together innovators with varied backgrounds and viewpoints. Enable breakthrough insights and solutions to emerge from the diversity.

D.MINDSETS

d. HASSO PLATTNER Institute of Design at Stanford

Figure 14: Design Thinking mindsets by the d.school Stanford[22]

---

[22] D.school bootcamp bootleg (2010, p. III)
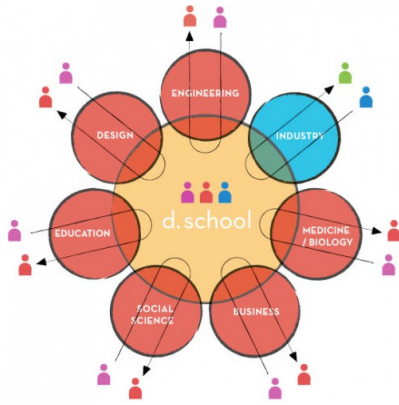
Figure 15: Radical collaboration mindset at the d.school Stanford[23]
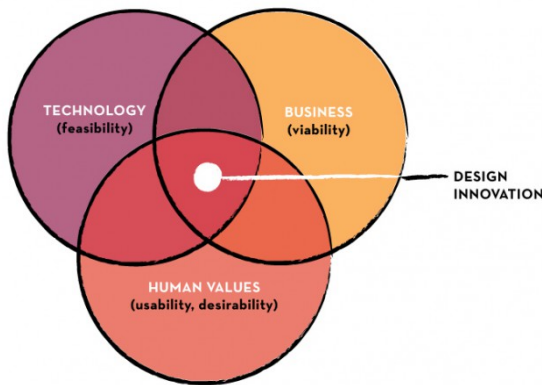
Figure 16: Design Thinking Venn diagram by the d.school Stanford[24]

Similarly to the design agency, the d.school highlights other components that are believed to facilitate the Design Thinking process. The space, including elements like whiteboards and other material that can be used during a brainstorming session (such as sticky notes and pens), for example, creates an enabling setting (d.school bootcamp bootleg, 2010, p. 29). The d.school's building is laid out according to the principle that every element should stir innovation: the flexible wall system, for example, allows members to easily remodel the space. The space itself is therefore understood as a prototype. The d.school hosts a physical prototyping workshop as well as a digital one. It believes that one needs to design for creativity and that this creativity must necessarily encompass the workspace where it is meant to blossom (see Figure 17) (Tischler, 2010).

---

[23] D.school website: http://dschool.stanford.edu/our-point-of-view/#design-thinking, retrieved 26 October 2016.
[24] D.school website: http://dschool.stanford.edu/our-point-of-view/#design-thinking, retrieved 26 October 2016.

| Flexible wall system at d.school Stanford | Physical prototyping lab at d.school Stanford | *Open foyer at d.school Stanford* | *Team workspace at d.school Stanford designed to keep people moving* |
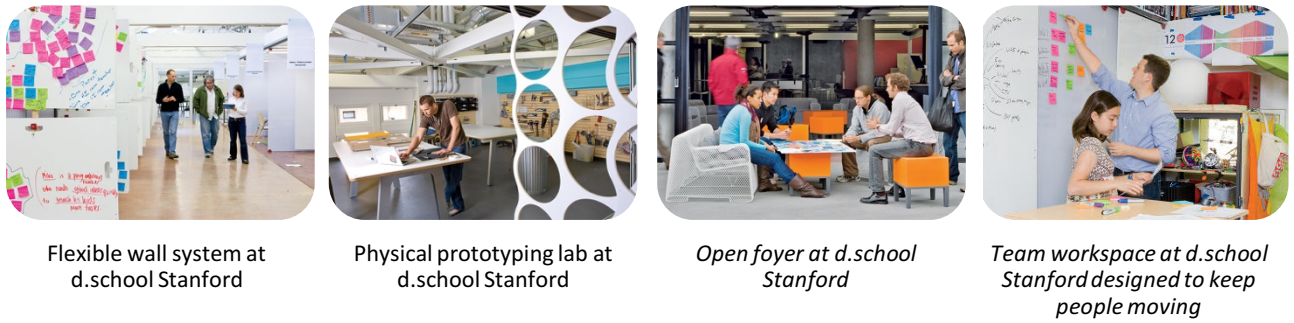
Figure 17: Spatial design of the d.school Stanford[25]

PROCESS

Similarly to the agency approach, the d.school also differentiates between five- and six-step approaches (Figure 18 & Figure 19). The two d.school process versions give the first two steps different names, the ideating, prototyping and testing phases are identical in terminology. The six-step version depicts the empathize phase in two separate steps, 'understand' and ´observe', and renames the define phase to 'point of view'. The empathize phase lies at the centre of the human-centred design process because it allows you to understand the people who you are designing for, by observing their behaviour, engaging them and immersing yourself in order to experience something first-hand (d.school bootcamp bootleg, 2010, p. 1). The define phase, meanwhile, is about synthesizing research findings into user needs and insights in order to identify design opportunities. Based on a deep understanding of both users and the design space, its aim is to develop an actionable problem statement that consists of specific users, insights and needs, also referred to as a 'point of view' (d.school bootcamp bootleg, 2010, p. 2). During the Ideate phase, the main focus lies on generating numerous and diverse ideas (d.school bootcamp bootleg, 2010, p. 3), followed by the prototype phase, which focuses on making ideas tangible by building prototypes. These prototypes range from early rough, low-resolution versions to advanced and polished products. The ensuing Test phase revolves around refining ideas and improving them. As both prototyping and testing are classed as iterative modes, many cycles of repeated prototyping and feedback solicitation are deemed necessary to arrive at a desirable state (d.school bootcamp bootleg, 2010, pp. 4-5).
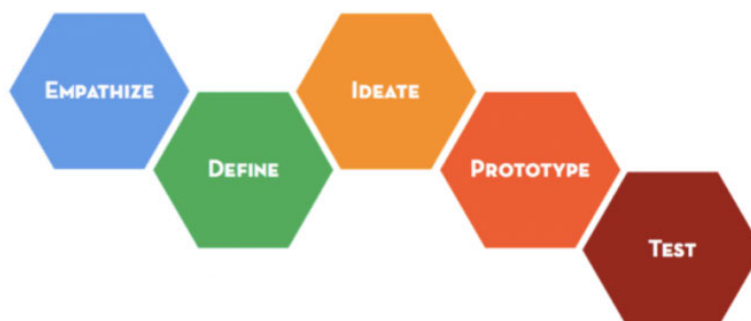
Figure 18: Five-step Design Thinking process by the d.school Stanford[26]

---

[25] All photos by Noah Webb.
[26] D.school bootcamp bootleg, 2010.
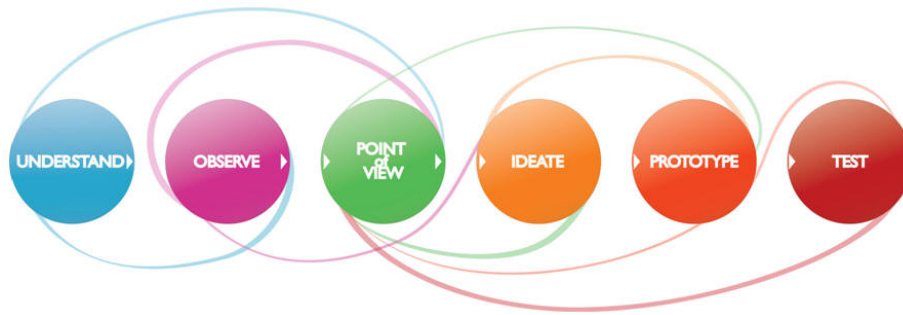
Figure 19: Six-step Design Thinking process by the d.school Stanford[27]

Similar to the design agency's understanding of diverging and converging process phases, the d.school conceptualises the design process as going through phases of 'focus' and 'flaring' that open and restrict opportunities (d.school bootcamp bootleg 2010, p. 1-5).

METHODS AND TOOLS

The 2010 d.school bootcamp bootleg, an in-progress publication on the school's Design Thinking approach, includes 39 method cards which describe different tools that can be used throughout the design process. The following table gives an exemplary overview (see Table 4).

Table 4: Design Thinking phases and exemplary tools proposed by the d.school Stanford

PROCESS PHASE	EXEMPLARY TOOLS	DESCRIPTION
Empathize	Observation template 'What, How, Why' (p. 7)	A template to structure and arrive at deeper levels of observation
	User camera study (p. 8)	A tool to understand a user's experience by seeing it through their eyes
	Interview for empathy (p. 10)	A qualitative interview to understand a person's thoughts, emotions and motivations by asking why-questions, encouraging stories, looking for inconsistencies, etc.
	Extreme users (p. 11)	Observing and speaking with extreme users might uncover needs of the wider population in an amplified way that triggers more inspiration
	Analogous empathy (p. 12)	Analogous settings can provide inspiration if direct observation is not possible or if a fresh perspective is needed
Define	Saturate and group (p. 14)	Saturate the wall space (work boards) with post-its to uncover and organise thoughts and experiences into visual pieces of information to inform and inspire the design team
	Empathy map (p. 15)	A synthesis tool to identify user needs and draw out insights from observations along the lines of what a person says, does, thinks and feels
	Journey map (p. 16)	A tool to map out a person's user journey or experience by detailing different steps and milestones of a process to either explore or present findings
	Composite character profile (p. 17)	A synthesis tool to create a (semi)-fictional character who embodies field observations and acts as a guideline for design decisions
	2x2 matrix (p. 19)	A synthesis tool that can be used to map relationships between things or people in order to gain new insights
	Point of view 'madlib', analogy or want ad (p. 21-23)	A tool to reframe a design challenge into an actionable problem statement that consists of user, need and insight and will inspire generative ideation. Variants include adding an inspirational metaphor in the form of an analogy or using the format of a want ad.
Ideate	Powers of ten (p. 18)	A reframing technique that considers one aspect over increasing or decreasing magnitudes of context and can be used for synthesis and ideation

---

[27] The K12 Lab Wiki: https://dschool.stanford.edu/groups/k12/wiki/17cff/, retrieved 26 October 2016.

	'How might we…?' question	Short questions to start and frame a brainstorm. These can be derived from a point-of-view statement.
	Seven brainstorm rules (p. 28)	Rules to facilitate a productive brainstorming session: one conversation at a time, go for quantity, headline, build on the ideas of others, encourage wild ideas, stay on topic, be visual, defer judgement – no blocking
	Stoke activities (p. 27)	Warm-ups and energising games to become mentally and physically active before a brainstorming session or at the start of a meeting
Prototype	Prototype for empathy, to test or to decide (p. 33-36)	Prototyping can fulfil different purposes, for example as an addition during interviews and observation, to validate ideas with users or to decide how to proceed with an idea
	Wizard-of-Oz prototype (p. 39)	A type of prototype to fake functionality that should be tested with users
Test	Testing with users (p. 35)	As a way to refine solutions and to gain more empathy for users
	Identify a variable (p. 37)	Identifying a variable for testing in order to decide on the kind of prototype needed
Across phases	Storytelling (p. 41)	An engaging way to share and present ideas over other forms of communication
	'I like, I wish, what if'? (p. 44)	A way of communicating feedback in a constructive manner

Many of these tools are identical with those listed in the design agency's tool kits, such as gaining inspiration from extreme users, analogous settings, observations and interviews, how-might-we-questions and brainstorming rules for ideation or different prototyping tools.

Summary of Design Thinking templates

As we have seen, the Design Thinking versions described above are very similar, if not partially identical (see Table 5). Both versions were adopted by different divisions in the Singaporean Ministry. The fact that the design agency played a leading role in establishing the HP Institute of Design at Stanford University (d.school) might explain the great overlap between the characteristics of the two versions. Not only do the process depictions resemble each other, laid out in three- to six-phase models, but the mindsets associated with Design Thinking also show striking similarities, such as the emphasis on a collaborative, team-based approach or on an iterative way of working.

However, the explicit focus on implementation in the design agency's model sets it apart from the d.school version of Design Thinking. This emphasis aims at creating market-ready solutions and including necessary steps for implementation in the process. While implementation is critical for the clients of the design consultancy, in the educational setting of the d.school the primary intention is to fit out students with a different kind of problem-solving approach. Implementation therefore plays a correspondingly smaller role in the d.school, while the design agency's business success is tied to coming up with viable solutions for clients.

	DESIGN AGENCY	D.SCHOOL STANFORD
Process	Inspiration (2015), discovery Interpretation (2011)	Empathize / understand, observe define / point of view
	Ideation (2011, 2015)	Ideate
	Implementation (2015), experimentation, evolution (2011)	Prototype, test
Mindset and principles	Empathy (2015)/ Human-centred (2011)	Focus on human values
	Collaborative (2011)	Radical collaboration
	Iteration, Learning from Failure (2015), Experimental (2011)	Embrace experimentation
	Making (2015)	Bias toward action
	Making, Embracing Ambiguity (2015)	Craft clarity
	Making (2015)	Show don't tell
	Optimism (2015), Optimistic (2011)	
	Creative Confidence (2015)	
		Be mindful of the process
Tools	Includes tools for implementation	
Teams	Diverse backgrounds, different experience levels, co-staffed teams with clients	Multi-disciplinary students
Space	Spaces and materials to support the creative design process	d.school building includes flexible furniture, whiteboards, team workspaces, prototyping workshops etc.
Materials	e.g. post-its	e.g. post-its, prototyping material etc.

After this overview and juxtaposition of the two Design Thinking templates, the next section briefly summarises which of these templates the different Ministry divisions have adopted.

What were the templates for Design Thinking in the different departments?

The first-adopter division, Service Delivery Department A (SDD A) learned about Design Thinking from the international design consultancy. The project team documented their work and their Design Thinking approach in a series of seven books in order to preserve the knowledge and make it available to the whole organisation (#5, P127). However, the design agency had little to no experience working with public sector organisations prior to its work with the Ministry. In the past, they had mostly focused on products and not on experiences (#24, P76-79). The design consultancy therefore initially phased some adjustment issues, as it did not work in the way the government department had come to expect from other business consultancies (#15, P47): they utilised a smaller team, asked different questions and seemed less familiar with the Singaporean context (#15, P49, P51, P53, P55). Moreover, some in the Ministry received a culture shock (#15, P53) and the design consultancy was perceived as U.S.-American, e.g. 'four people from California' (#15, P53), 'Californian-style' (#15, P49), in part because it brought in concepts from the US (#15, P61).

The Corporate Planning Department's training programme mainly follows the d.school Stanford's version of Design Thinking. The educational material for the training workshops, including hand-outs and presentations, has not changed significantly in content since d.school Stanford professors conducted the initial train-the-trainers course (#1, P67; #13, P253). It is still in use and stored on the intranet (#13, P89) and therefore provides a reference for how Design Thinking is interpreted by CPD and its group of facilitators. When referring to Design Thinking, interviewees from the Corporate Planning Department frequently mention the d.school Stanford (#1, P21; #2, P47).

The other service delivery and customer services (SDCS) divisions mainly learned about Design Thinking through the Corporate Planning Department and the version of Design Thinking that has been locally translated is associated with the d.school Stanford which served as the template for the CPD's training programme.

As CPD's training and project facilitation introduced the policy divisions to Design Thinking, these divisions also follow the d.school Stanford's template.

4.2 Case Studies: The intra-organisational translation of Design Thinking

This chapter explores the translation activities in four departments of the Ministry. This intra-organisational focus sheds light on how Design Thinking has been translated in different parts of the organisation. The chapter structurally follows the chronology of Design Thinking adoption in the Ministry, starting with Service Delivery Department A (SDD A) as the first adopter and then moving on to the Corporate Planning Department (CPD) as an early adopter, service delivery and customer services (SDCS) divisions as followers and the policy divisions as late adopters.

4.2.1 DESIGN THINKING IN THE SERVICE DELIVERY DEPARTMENT A: THE FIRST ADOPTER

Filtering by emphasis in Service Delivery Department A

Filtering by emphasis refers to emphasising or highlighting specific elements of the globalised construct or imported practice that could be perceived as 'congruent' with the new context (adapted from Boxenbaum & Gond, 2014).

COMPREHENSIVE DEFINITION OF DESIGN THINKING

Service Delivery Department A seems to have an understanding of Design Thinking that is very close to that of the design agency because the Ministry is trying to replicate the agency's version (#15, P79, P83). For members of SDD A, Design Thinking's main takeaway is the importance of understanding internal and external customers by talking to them and discovering their needs in order to create user-centred

solutions by prototyping in an iterative way (#5, P40, P42, P85; #15, P71, P73; #16-1, P31; #25, P122, P162, P216, P240). This can be observed by a change in language and some application, for example, people talking of prototyping or asking about the customer's point of view (#16-1, P64). A senior manager in SDD A summarises Design Thinking as follows:

> 'It's about listening, it's about empathy, it's about prototyping, it's about piloting, it's about making mistakes early and learning from it, you know.' (#25, P162)

EMPHASIS ON USER RESEARCH AND THE EMPATHY PHASE

In line with the above-mentioned comprehensive view of Design Thinking, members of SDD A highlight the empathy and user research part of the Design Thinking process (#5, P7, P28, P40; #15, P55, P61, P75; #16-2, P81; #25, P126, P162), placing their emphasis on a kind of filtering. User research is described as a powerful part of the methodology (#15, P55, P71, P73). Hence, SDD A understands Design Thinking as a way of gaining deep insights into their customers' needs (both explicit and latent), their expectations, concerns and pain points (#5, P40, #15, P71; #16-1, P37; #21, P43; #25, P122). To put it differently, SDD A hopes to use this methodology to understand what its customers want (#5, P40; #21, P31; #25, P240). SDD A members maintain that there is 'a different perspective in understanding customers through Design Thinking' (#15, P21). According to SDD A, the research phase of Design Thinking is therefore about talking to stakeholders, customers and staff (#5, P7, P28, P40, P85; #25, P126). Empathy as a skill in itself seems to be crucial for engaging and listening to customers' feedback during user research (#21, P31). In this regard, Design Thinking seems to have created a greater empathetic awareness (#16-1, P34; #16-2, P81).

> 'I think the **greatest strength of [Design Thinking] is that it helps create empathy**, it helps to make people more acutely aware of the effect that our services have on our citizens.' (#16-1, P34)

SDD A has utilised user research for a number of projects, including the re-design of the first service centre (#21, P13; #25, P126). When working on the written communication with the design agency, it applied user research to better understand the problem and receive feedback and suggestions from users (#5, P7). Moreover, members of SDD A consider user research a valuable part of policy implementation, allowing them to anticipate customer expectations and concerns (#25, P96).

Design Thinking stands in contrast to the existing research approach of gaining information from surveys and questionnaires because it emphasises qualitative user research for discovering how customers behave and why (#15, P71, P73; #21, P17). According to SDD A, user insights can be uncovered by observation techniques (also #21, P43) such as shadowing, which the design agency used for the re-design of its first service centre (#21, P7), or by in-depth interviewing (e.g. #15, P71). Other techniques include observing, experiencing, analysing and reflecting on interactions with customers, e.g. videotaping customer journeys, using analogies etc. (#21, P43). Although members of SDD A mention observation, user research is mainly equated with interviews (#5, P64, P68; #15, P75; #21, P17) and SDD A has interviewed customers for certain projects (#15, P75). User research is also understood to involve looking for analogies in other industries. During their study visit to the US, for example, the Ministry delegation visited the Apple Genius Bar to research customer experience (#21, P21).

In SDD A, user research as part of Design Thinking follows a qualitative approach, involving small groups of customers and stakeholders (#21, P83). This means selecting people to be interviewed based on certain criteria, e.g. extreme or frequent users (#21, P83). SDD A members expect to gain rich insights

65

from this qualitative user research that they could not derive from mere observation or quantitative surveys (#21, P17). Such qualitative user research is said to inspire 'breakthrough ideas', partially because it involves talking to extreme instead of just representative users (#21, P17). This filtering by emphasis closely resembles the design agency's version of Design Thinking because it tries to capture diverse perspectives during the inspiration phase. Although mostly qualitative in nature, Design Thinking makes no prescriptions about the amount of user research, e.g. the number of interviews, that needs to be carried out.

> 'But you see*, the beauty of Design Thinking is, it doesn't involve big groups of customers*. […] And when we do the interviews and the in-depth interviews with customers, it is on a very selective small group, but very, very selective. So, **we select people who are outliers, people who are frequent users** and etc. […]. So, it is not as if customers will feel that we are using Design Thinking. But the people who are involved will know [...] and hopefully they will know that their inputs have been appreciated because they will be seeing it in the outcomes of our design.' (#21, P83)

Apart from understanding customers better, Design Thinking's research phase supposedly helps its practitioners dig deeper and understand the underlying issues and root causes of a problem (#16-2, P65; #21, P47), helping them to focus on the larger issues instead of being satisfied with immediate solutions (#21, P47). For example, a project about the high volume of appeals being filed revealed a distrust in officers' decisions (#16-2, P65) and the team was able to find more comprehensive solutions by looking at all the issues generating the appeals (#21, P47). Members of SDD A felt that the user research the design agency conducted during the initial collaboration phase was able to identify the problems they were facing from a different perspective, because the design agency looked at the entire user journey and eco-system of stakeholders (#15, P55, P61).

Moreover, user research is said to perform an important function in terms of validating assumptions. The SDD A emphasises user research and testing because these elements help it to prioritise decisions when designing or reviewing a service. Previously, design decisions were mostly based on hierarchy or on who had the better argument (#15, P113).

> 'Well, it's not so much Design Thinking, it's the customer research*, it's the user research and the customer validation [that have] helped us pitched a better story of why we should do certain things or why we shouldn't*. [...] We used to be unable to do that. […] But I think when you have customer research and [...] you have validations, enables us to [...] run through some of these ideas and then you can actually get the data or the feedback [...].' (#15, P113)

EMPHASIS ON THE PRINCIPLE OF USER-CENTREDNESS

In another instance of filtering by emphasis, members of SDD A underline the principle of user-centredness (#5, P42, P77; #15, P3; #16-1, P31, P41, P64; P57; #16-2, P36; #21, P13, P81, P83; #25, P126, P180). They understand Design Thinking as a way to put customers at the centre of their work and understand them on a deeper level in order to design better solutions for them (#5, P42; #16-1, P31; #16-2, P28; #21, P13; #25, P122). During its tender with the design agency, Design Thinking impressed SDD A members with its potential to help them better understand their own customers and stakeholders:

> 'But we were mostly impressed what [the design consultancy] could offer us in terms of the methodology and that was when Design Thinking came into the picture **[...], a whole new way of how we could get deep into our customers' needs**, [...] realising that customers don't really know what they want and then the

related needs which we would never have known unless we have been through observations and using the methodologies like [...] shadowing, etc.' (#21, P7)

'Because firstly to be able to design a product [...] or service, maybe in the context of the government it's probably a service. **When you want to design a service, first you need to go and find out and connect with your users and your citizens***, and I think that's how design thinking can help us [...].' (#16-1, P31)*

SDD A credits Design Thinking with making the Ministry more aware of user needs and strengthening its focus on people (#16-2, P28). According to SDD A, user-centredness is about listening to customers and taking their feedback into consideration (#21, P83; #25, P122, P126), and it perceives a user-centred approach as understanding problems from the point of view of external customers and stakeholders (#5, P77; #16-1, P34; #16-2, P36; #21, P47, P81; #25, P180) as well as internal staff (#16-1, P41).

'Oh, I think Design Thinking is certainly one of the methodologies that would be super useful. Because, like I said, Design Thinking, I mean, if there's one thing that Design Thinking really did for us, it's to make us **more aware of [...] user needs** *[...].* **It's about putting people back in the centre of all that we do.'** *(#16-2, P28)*

'[DT] has helped me to **see things from a different point of view.** *So previously, [...] I didn't think about [...] the problems the customers are facing, how things can be improved. I was basically numb to what was happening around because everybody just [...] full of the SOPs [= standard operating procedures] and didn't really see what else [...] can be done to help make the service better for our customers, and at the same time, also actually help us, because when our customers are happy, they call in less, they complain less, things are easier, things are smoother, so efficiency, productivity and everything increases. So I felt that even though the process together may take a bit of effort and time and resources, I feel that it is worth it.' (#5, P77)*

SDD A employed Design Thinking to make their processes more user-friendly (#16-2, P36). Increasing user-friendliness (#5, P7-8; #15, P3; #16-1, P57; #25, P184) has also been the guideline of the IT systems' re-design, with a special focus on user interfaces (#15, P3; #25, P184), as well as of the re-design of all written communication, especially letters sent out by the Ministry (#5, P7-8; #15, P3; #16-1, P57; #21, P17). Design Thinking was also used to enhance the customer experience (#5, P77; #15, P3, P111; #21, P13). For example, the re-design of the first service centre was intended to go beyond the regulatory function and create a more welcoming service experience (#15, P111; #16-1, P31; #21, P15). Design Thinking was therefore applied to improve service flows and the customer experience (#16-1, P57; #15, P3). Communications were an important part of re-designing the customer experience in SDD A, which included re-writing letters with the help of the design agency and a copywriter (#15, P3; #5, P7, P8).

'[W]e wanted to [...] re-design the processes, but this time **we were looking at how can we enhance the customer experience***, because previously it was all about speed.' (#15, P3)*

'We knew that **we wanted to really reframe many of our service indicators***. We wanted to really rethink.' (#16-1, P6)*

The focus on the principle of user-centredness goes hand in hand with SDD A's framing of Design Thinking in terms of improving and redefining the customer experience (#16-1, P3). Members of SDD A maintain that Design Thinking has made them more aware of providing a better customer experience of their services (#5, P77; #15, P111).

The principle of user-centredness was also extended to the division's organisation. SDD A was re-structured according to customer needs whereas it had previously been structured according to its

processes (#16-1, P57, P59; #21, P17; #27, P17). In SDD A, the principle of user-centredness is contrasted with the old mindset of not asking customers questions and deciding on behalf of citizens (#5, P42, P77; #25, P190, P194; #27, P3). The Singaporean government is said to be changing and becoming more open to feedback from citizens (#25, P194).

> *'Because **we used to do things without asking our customers and without asking people** and we just did things, design things that we think people want, instead of going down and asking people what exactly it is they want and they need, yes.' (#5, P42)*

> *'I suppose if you look at it, in the sense that we are more customer-centric, yes, because ingrained in all that we did, it was no longer a case of 'Is it easier for us to do this?', but more a case of 'Does it make sense for the customer?'. So, **our people are trained to look at it from customers' eyes and that is part of what Design Thinking taught us.**' (#21, P81)*

EMPHASIS ON PROTOTYPING AND TESTING

Apart from its focus on the empathy phase and the principle of user-centredness, Service Delivery Department A also emphasises prototyping and testing (#5, P16, P17, P40, P85; #15, P67, P75; #21, P13; #16-1, P41, P62, P64; #25, P126, P162, P164, P168, P172). For example, members who re-wrote letters during SDD A's communications project learned a lot along the way, testing and tweaking different wordings, for example (#5, P16-P17). Both service centres made heavy use of prototyping, including building physical prototypes of the space out of cardboard and holding simulations of the service flow and customer interactions during which staff members acted as customers (#21, P13, P21). Moreover, customers and stakeholders were invited to offer comments and feedback on the re-design of the service centre (#25, P126, P128). The revamp of the IT systems involved testing the new user interface's usability with customers (#25, P184). In addition, a more user-centred internal structure was prototyped and tested with customers (#21, P17).

The SDD A associates Design Thinking with starting small (#5, P23, P40; #25, P126), following the principle of failing early and safely, solving problems along the way, learning from mistakes and then making iterations (#5, P30; #25, P122, P126, P162). This mindset is connected with conducting small pilots before embarking on full-scale implementation (#5, P28; #25, P168, P174, P178), which means testing solutions with a smaller group of customers and stakeholders (#25, P174). This concept of prototyping and piloting was previously not ingrained because the entire implementation usually had to be thought through from the beginning of a project, whereas Design Thinking is perceived to encourage learning from early mistakes by experimenting with different options and multiple iterations (#16-1, P41; #16-2, P20, P22). In the past, the notion of piloting meant being ready for implementation, whereas prototyping indicates trial-and-error experimentation (#16-1, P41; #16-2, P20). Testing is associated with inviting customers back for feedback on the look and feel of prototypes (#25, P180, P184). Customer validations are perceived as a way to test assumptions and prioritise design decisions (#15, P113). Moreover, user testing is said to help to bring the management on board, which can be seen as part of the broader cultural change towards greater user-centredness (#15, P139).

The design consultant who accompanied SDD A explained that Singaporeans treated a pilot as a public consultation affair rather than as a tool to test ideas, which meant that huge investments were being made with hardly any possibility of backtracking if the pilot did not work out (#27, P89). According to the design consultancy, Singapore's government now seems to be more open to prototypes (#27, P89).

Members of SDD A also highlight Design Thinking's emphasis on doing, trying and experimenting in lieu of just talking about and discussing ideas (#16-1, P41).

> *'I think the other thing about Design Thinking that it is so, I think precious to us, as in the lessons it has taught us is that* **we spend a lot of time talking and not enough time doing***. We spend a lot of time discussing ideas, talking about advantages, disadvantages, a lot of guess work etc.,* **when we will be a lot better off just experimenting and trying***.' (#16-1, P41)*

EMPHASIS ON THE PRINCIPLE OF ITERATION

SDD A members highlight the iterative way of working ingrained in Design Thinking, which is based on the belief that things are always evolving and one therefore needs to pass through many iterations before arriving at an optimal solution (#15, P67; P123; #25, P122, P126). Early prototyping and testing are not only considered to improve the outcome, because the product can be adapted along the way, but also to save time and money. For example, the traditional IT approach of pre-defining and documenting everything first often leads to a mismatch and is therefore costly in the long run (#5, P23). Design Thinking is associated with the notion that things do not have to be perfect from the start (#5, P42); rather, one should be able to reverse decisions and tweak ideas along the way (#5, P30, P42; #15, P67; #21, P47).

> *'So what we do is usually I will tell my colleague to say that it is quite common for new things to have teething problems, so we should just like wait and see what happens,* **try to solve the problems as we go along,** *and that it doesn't mean that this time it is difficult, it is going to be a failure again.' (#5, P30)*

This mindset was important when introducing a new name-calling system for the first service centre, which diverged from the existing number-issuing system and stirred up concerns that it could be misused by customers (#15, P67). There were also iterations to the whole process for the design of the second service centre based on lessons learnt from the first service centre (#16-1, P57).

EMPHASIS ON OTHER DESIGN THINKING ELEMENTS: SYNTHESIS, IDEATION, VISUAL THINKING, STORYTELLING

Apart from the strong emphasis on user research and prototyping, members of SDD A also mentioned the use of other DT elements. While the synthesis part of the Design Thinking process, which follows user research, is regarded as important, there simultaneously seems to be a lack of skill in exercising it properly (#15, P73, P75). Although synthesis and ideation are nothing new, Design Thinking allegedly brought a new appreciation for the skill set and experience required for good synthesis (#15, P73). Synthesis is used to derive insights from interviews (#5, P40, P68), usually by sharing their content, e.g. with quotes from customers (#5, P72). One SDD A officer considered synthesis and prototyping the two main changes that Design Thinking had brought about (#15, P75). Other elements that were mentioned include the creative and visually oriented working environment, e.g. working with whiteboards, post-its etc. (#16-1, P66) and the storytelling approach, which the design consultancy uses because storytelling makes change seem to easier implement (#15, P55, P57).

DESIGN THINKING AS A CULTURE OF INNOVATION

In addition, the SDD A emphasises Design Thinking as a culture or mindset that fosters innovation, crediting it with having introduced a new approach of constant improvement (#5, P36). Design Thinking elements, such as user research, synthesis, prototyping and testing, are said to feed into the Ministry's process of innovation, although this seems to require a very deliberate effort (#15, P131, P135). As one

of many innovatory practices, Design Thinking is considered to add to the Ministry's layer-by-layer process of innovation (#15, P71, P131). The methodology also enabled the Ministry to look for a more holistic portfolio of innovations (#21, P45) as well as to re-think the status quo (#16-1, P3). This is also associated with the design agency's approach, which is characterised by a broader sense of innovation, focusing on game changers and not just incremental changes (#15, P55). Among members of SDD A, Design Thinking seems to foster a greater willingness to work in a different way and to explore and experiment with possible solutions (#16-2, P22).

COLLABORATION WITH DESIGN AGENCY LINKED TO 'COPYING'

Service Delivery Department A was especially exposed to Design Thinking because the design consultants on the projects trained them in its methodology themselves (#15, P41; #21, P13, P21). The team in charge of Business Process Re-engineering in SDD A worked closely with the design agency over the course of their three-year collaboration. They experienced Design Thinking first-hand and therefore believe that they have a better grasp on this approach than other people in government (#16-1, P87; #21, P35), that they possess 'a deeper and richer interpretation of the methodology' (#16-1, P87) as well as 'a slightly different take' vis-à-vis the rest of the Ministry (#16-1, P100). This is echoed by the design consultancy, which considers the core team of SDD A to be the Ministry's most competent and experienced practitioners of Design Thinking (#27, P25).

> *'I think there is **a core team in [SDD A] who appreciates, who understands what design thinking means more than other people in government.** And the reason for that is not because we're cleverer, I think it's just because we experienced first-hand, we started off with real issues.' (#16-1, P87)*

> *'[The design consultancy] worked with quite a small core team in the **[Service Delivery Department A]. I would call those guys, […] Design Thinkers.** They worked alongside with us for a year, over a year actually. They were part of our project teams. They lived in our offices. We lived in their office, you know. **We lived and breathed together.** So, I would say that, I would say that [SDD A's project lead] is probably the most competent in Design Thinking in all the [Ministry].' (#27, P25)*

The comprehensive exposure and learning-by-doing approach of the design agency might explain the filtering by emphasis which comes close to the template of Design Thinking promoted by the design agency.

Filtering by removal in Service Delivery Department A

Filtering by removal refers to the removal or downplaying of elements in the globalised construct or imported practice that could be perceived as 'incongruent' with the new context (Boxenbaum & Gond, 2014: 316).

EMPHASIS ON MODULAR USE OF THE DESIGN THINKING PROCESS AND ELEMENTS

Service Delivery Department A (SDD A) does not apply Design Thinking in its full version but on a modular basis, for example conducting user research for certain projects (#15, P75). Such modular use of Design Thinking represents a type of filtering by removal in SDD A. This is mainly attributed to the organisational constraints of time, peoplepower and resources. An operational division like SDD A cites time constraints as a major hurdle to fully applying Design Thinking, especially its most time-consuming elements, such as user research, prototyping and user testing as well as working in an iterative way (#5, P95; #15, P101; #16-1, P70; #25, P180). Moreover, Design Thinking is depicted as being resource-

intensive (#15, P89, P107; #21, P17), another obstacle to its application (#15, P125). SDD A members therefore suggest a conscious use of Design Thinking for certain projects (#25, P180):

> '[...] on a daily basis we do not have the time to engage our customers seriously. We're very busy, right? But actually because of Design Thinking, has prompted us to say that consciously **for certain projects that we roll out, right, you know, we may want to consciously go out and really invest the resources** to go and talk to the customers and also invite them back to comment on the maybe the look and feel of the prototype, you know, the service experience, things like that.' (#25, P180)

LACK OF DESIGN SKILLS AND EXPERIENCE HAMPERS USE OF DESIGN THINKING

Apart from the above-mentioned organisational constraints, members of SDD A cite different reasons for their limited use of Design Thinking, such as a lack of design skills and experience and (cultural) differences to the US approach that result in a different understanding.

First, SDD A members view their lack of design skills as a hurdle to fully applying Design Thinking (#15, P79). They do not feel confident in applying low-resolution prototyping (#15, P83, P89) or conducting customer validations and user tests (#15, P101). They also cited a lack of experience as a reason why SDD A adapted the synthesis part of Design Thinking, explaining that they, as a government agency, were not as advanced as the design consultancy (#15, P73, P75). Moreover, members of SDD A who collaborated with the design agency are aware that Design Thinking does not equip people with the design skills required to implement solutions, such as designing a space or writing communications material (#16-1, P31). The relevance of design skills for Design Thinking does not seem to be fully acknowledged in the Ministry (#16-1, P31). This perception is backed by the design agency's project leader, who has worked closely with the division's team. In the design consultant's view, the Ministry reduces Design Thinking to a process and does not recognise that design skills are needed to implement its steps (#27, P32): For ethnographic research, for example, you need ethnographers (#27, P34). In Singapore, designers seem to play no role in Design Thinking since the methodology is applied by non-designers (#27, P32). According to the design agency, the emphasis on the process can be linked to the fact that in Singapore, unlike in the United States, Design Thinking is not rooted in a design culture (#27, P73). The design consultant, however, underlined that the approach consists of tools and culture and building such capabilities takes time (#27, P34, P73).

> '*You can't just do these things because you know Design Thinking. I think that is the biggest fallacy* [of] people's perception of Design Thinking.' (#16-1, P31)

> 'They think that Design Thinking is just a process, a four-step process. [...] **But as much about Design Thinking is about tools, it's about culture** actually as well, but that's where it flourishes, cooperation, diversity, starting with a great question, not starting with an answer so they're taking it very figuratively Design Thinking here is what are we saying.' (#27, P32)

This lack of skills is contrasted with the expertise of the design agency. Members of SDD A claim that the Ministry is unable to replicate the design agency's version of Design Thinking because they lack the skills (#15, P79). They compared themselves to amateurs vis-à-vis the design agency (#15, P73, P75). When SDD A members started to work with the design consultancy, they associated Design Thinking primarily with that consultancy because it had coined the term (#15, P79), but they later learned that many versions of Design Thinking exist in the U.S. (#15, P79).

'A lot of what we do is [...] a rub off what [the design agency] previously did. [...] Because I don't think we are that experienced in the entire…, we know the steps [...] of the process but I doubt we are really that deeply-skilled in [...] carrying out those steps. [...] We have various levels of skills.' (#15, P79)

PARTIAL DE-EMPHASIS OF THE PRINCIPLE OF USER-CENTREDNESS

Another instance of filtering by removal is SDD A's partial de-emphasis of the principle of user-centredness (#5, P29; #21, P79). For example, sceptics claimed that a government agency does not need to provide a great service – after all, its customers have no choice (#5, P29). This reflects the difficulty of changing people's mindset, because the Ministry had been driven by processes, not people, in the past (#16-1, P70). With regard to applying the principle of user-centredness, an SDD A member mentioned that the department could benefit from questioning the needs and purpose of its work more instead of immediately jumping at solutions (#16-1, P68). It appears that it is generally up to the government to decide if the principle of user-centredness will be applied. The Ministry chooses which cases are 'deserving' and then provides an adequate service (#21, P79). There are also political constraints in terms of policy changes, with increasingly restrictive regulations making it ever more difficult to please customers (#21, P33).

Moreover, SDD A seems to be far from involving all relevant stakeholders in their projects. For example, it did not work closely with vendors while re-designing user interfaces (#15, P83). This is both a divergence from the principle of user-centredness as well as a de-emphasis of Design Thinking's collaborative approach.

LIMITATIONS OF PROTOTYPING AND TESTING

Service Delivery Department A downplays both prototyping and testing (#15, P75, P89), perceiving Design Thinking's emphasis on iterative and low-resolution prototyping as difficult to implement. When it does engage in prototyping, it usually produces high-resolution prototypes that are so advanced that they really cannot be changed (#15, P75, P83, P89). The design of a user interface, for example, is outsourced to a vendor who is expected to deliver a coded, clickable prototype (#15, P83).

*'In fact, [...] to be frank, we were not able, **we were not so successful in doing repeat prototyping**. [...] **Either it's not repeat or it's not a prot**otype because [...] the way that our practise is, [...] by the time, when we said we want a prototype to the vendor, it was so high-resolution work-up. It was almost like you can't really change much already. It was something that we're still fighting back.'* (#15, P75)

Furthermore, prototyping and user testing seem to be difficult to implement because of time constraints. There is often parallel testing and building of solutions which means that there is little room for testing and iterations (#15, P101). Full customer validations are rarely executed (#15, P101). Members of SDD A reported that they are under pressure to find solutions and solve problems immediately, which makes it difficult to adhere to the trial-and-error experimentation associated with Design Thinking (#16-2, P20, P68). On the other hand, during the pilot phase the staff resisted the introduction of a new delivery channel, arguing that prototyping was a waste of time and money because the existing service levels were sufficient (#5, P29).

'Even when we say we are testing with people and we are validating with customers, they are actually parallel track. [...] When [...] somebody comes out with a solution, and we say, 'Let's go and test with customers', I can bet you that there's a parallel track this thing is already being coded by a programmer somewhere. Because they are rushing for time.' (#15, P101)

Similarly, the principle of iteration is de-emphasised. The iterative way of working does not seem to fit the prevailing mindset of said-and-done solutions. Current processes are said to be unsupportive of iterations because such iterations can undo investments in previous solutions, which is usually considered arduous and painful (#15, P123). Therefore, the Ministry has not been able to implement the iterative prototyping approach associated with Design Thinking (#15, P75).

> *'But for Design Thinking, there is always this notion of […] things are always evolving, a lot of things are iterations of each other. You need to […] iterate on the move so those are things that makes it very difficult because we tend to prefer things being locked-in. We cannot accept […] things would have too many iterations.* **Our processes are not supportive of iterations.** *Yes, we can iterate but it would mean that you have to go through everything again and it's very, very painful. […] Because of that people don't really like to iterate.' (#15, P123)*

Members of SDD A also reported a number of difficulties that seem to hamper the application of Design Thinking (#15, P123; #16-2, P44, P81). Some bureaucratic practices do not seem to support Design Thinking (#15, P115), including procurement practices, the notion of responsiveness, time pressure and a risk-averse culture (#15, P117). Current processes in the Ministry are believed to make rapid change impossible, which discourages people from giving feedback (#16-2, P50). The risk-adverse culture discourages employees from going out and trying something new (#16-2, P16). Furthermore, civil servants are said to be neither incentivised nor prepared for change (#16-2, P6, P8, P59). This seems to be amplified by the command-and-control culture ingrained in Singapore's civil service, whose hierarchical structure is said to hamper bottom-up innovation (#16-2, P14). Members of SDD A therefore see the biggest challenge in the cultural change that needs to happen (#21, P17, P21). However, high work-loads and time pressure in operational divisions relegate innovatory activities to an extracurricular activity (#16-2, P10, P73), which means the Ministry does not seem to be set up to innovate on a daily basis (#16-2, P14). So far, no fundamental change in working practices seems to have taken place (#16-1, P66). These implementation circumstances affect the translation of the methodology and, as described above, result in filtering, that is, the removal of elements of Design Thinking.

Reframing in Service Delivery Department A

As outlined in the analytical framework, reframing refers to the discursive alignment with local myths, past history, social movements or current trends and/or changing the area of application in order to make the globalised concept or imported practice more acceptable in the new context (Boxenbaum & Gond, 2014: 316; Gond & Boxenbaum, 2013: 713).

In terms of reframing, SDD A's business problems, such as the re-design of the IT service and the set-up of two new service centres, motivated the search for a new approach and methodology (#5, P123; #16-1, P87, P100; #21, P7). This search began in 2008 and 2009 with Business Process Re-engineering (BPR), which revolved around re-designing the processes and enhancing the customer experience (#15, P3). The department had undergone different rounds of BPR since the mid-90s, all of which had focused on

improving efficiency. The new round's goals were different, as the department was already highly efficient but was still confronted with unsatisfied customers. SDD A's Director aligned the introduction of Design Thinking with the current business problems as follows:

> '[W]e reached sort of a plateau somewhere in 2009 when we were looking for what else can we do […]. We have reached highest efficiency, what else can we [do] to really transform the service we give to our customers? […] And I was looking for beyond just process-oriented kind of changes. Could I be looking more holistically as to whether or not there can be a whole value chain of transformations that can happen? […] So, this time around I got serious and I said, 'Look, I need something new', and I wanted something totally different. And at about the same time there were [a] few things that needed fixing. One was our IT systems. We needed to revamp our IT systems, so we were looking for something new […] to really bring about the next quantum leap. And we were also setting up new service centres.' (#21, P5-7)

ALIGNMENT WITH TASK RELEVANCE

SDD A appreciates the potential of Design Thinking because it is the biggest customer-facing division, serving a diverse group of customers and consisting of many different sections (#21, P33, P79), with the department handling 80 percent of the Ministry's ever-increasing customer volume (#21, P75, P79). Moreover, customers seem to be becoming more demanding and thus more difficult to manage for the Ministry, apparently necessitating a user-centred approach to service delivery (#21, P79). This reframing constructs Design Thinking as a necessity of dealing with the high customer volume as well as a more demanding customer base (#21, P75).

> 'So, we are the most, the biggest customer-facing [division], diverse group of customers, many, many segments, and therefore I suppose we are the ones with the biggest potential for Design Thinking and therefore it makes sense that we have actually exploited it.' (#21, P33)

> 'But for us I think [Design Thinking] is a necessity because our volumes keep up so much and if we didn't do anything we wouldn't be able to cope.' (#21, P75)

ALIGNMENT WITH EXISTING CUSTOMER ORIENTATION

When the Ministry was set up in 1998, it was oriented towards service innovations and learned about the design agency (#21, P7). However, at that time the Ministry was not structured in a user-centred way (#21, P17, P33). Design Thinking has helped SDD A to reframe what it means to be customer-centred, an approach that includes considering both internal and external people (#16-1, P41). In that sense, Design Thinking has been aligned with the Ministry's existing service and customer orientation to increase its acceptability.

SERVICE-DRIVEN APPLICATION OF DESIGN THINKING

In SDD A, Design Thinking can be applied mainly to service-driven areas (#2, P63). Compared to other departments, SDD A has applied Design Thinking to a broad range of projects. After the re-design of a customer-facing service centre (#16-1, P31, P57), SDD A scoped out five more project clusters with the support of the design agency: 1) a new service blueprint (#21, P45), 2) a second customer-facing service centre, including streamlining the registration process (#16-1, P57), 3) the re-vamp of IT systems (#5, P17; #15, P3; #16-1, P59; #21, P17), 4) the re-design of offline communications (mainly letters to customers) (#5, P17; #16-1, P46, P57; #27, P17) and 5) policies (#5, P6-P8). Of these projects some, like the second service centre and the re-design of communications, have been implemented.

SDD A employed Design Thinking to enhance the customer experience (#16-1, P3), by for example redesigning service delivery flows from a user's point of view (#16-1, P46; #21, P45). The introduction of Design Thinking is aligned with the department's need to rethink the customer experience as part of the Business Process Re-engineering process. The aim was to exceed speed-, efficiency- and process-oriented changes and instead focus on the customers and more qualitative outcomes (#15, P3; #16-1, P3, P10; #21, P5). Enhancing the customer experience was considered a differentiator in the global competition for talent (#21, P5). SDD A knew it needed external support and collaborated with the design agency because it felt its members were not yet 'leaders of service excellence' (#16-1, P10; also #15, P69). Enhancing the customer experience in SDD A also revolves around changing the way the Ministry communicates with customers, including, among other changes, re-writing the letters sent out to customers with the help of a copywriter from the UK (#15, P3; also more detailed #5, P7-P8). Better customer experience is also claimed to be the motivation behind the new IT processes and the improved usability (#5, P6; #15, P3). In addition, Design Thinking is supposedly relevant during policy implementation because it can help practitioners anticipate customer expectations and concerns (#25, P96). In that way, it is aligned with the Ministry's service delivery and policy implementation focus, as well-implemented policies show how well the Ministry can provide services to the public (#25, P94). Design Thinking is thus framed to enable policy implementation and service delivery.

As an outcome of one of their Design Thinking projects, SDD A also underwent some organisational re-structuring to become more customer-oriented. SDD A clustered its service delivery units by industry sector in order to better meet its customers' needs (#16-1, P57, P59; #21, P17; #27, P17) and introduced a new Customer Experience Planning Strategy Department in 2011 to oversee and plan all of the division's matters related to the service experience (#15, P9, P11).

> '[W]e realised that we were designed according to our processes. **So if we are designed according to our processes then the customers are at best secondary and not at the center.** So if customers are at the center of how we are structured, what does that look like? So we actually redesigned the org structure for [SDD A] and we have implemented that as well.' (#16-1, P57)

The Service Delivery Department A therefore reframed Design Thinking by aligning it with its aim of improving the service experience for customers and achieving service transformation (#16-1, P6, P10, P12; #21, P33, P75). Members of the BPR team in SDD A claim that they were looking for an approach that would be 'radically different' from the traditional methodologies offered by consultants, (#16-1, P10, P19) but could not find one on their own (#16-1, P12).

> 'The other thing that I felt to mention was we knew that we wanted a breath of fresh air. We knew that we did not want to go down the same path, traditional methodologies that consultants would tell us. "Yeah, I do a focus group discussion and then you measure blah blah". We knew that we don't want any of that, we really wanted a new methodology, a new path.' (#16-1, P19)

SERVICE CENTRE AS A FRAME FOR SUBSEQUENT TRANSLATIONS

Before SDD A entered into its long-term partnership with the design consultancy, the design consultancy executed a pilot project that demonstrated the use of Design Thinking. This pilot project revolved around the re-design of a service centre, and its improvements to the customer experience were subsequently considered a huge success (#15, P57, P75; #16-1, P27, P31, P44; #21, P13, P17, P43; #25, P4, P76). Hence, the service centre re-design seems to have proved the value of Design Thinking to SDD A (#15, P59; #16-1, P31; #21, P17). The further adoption of Design Thinking by the Service Delivery

Department A as well as by the wider organisation has been attributed to this initial 'proof of concept' (#25, P76, P90). The service centre and other projects in SDD A made Design Thinking tangible and showed results, which created traction for Design Thinking (#16-1, P27).

> *'[The service centre] was a very quick demonstration of what Design Thinking process was about. I think that sort of helped us not only understand [...] the process more but saw how this approach could actually solve a lot of our today's problems.' (#15, P59)*

The pilot project's strong focus on service design and customer experience seem to have shaped the subsequent translation and use of Design Thinking in the Service Delivery Department A and other parts of the organisation, thereby perpetuating the service-driven application of Design Thinking.

PERCEIVED SUITABILITY AND NON-SUITABILITY OF DESIGN THINKING

In SDD A, Design Thinking is considered suitable for some projects but not for others (#5, P74, P76; #25, P72, P146). Members of SDD A perceive Design Thinking as one tool in their toolbox, not as a magic bullet (#15, P135; #16-1, P27, P34) and therefore do not consider it as a cure-all methodology (#5, P74). In their view, different tools and methodologies should be applied to different problems (#15, P135; #16-2, P91).

SDD A members consider Design Thinking suitable for projects that are not too sensitive to be revealed to the public (#25, P74) as well as those aspects that directly impact customers, e.g. customer service, customer experience and service innovations (#25, P74). Design Thinking is therefore aligned with SDD A's portfolio, which involves dealing with customers (#21, P75; #25, P74). Meanwhile, Design Thinking may not be as relevant for less volume-driven divisions or those that believe that existing service levels are of sufficient quality and feel no burning desire to change (#21, P75). Similarly, Design Thinking may be less relevant for divisions that already have customer or stakeholder engagement procedures and institutions in place and those that do more promotional and marketing work, which is less confrontational than the regulatory work of SDD A's portfolio (#21, P77). Projects with more autonomy and permission to design a service are said to be suitable for Design Thinking (#15, P111). Moreover, it seems to be easier to prototype services (experiences) than to prototype policies (#21, P39).

> *'[Projects] which ha[ve] an impact on customers, like for instance customer service, those projects to me are very good for, are very good Design Thinking projects. [...] Customer service, [...] what else, like for instance in [SDD A], we're quite big on Design Thinking because our daily work involves us having to deal with customers, right? So, to me, that, this is a, this department is a very good test vehicle for Design Thinking projects, yeah. Like [...] service innovations, [...] how do we actually enhance the customer experience, those, those kind of type of projects are very good Design Thinking projects, in my opinion, yeah.' (#25, P74)*

The design agency had much experience applying Design Thinking to service delivery for many private sector projects, for example for banks, hotels etc. (#27, P95). This might explain why the Service Delivery Department A more easily adopted the methodology, as it could relate the design agency's work for previous clients to its own context.

> *'Service delivery is no-brainer because we deal with it all the time in the private sector. It's like we can design anything here, from car showroom, [...] to hotels, we designed a [00:54:48] of hotels so many banks, it's unbelievable at that time, so it's, so it's kind of across financial services globally, hospitality globally, and all of these big service areas that we've been doing for years, it's a, it's a bit of no-brainer on that.' (#27, P95)*

On the other hand, SDD A members do not seem to see much scope for using Design Thinking in enforcement work (#21, P35).

DESIGN THINKING USED FOR HIGH-IMPACT, NOT DAY-TO-DAY, PROJECTS

The SDD A seems to reserve Design Thinking for high-impact projects and projects implementing larger changes (#5, P89, P93; #15, P83, P87), mainly citing organisational constraints in terms of peoplepower, time and money as well as the nature of the problem. The department assesses Design Thinking as resource-heavy and its process as time-consuming, especially the user research part (#5, P89, P93; #15, P107). Limited resources mean that SDD A can only apply Design Thinking to selected, prioritised projects (#15, P111; #25, P180). Because people are more receptive to bigger projects with a higher impact, e.g. to conduct user research or do prototyping, it is easier to get resources for these projects (#15, P89).

> 'It is more for the projects that we decide whether it is worth it to use Design Thinking, because Design Thinking for us, it definitely needs more resources, being manpower or time or money, which is not something that we have a lot of, especially for my division.' (#5, P93)

SDD A members consider Design Thinking applicable to projects that seem to defy simple solutions, are recurrent in nature and have no clear scope (#15, P93, P107, P111). However, these projects are more of an exception than the rule in the daily course of their work (#15, P111). Design Thinking thus seems to be best suited for the 'game changers' (#5, P93), for the so-called 'wicked problems' (#15, P89, P125). They are wicked problems in the sense that many solutions have been tried and failed but the problem remains. One example of such problems is the Ministry's issue with frequent callers (#15, P93), and in one of the Design Thinking projects, the Ministry tried to understand why people frequently called the hotline instead of using the its website and did not want to self-service. Another reason for the use of Design Thinking for high-impact projects might be that the stakes are high and people cannot afford to fail (#15, P83, P87).

On the other hand, Design Thinking is said to be unnecessary for incremental changes, for problems that can be quickly fixed (#15, P125) or day-to-day (operational) work (#5, P89, P93). Furthermore, choosing DT for the wrong problem could lead to the impression that the approach does not work when the issue may lie with the problem itself or a lack of will in implementing solutions (#15, P127). One of the design consultants confirms that applying Design Thinking to the wrong problems could undermine the methodology (#27, P71).

> '[Y]ou cannot use Design Thinking for everything. [...] The incremental innovation [...] are like the things which we fix, you don't need Design Thinking to solve [them]. [...] I think a lot of the problems today we face is such, just needs to be fixed. [...] Design Thinking is really good for the game changers, where you are really [...] stuck in the seven locks and you get out. [...] I think Design Thinking is powerful, in this sense. We don't get a lot of these such challenges there. [...] We don't always throw Design Thinking at a problem. We only throw it at the wicked ones or what-not.' (#15, P125)

As a result of SDD A's reframing, the department applies Design Thinking not to all problems but only to a selection of high-impact ones.

Moreover, Design Thinking has been aligned with the political situation in Singapore (#16-1, P27, P37, P52; #16-2, P26). Citizens are described as increasingly more vocal in voicing their dissatisfaction, e.g. via social media (#16-1, P37; #21, P79). There seems to be a lack of trust between civil servants, the party and the citizens which requires a new approach and Design Thinking is seen as a methodology suitable for reconnecting with citizens (#16-1, P27, P37, P52; #16-2, P26, P28, P91).

> *'I think personally for me, I think right now we are probably at a stage where people have seen the benefits of design thinking in terms of redesigning your services, your processes. But I think there is so much more potential in terms of redefining your relationship with your constituents.' (#16-1, P52)*

> *'[C]ivil service needs to find a different path, in terms of how we work, in terms of how of we connect with our citizens [...] which is why I think at the end of it is the importance of Design Thinking. Because Design Thinking is a methodology that provides the mechanism and it is appropriate tool, right, for where we are at this point in time.'(16-2, P91)*

Design Thinking is said to be especially useful in the current political climate, a usefulness it might not have had ten years ago when public service was concerned with efficiency and relied on Six Sigma as a suitable methodology (#16-1, P37).

> *'So I think it's a good reminder especially at the point where things are shifting, people are really becoming unhappy because, they are also becoming more vocal and also social media etc. etc., they are all elevating the points of mistrust. So I think this methodology really helps us to go deeper, like 'When people say this, what do they exactly mean? And why are people saying this?' [...] Which is why I say at this point in time, maybe 10 years ago design thinking may be not so useful because then we were really very concerned about efficiency. We were coming from a place where it was about [...] industrial revolution, it was Toyota, Six Sigma, how do you make sure that your whole process is like, make sure there is no waste, every step is a value added step blah blah blah, so it was very efficiency-driven, which is not wrong, and at that point in time it probably served us well. But after you move from there, then where next? [...] The dynamics have basically all shifted and I think we need to try and make sense of what all this means to us in our work.' (#16-1, P37)*

This view is confirmed by the design consultant who describes Design Thinking as contrary to the previously adopted methodology of Business Process Re-engineering, which is about optimising internal processes, does not take into account citizens' needs or experiences and is more efficiency-driven. Interest in Design Thinking seems to have been sparked during a time of growing mistrust between the government and its citizens, with citizens becoming ever more dissatisfied and the government deciding on behalf of citizens according to what its public servants think best – a problem that is by no means specific to Singapore but endemic to the public sector (#27, P3). Design Thinking is therefore aligned with the Singapore's government's perceived need to connect more with its citizens and to better serve their needs (#27, P3, P65).

ALIGNMENT WITH CIVIL SERVICE NOTION OF SERVICE FOR OTHERS

In SDD A, Design Thinking has also been discursively aligned with a civil service identity that prides itself on serving people, in contrast to the existing situation where it seems that civil service exists to serve its own processes (#16-2, P28). The user focus of Design Thinking is therefore linked to the professional 'aim' or 'ideal' of serving people in civil service. Design Thinking is believed to enable the Ministry to be(-come) a better civil service that functions in a more user-centred way (#16-1, P37; #16-2, P91).

> *'[Design Thinking] is, I think, I think it is a big reminder that all we do is in service of people, right? But that is, oh, internal staff or external customers, external stakeholders. At the end of the day, this is the civil service. It's about people. We don't, we don't exist to serve objects, right. We don't exist to build roads. We don't exist to dish out postcards. We exist to serve people. So, what does it mean if you exist to serve people? Because right now, it really feels like we exist to serve our processes. We exist to build the infrastructure. But that's not, that's not right. But that's not what civil service is here for' (#16-2, P28)*

This kind of reframing elevates the relevance of Design Thinking for the civil service because it links the principle of user-centredness directly to what is believed to be the essence of civil service, namely serving people.

REFRAMING AS A WAY TO ENABLE INNOVATION IN CIVIL SERVICE

Members of SDD A also frame Design Thinking as an innovation methodology that supposedly helps the Ministry to better prepare for the future (#16-2, P26, P59; #21, P45). They thus regard Design Thinking as enabling civil service to implement the changes and innovations that the political situation in Singapore has supposedly made necessary (#16-2, P26, P91).

> *'And I think Design Thinking helps us think about what is the path that we should take. It is not about taking the Design Thinking path. It is about finding methodologies that we think can help us to make sure that we […] are setting ourselves up for success in the next ten to twenty years. [...] And right now, we seem to be at that transitional stage which makes it very hard because everything is in flux. […] So, I think Design Thinking really it's about enabling that change and innovation that needs to happen in civil service. Because if we are to continue the path that we have been on, we know that it's not going to work.' (#16-2, P26)*

REFRAMING AS A FOREIGN CONCEPT

A member of SDD A mentioned that during his first encounter with Design Thinking in the early 2000s, the methodology seemed very 'American' (#15, P15) and rather unattainable because it was so different from how the Ministry worked (#15, P17). When SDD A enlisted the design agency a few years later, there was some resistance towards new concepts from the U.S., such as calling people by their names instead of issuing numbers in the service centre (#15, P61). Design Thinking also seemed 'too fluffy a concept' for Singapore's civil service (#16-1, P31). The design agency thus encountered difficulties when it tried to reframe civil service work as a deliberate act of designing processes, services etc. (#16-1, P31).

> *'I think a lot of what they were trying to do is to help civil servants, think of ourselves as designers. Because we actually do design processes, we design services but we never ever think of ourselves as designers, we are always policy makers, processing officers but we will never call ourselves designers because it's too fluffy a concept for civil service.' (16-1, P31)*

ABANDONMENT OF DESIGN THINKING LABEL

Another form of reframing, apparent in this case, is the fact that the label of Design Thinking is sometimes abandoned altogether, although the principles and process are still being followed. In Service Delivery Department A, this has happened over time as the hype around Design Thinking has dwindled. Such re-naming[28] – or better de-branding – has enabled the continued use of the approach

---

[28] Re-naming is not part of Boxenbaum and Gond's (2014) model but has been described by Røvik (2011) as a translation rule.

and has thus prevented it from becoming perceived as just another 'flavour-of-the-month' A (#25, P162, P216, P224).

> *'I would say that* **Design Thinking is still part and parcel of [SDD A], even though we don't call it Design Thinking,** *but nowadays when, whenever we want to start out a new project, right, I mean we wouldn't call it Design Thinking, but we'd say that, 'Okay, we want to roll out this project. How about we go ahead and do some ground sensing from the customers'. To me, that's Design Thinking, even though you don't want to call it Design Thinking, but to me that's empathy, that's listening to customers. And after listening to them, you know, the people on the ground, okay, maybe we start, we prototype first [...]. So to me, that's Design Thinking, even though they may not call it Design Thinking.' (#25, P162)*

Bricolage in Service Delivery Department A

Bricolage refers to the integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalised construct or imported practice in this context (Boxenbaum & Gond, 2014; Gond & Boxenbaum, 2013: 713).

INTEGRATION OF PROTOTYPING WITH EXISTING NOTION OF PILOTING

SDD A integrated Design Thinking's prototyping with the existing notion of piloting. While prototyping was not considered a new concept, it had previously been neither consciously applied nor ingrained in people's minds (#25, P166, P178). However, the past notion of piloting implied that a solution was ready for implementation, whereas prototyping refers to experimenting and being open to trying out new approaches (#16-2, P20). Design Thinking seems to have increased the use of piloting before full-scale implementation (#25, P168, P172). SDD A therefore employed bricolage by aligning the new practice of prototyping with the existing practice of piloting. It did so by expanding the notion of piloting beyond a public consultation exercise and integrating testing into earlier parts of the design or review process.

Moreover, SDD A does not regard the Design Thinking elements of synthesis and ideation as something new; rather, Design Thinking seems to have brought its members a new appreciation for the skill set and experience required to effectively synthesise interview data (#15, P73).

INTEGRATION WITH AGILE SOFTWARE DEVELOPMENT METHODOLOGY

One of Service Delivery Department A's cluster projects was overhauling the existing IT systems, which were no longer deemed adequate to administer and enable the online services of the Ministry (#21, P17). This included a departure from the waterfall method of programming, which predefines which features are to be implemented and spells out specifications before any involvement on the part of the programmers. In its place, SDD A adopted a new approach of agile development. Agile software development consists of shorter cycles of development (so-called 'sprints'), iterations and refinements along the way, continuous prototyping and user testing. In that regard, it exhibits some similarities with Design Thinking. The project team in charge of the IT system re-design therefore aimed at integrating both approaches (#21, P17, P31), believing that Design Thinking's focus on empathy and user-centredness would ensure the development of the IT systems in alignment with user needs (#21, P31). IT systems were seen as an extension of customer service, their function lying only in enabling a good online experience (#21, P31). Moreover, SDD A believes that Design Thinking helped the team to come up with a new organisational design to support the new IT working practices (#21, P31).

'For us to have a good online experience, we also need to know what the customer wants. And to get to know what the customer wants, you need to have Design Thinking skills […]. *The other part is the organisational design, the design that has to support the new IT working practices which has to be also founded on Design Thinking.' (#21, P31)*

SDD A employed bricolage to merge two newly adopted practices, namely Design Thinking and agile software development, rather than integrating a new practice with an existing one. In this case, Design Thinking did not dock onto something already rooted in the organisation but instead carved out space to fit in another recently introduced practice. Agile software development was taken up approximately five years after Design Thinking was first introduced into SDD A. One can therefore assume that this kind of bricolage occurs in later phases of adoption.

Summary of the Service Delivery Department A's translated version of Design Thinking

How did Service Delivery Department A translate Design Thinking? This subchapter summarises which aspects of Design Thinking have been filtered, reframed and integrated into this first mover division of the Ministry (see Table 6).

Design Thinking's translation in Service Delivery Department A was influenced by the close collaboration with, and exposure to, the design agency's version of Design Thinking. Filtering by emphasis therefore shows a comprehensive understanding of the methodology, an emphasis on the user research and empathy phase, the principle of user-centredness, the elements of prototyping and testing and the principle of iteration. This interpretation comes very close to the design agency's template of Design Thinking. Other Design Thinking elements are highlighted to a lesser degree, such as synthesis, ideation, visual thinking and storytelling. SDD A members also emphasise Design Thinking as a culture of innovation.

Filtering by removal takes different forms in SDD A. Members of SDD A speak of a modular use of the Design Thinking process and elements and attribute this to a lack of design skills and experience in the organisation. The principle of user-centredness is also partially de-emphasised. Moreover, SDD A members see limitations for prototyping and testing as well as the principle of iteration. What is more, implementation difficulties, such as administrative procedures and a command-and-control culture, seem to impede a full use of Design Thinking.

SDD A employs reframing by aligning Design Thinking with its business problems and task relevance, as SDD A represents the biggest customer-facing division and has to deal with a diverse customer base. Design Thinking is also discursively linked to an existing customer orientation. SDD A's translation has been a primarily service-driven application and the allegedly successful Design Thinking pilot of the service centre re-design has been used as a frame for further translation. This has also influenced how SDD A members have perceived Design Thinking's suitability and unsuitability for certain types of work. SDD A has used Design Thinking for high-impact rather than day-to-day projects. Furthermore, Design Thinking has been aligned with the political situation in Singapore, linked to a civil service notion of service for others and framed as a way to enable innovation in civil service. However, it has also been perceived as a foreign concept coming from the U.S. What is more, some SDD A members have abandoned the Design Thinking label but stick to the principles in order to avoid resistance associated with the hype around the methodology.

In terms of bricolage, Design Thinking's prototyping element has been coupled with the existing notion of piloting. This has shifted the focus towards real testing instead of informing the public and finding ways to communicate government action. It has also moved the testing of ideas to an earlier phase of policy implementation. Another instance of bricolage can be seen in the attempt to merge Design Thinking with the new methodology of agile software development in the overhaul of the Ministry's IT systems.

Table 6: Translation of Design Thinking in Service Delivery Department A

TRANSLATION ACTIVITY	SERVICE DELIVERY DEPARTMENT A
(1) Filtering	
(1b) Filtering by emphasis Emphasis on or highlighting of specific elements that could be perceived as 'congruent' with the new context.	Comprehensive definition of Design Thinking Emphasis on user research and empathy phase Emphasis on principle of user-centredness Emphasis on prototyping and testing Emphasis on the principle of iteration Emphasis on other Design Thinking elements: synthesis, ideation, visual thinking, storytelling Design Thinking as a culture of innovation Collaboration with design agency linked to 'copying'
(1a) Filtering by removal Removal or downplaying of elements that could be perceived as 'incongruent' with the new context.	Emphasis on modular use of the Design Thinking process and elements Lack of design skills and experience hampers use of Design Thinking Partial de-emphasis of the principle of user-centredness Limitation of prototyping and testing De-emphasis of principle of iteration Implementation difficulties impede full use of Design Thinking
(2) Reframing Discursive alignment with local myths, past history, social movements or current trends and/or change of use/ area of application in order to enhance perceived usefulness/ acceptability in the new context.	Alignment with SDD A's business problems Alignment with task relevance Alignment with existing customer orientation Service-driven application of Design Thinking Service centre as a frame for subsequent translations Perceived suitability and non-suitability of Design Thinking Design Thinking used for high-impact, not day-to-day, projects Alignment with political situation in Singapore Alignment with civil service notion of service for others Reframing as a way to enable innovation in civil service Reframing as a foreign concept Abandonment of Design Thinking label
(3) Bricolage Integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalised construct in this context.	Integration of prototyping with existing notion of piloting Integration with agile software development methodology

Comparison of the Design Thinking template and Service Delivery Department A's translated version

Based on the analysis of the divisional translation of Design Thinking in this chapter, this section compares the template of the design agency (see Chapter 4.1.2) with the translated version of Design Thinking in Service Delivery Department A.

MINDSET AND PRINCIPLES

Service Delivery Department A members emphasise the principles of 'empathy' and 'human-centredness' included in the design agency's version of Design Thinking. Moreover, in their translation of Design Thinking, SDD A members also refer to the design agency's principle of 'learning from failure' and its 'experimental' mindset, which they associate with failing early and safely, starting small and learning from mistakes. With regard to the principle of 'making', SDD A members emphasise the mindset of doing instead of talking and a culture of experimentation. However, they find it difficult to apply the 'iteration' principle, citing time pressure. Similarly, the design agency's principle of 'creative confidence' is somewhat downplayed, as SDD A members feel they lack the necessary skills to appropriately exercise each step of the Design Thinking process. 'Optimism' and a 'collaborative' mindset are not explicitly mentioned in SDD A's translated version of Design Thinking. Whereas SDD A members emphasise the notion of experimentation, they also recognise the difficulty of changing the current mindset toward 'embracing ambiguity' and trusting in an open-ended process. What is more, SDD A's translation of Design Thinking acknowledges the role of creative spaces and materials. Table 7 summarises SDD A's translated Design Thinking principles.

Table 7: Translated Design Thinking principles in the Service Delivery Department A

DESIGN AGENCY TEMPLATE	TRANSLATED VERSION
Empathy, human-centred	+++
Optimism	+/-
Iteration	-
Creative confidence	-
Making	+
Embracing ambiguity, experimental	+/-
Learning from failure	+
Collaborative	+/-
Role of creative space and material	+

+++ strong emphasis   ++ moderate emphasis   + minor emphasis   +/- indifferent   - minor de-emphasis

PROCESS

Service Delivery Department A has applied all steps of the Design Thinking process across a number of projects (Figure 20). This does not mean that every step is carried out in each project, but members of SDD A have practiced the Design Thinking process from the inspiration to the implementation phase, for example during the redesign of one of the service centres. SDD A members particularly emphasise the user research and prototyping parts of the process and highlight the added value of the synthesis part, which the design agency refers to as 'interpretation' phase in their process model.
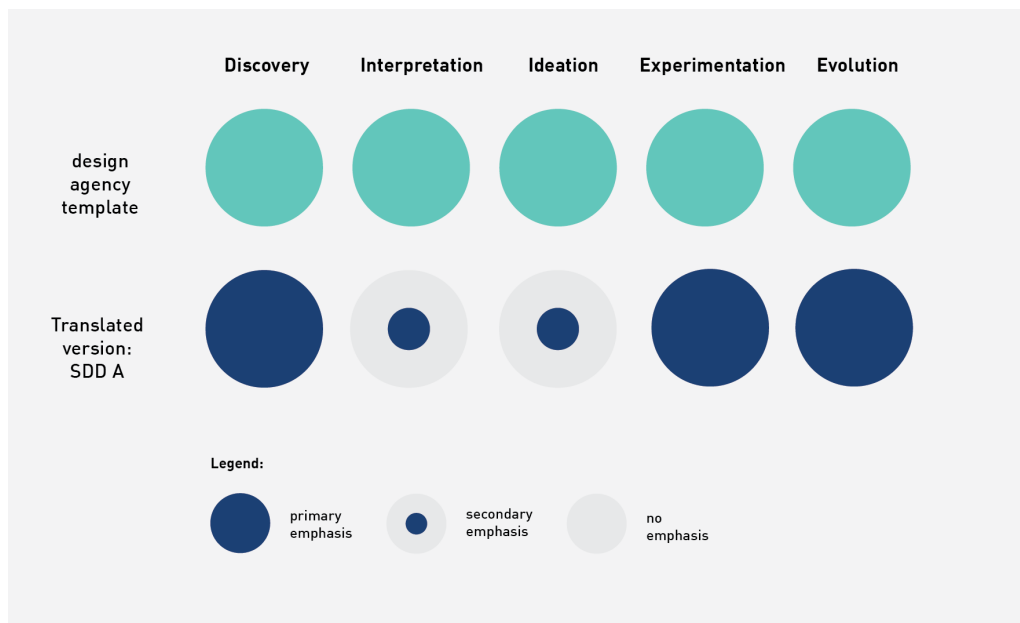
Figure 20: Translated Design Thinking process in Service Delivery Department

Nevertheless, SDD A members call for a modular use of the Design Thinking process. Due to time constraints, they propose using Design Thinking for selected projects, such as those that have a high impact and effect large changes. Overall, SDD A's translation of the Design Thinking process is very close to the design agency's version of Design Thinking.

METHODS AND TOOLS

As part of their collaboration with the design agency, members of the project team in Service Delivery Department A have been exposed to the tools and methods used during the different stages of the Design Thinking process. Although SDD A members mainly use qualitative in-depth interviews, they mention other user research tools, such as videotaping customer journeys, shadowing as an observation technique or utilising analogies from other industries and contexts as an inspiration. Studying extreme or frequent users is another technique applied to gain deeper and surprising insights. This interpretation of user research methods is based on the design agency's version of Design Thinking, as all these tools are mentioned in their toolkit (compare Chapter 0). During the synthesis phase, SDD A members have used techniques such as 'downloading learning' and 'sharing inspiring stories', both of which are described in the design agency's toolkit. With regard to prototyping tools, SDD A members have used a range of different types of prototypes, including paper prototypes, spatial physical prototypes, role-play during the service centre test run and clickable digital prototypes. SDD A's translation of prototyping prefers high-fidelity prototypes, for example in the form of digital mock-ups of websites. Low-resolution prototypes seem to be less accepted, in part because SDD A members feel that the time pressures of most projects make iterative prototyping impossible.

In sum, SDD A members seem to be aware of a range of Design Thinking tools, based on the design agency's version, but do not feel confident enough to apply them all.

4.2.2 Design Thinking in the Corporate Planning Department: The early adopter

Filtering by emphasis in the Corporate Planning Department

Comprehensive definition of Design Thinking

When defining Design Thinking, interviewees from the Corporate Planning Department (CPD) refer to the whole process of Design Thinking that they learned from the d.school Stanford (#2, P47; #6, P25). CPD therefore employs a comprehensive definition, including user research and synthesis, ideation, prototyping and testing (#2, P188, P190; #24, P315; #25, P122).

> *'Design Thinking creates a culture where it makes it safe for people to fail early at the start of the project. And [...] really to me, it's really about understanding empathy, right. Empathy is really understanding customer's expectations, listening to them, right, and understanding their concerns, right, and they are after, right, take all these [...] concerns and feedback into considerations and then you, you develop prototype, and iterate along the way. So, to me at the end of the day, it's not about a finished project, it's an evolving project, yeah, because we are always, [...] trying to make improvements, so, it's an on-going kind of iteration, so to me that's Design Thinking, yeah. It's about always continuous improvements, you know.' (#25, P122)*

This faithful interpretation of Design Thinking can be linked to CPD's exposure to the d.school Stanford's initial training led by Stanford professors. Moreover, educational material from the d.school Stanford is still used for internal training (Design Thinking training slide decks by CPD, 2013).

Primary emphasis on user research and the empathy phase

Whereas members of the CPD refer to a broad definition of Design Thinking, they predominantly highlight the empathy part when discussing its use in the Ministry (#1, P13; #2, P47, P98, P100; #3, P9, P11, P25; #7, P79; #22-2, P7; #23, P401; #24, P313). The empathy part is also most commonly applied in the Design Thinking projects supported by the group of Design Thinking facilitators.

> *'I think from the Ministry's point of view, a lot is from the empathy part; […] there is a bit of emphasis on prototyping, so increasingly a bit more emphasis on prototyping, but not so much. I think the **stronger emphasis is still on the empathy part, on understanding customers**.' (#3, P9)*

> *'**The key thing [...] that's being propagated is of course, empathy because we deal with people**. We're talking about […] issues that are close to their hearts. So, empathy is the very first part, that will help us in dealing with these customers.' (#24, P313)*

> *'[A]t this stage, we find that Design Thinking is useful where to gain, understand various groups better, understanding their needs, but we have not used a lot of that in terms of prototyping, as of now.' (#2, P98)*

The CPD defines Design Thinking as being about understanding people and their needs (#1, P69, P75; #4-1, P73; #6, P25, P174; #24, P63, P313), hence describing it as a tool for empathy that is useful for gaining an understanding of various, diverse groups of stakeholders (#1, P13; #2, P98, P158; #3, P11; #6, P17, P145; #22-2, P3) and dealing with them (#24, P313). Or put differently, members of the CPD consider Design Thinking a tool for understanding their customers' and stakeholders' perspective (#3,

P4, P11; #6, P11, P41, P51; #7, P101; #22-2, P3; #24, P299). This also involves considering and aligning multiple, maybe conflicting perspectives, e.g. those of businesses and citizens (#22-2, P7).

> '*I think understanding customer's perspective or stakeholder's perspective is [...] probably what Design Thinking has contributed.*' *(#22-2, P3)*

In this regard, Design Thinking is seen as a way of gaining deep insights into customers (#1, P178; #2, P106, P188; #3, P11, P17; #4-1, P73, P77; #6, P17; #7, P79), that is, understanding customers and stakeholders on more than just a superficial level (#1, P25; #2, P188; #6, P17, P77). The empathy part of Design Thinking is associated with listening to customers and understanding their expectations, concerns (#25, P122), problems (#24, P299) and intrinsic motivation, among other things (#6, P17). Design Thinking is therefore said to contribute to understanding the root cause of a problem (#6, P145). One interviewee from CPD mentioned that Design Thinking itself grants the legitimacy to do in-depth customer research (#2, P188).

> '*I think it has helped us **be more aware of our user's needs** and requirements and that to understand that more deeply.*' *(#7, P101)*

In general, Design Thinking seems to have sparked a more serious effort to understand 'the ground', i.e. customers and stakeholders (#4-1, P106). This is also encouraged by the management (#1, P19; #4-1, P100, P108) and represents a shift from the past, in which the government did not focus on understanding and involving citizens and other stakeholders (#3, P11). Moreover, there is a perceived need for Singapore's Civil Service to make its communication more empathetic because it is not engaging at the moment (#4-1, P245). The Ministry seems to be allocating more time for public engagement, e.g. interviewing people, conducting town hall sessions and talking to stakeholders (#4-1, P93). For example, Design Thinking was employed during a public engagement session to bring multiple stakeholders together, and it helped to create a mutual understanding of each other's points of views (#6, P177). The CPD believes that Design Thinking can help it to approach and engage citizens in a more empathetic way during policy implementation (#6, P174). Its filtering by emphasis, which highlights the empathy phase of Design Thinking, is in line with SDD A's translation of Design Thinking.

Moreover, the Corporate Planning Department intends to drive the co-creation of solutions with the public, an effort also pushed across the whole of government (#22-2, P9). In this regard, the CPD plans to make use of hackathons to involve the public (#22-2, P13).[29] However, CPD members consider it necessary to determine when co-creation makes sense. The CPD is therefore developing guidelines and will involve the policy divisions to decide when citizens should be consulted (#22-2, P11, P13). Co-creation is deemed suitable for issues where the perspectives of the individual and society are in line with each other; otherwise, there are concerns that individuals might have difficulty reflecting on the bigger picture vis-à-vis their own situation (#22-2, P29).

User research is believed to help members question assumptions and no longer take things for granted (#2, P188). The user research of one Design Thinking project revealed surprising insights about the target group and proved previous assumptions about them wrong (#2, P32). Two policy divisions collaborated during the user research phase of this project, for which they interviewed different profiles

---

[29] The Ministry hosted its first hackathon in early 2015 to crowdsource ideas on Ministry-related challenges through technology (Ministry blog, retrieved 26 October 2016).

because they were looking at similar subsets of users and continued to work with the user profiles separately (#1, P206).

The emphasis on the first part of the Design Thinking process also becomes evident when considering that most Design Thinking projects initiated by the CPD stop at the interviewing stage (#1, P216; #2, P98; #3, P99; #4-1, P194). Sometimes this is intentional because the objective is only about understanding trends (#4-1, P196). What is remarkable is that all Design Thinking projects involved some kind of research operation (#7, P31).

Design Thinking seems to have contributed not only to empathy-building towards external stakeholders but to also have improved collaboration among employees by making them more understanding of each other's viewpoints (#24, P367).

User research means qualitative interviews

Design Thinking takes a qualitative approach to understanding user profiles by conducting in-depth interviews, allowing its practitioners to zoom in further than a statistical approach would allow (#1, P178) and to generate qualitative insights by trying to understand the 'why' instead of merely the 'what' of things (#4-1, P18, P110, P247). In this view, Design Thinking complements quantitative with qualitative data (#4-1, P110, P112).

Officers mainly use interviewing techniques to conduct their user research (#1, P13; #2, P100; #6, P17). While some observation is carried out, officers do not fully engage in ethnographic research by immersing themselves in the situation (#2, P35, P47). The CPD's Design Thinking initiative equated user research with interviews (#1, P13, P206; #2, P30, P98; #6, P25, P33, P155; #22-1, P61; #22-2, P3, P60) and talking to people (#1, P75) or, as one interviewee described it, 'asking around' (#23, P403). Moreover, Design Thinking can help officers to phrase and design the right questions to conduct their user research (#22-2, P31, P61).

In order to emphasise and understand people's concerns, a combination of interviewing skills as well as an empathetic mindset are said to be required (#22-2, P33). Design Thinking is supposedly to have contributed to interview techniques, i.e. how to interview, which allow officers to gain a deeper understanding of customers and stakeholders (#6, P17; #22-1, P60; #22-2, P3). It is also believed that empathy is required for conducting interviews and engaging stakeholders (#25, P6, P10) as well as the willingness to talk to people (#1, P75, P83).

> '[W]hen you do Design Thinking you actually have to kind of listen [...] to the customer so you need to be engaging, right? You need to be engaging [...] **and you have to be empathetic when you do Design Thinking because you need to listen to customers' feedback**. So, empathy is again one of [...] the key considerations [...].' (#25, P10)

A focus on qualitative interviews, therefore, represents another type of filtering by emphasis. However, it can also be seen as an example of filtering by removal and could be traced back to a lack of continuous training and upgrading of skills (#1, P65, P67).

Emphasis on the principle of user-centredness

In accordance with the emphasis of the empathy part of Design Thinking, members of the Corporate Planning Department have stressed the methodology's principle of user-centredness (#2, P158; #3, P4,

P6; #6, P59; #7, P79; #23, P129, P385, P389; #24, P336). Such highlighting of the principle of user-centredness represents a form of filtering by emphasis.

> *'Design Thinking is about understanding the customer's point of view, and designing your policies or your processes, your product, […] by understanding their point of view.' (#3, P4)*

> *'I think [Design Thinking] is something that can help to understand in-depth about what people really want, and that is why, in the Design Thinking process, the empathy bit is very important, so as to come up with something, design something at the end of the process; to come out with a good product or good service, for the people that you are trying to help or cater to, yes.' (#7, P79)*

> *'There's more to it but putting in a sentence it would be like that: to see through the eyes of people, hear them and just improving lives [...] from their point of view.' (#23, P129)*

According to CPD members, Design Thinking is a tool to design and deliver better processes, programmes, policies and services by understanding one's customer base better (#3, P4, P6, P17; #6, P17, P59, P177; #7, P79, P130). There are claims that designing user-centred policies will eventually help to restore trust between the Ministry and its stakeholders (#6, P177). One interviewee describes the perceived benefit of the principle of user-centredness for the Ministry as follows:

> *'I think **Design Thinking is really one of the methodologies […] for us to understand the behaviour and needs of our stakeholders and customers**, right? And knowing the needs of our stakeholders and customers, allows us **to design and deliver better programmes, policies, ensure different services**.' (#6, P59)*

Hence, Design Thinking is understood as a human-centric approach (also #4-1, P60) to improve the lives of people (#23, P127, P129; #24, P57) and a tool for seeing things from the user's point of view (#4-1, P21, P56). This supposedly helps officers to co-create win-win solutions because Design Thinking is framed as improving and making things easier for customers and stakeholders as well as for internal staff members (#1, P188; #4-1, P58, P60, P63). Design Thinking seems to have contributed to officers being more aware of the need to listen to people (#7, P101, P105) and to seek input from people both internally and externally (#7, P107; #23, P385). Moreover, the user-centred approach is valued more highly than following the entire Design Thinking process (#24, P315).

> *'I think the basic concept, we are equipped [with], it is in us, released in our DNA that we should check with our users what they feel about this.' (#23, P385)*

For CPD members, Design Thinking is about creating solutions in a user-centred way and therefore not telling customers what the Ministry has to offer but rather understanding what the customers need (#24, P91, P252). The principle of user-centredness associated with Design Thinking is portrayed as a departure from the existing government-centred point of view. Design Thinking is interpreted as a way of instead approaching problems from the customer's perspective (#23, P389). Before Design Thinking, civil servants would demonstrate an expert mentality, developing good services or good policies by themselves and getting no input from the people their work would actually affect (#7, P103, P107). A user-centred approach is therefore quite new for Singapore's Civil Service (#4-1, P21).

> *'Compared to [...], last time we used to think that, 'Okay, whatever we can think of and whatever we can dream of [...]', you know. We were sitting in our workstations and, 'I am not going out to understand from the people out there.' We can draw up; we can talk […] good services or good policies.' (#7, P103)*

> *'[Design Thinking] forces you to see things from another angle. It forces you to see things [...] from the opposite perspective, so **it's really like putting yourselves in the shoes of your customers**, understanding how they feel, and trying to solve the problems that they are facing instead of shoving standard solutions down their throat.' (#24, P299)*

This shift in mindset means understanding customers' and stakeholders' perspectives and their behaviour before coming up with ideas on policy options and designing policies and programmes (solutions) for them (#1, P19; #2, P158; #3, P17; #22-1, P58). In other words, it is believed that a user-centred approach based on a better understanding of one's customers will render more effective solutions (#6, P47; #24, P336). Design Thinking is hence described as 'a culture of knowing your customers and learning to build effective solutions' (#4-1, P247). In this view, iterative prototyping and user testing are believed to help officers to approximate solutions to users' needs (#2, P190).

Applying a user-centred approach is, for example, directed towards improving the customer experience and customer service, e.g. re-vamping processing procedures and taking a new look at how customers are treated, how happy they are and how they can be impressed (#24, P23).

USE OF OTHER DESIGN THINKING ELEMENTS

Although the main emphasis lies on the empathy part of Design Thinking and the principle of user-centredness, other elements of the methodology nevertheless play a role. For example, ideation is said to be applied in daily work, e.g. during meetings (#24, P313). Design Thinking's ideation and brainstorming are a deviation from the past, emphasising the importance of coming up with a lot of ideas and then staying open and not narrowing them down too quickly (#3, P13).

SECONDARY EMPHASIS ON PROTOTYPING AND TESTING

Increasingly, emphasis is also placed on the Design Thinking elements of prototyping and testing (#25, P4), although it is not applied as much as the empathy part (#3, P9, P11, P25; #24, P315).

When asked to define Design Thinking, members of the Corporate Planning Department refer to prototyping and early experimentation (#6, P61; #25, P4), which includes seeking feedback from people (#1, P188). Design Thinking is said to create a culture of failing early and often (also #6, P61), starting small, creating a lot of prototypes, repeating iterations, prototyping and learning from mistakes (#25, P30, P34, P36, P38, P122). In this regard, Design Thinking is seen as working in an iterative way that includes tweaks and changes along the way:

> *'So, to me at the end of the day, it's not about a finished project, it's an evolving project, yeah, because **we are always, [...] trying to make improvements, so, it's an on-going kind of iteration, so to me that's Design Thinking**, yeah. It's about always continuous improvements, you know.' (#25, P122)*

Starting small involves testing the product with a small group of users before attempting any full-scale implementation (#3, P19; #23, P242; #25, P30). The CPD has promoted such user testing and running pilot projects (#23, P238). The test runs are often small-scale, such as testing a new form with different customers (#3, P19); the user testing for the service centres was on a larger scale (#23, P238, P242). In the Ministry, prototyping policies and programmes takes the form of testing a pilot initiative with a group of users (#3, P19).

CPD members contrast Design Thinking's approach to prototyping and testing with their government's previous modus operandi. The concept of prototyping and piloting was previously not ingrained, as

officers usually had to think through the entire implementation from the beginning of a project, whereas Design Thinking promotes that it is easier to fail earlier rather than later (#25, P30). In the past, officers would commonly work with assumptions about what their customers wanted and fail to actually ask them for feedback (#25, P190, P192, P194). The Ministry's predominant mentality was to decide on behalf of its citizens (#25, P190, P194). Feedback from customers would only be sought after implementation, which allowed for only minor adjustments (#25, P194). In the past, the Ministry neither prototyped its policies nor tested them in the sense of trying things out first (#3, P11, P17, P25, P27) and seeking feedback on them; rather, piloting consisted of preparing the launch and testing the reaction (#3, P27). Design Thinking, meanwhile, is said to have instilled a greater willingness to engage in real prototyping and test assumptions and to also discard and change solutions (#3, P27, P29, P31, P33, P35). Before Design Thinking, piloting was considered more of a marketing activity (#3, P29).

> *'So I think **in the past, […] the intention of the pilot projects was more like a Comms [=communications] initiative**, so they might pilot a programme on small-scale basis to get people used to the idea of this policy, whereas I think **now, when we do piloting, when we do real prototyping for different users**, the intention is really to find out whether it works or not, and we are ready, we are more open to changing or throwing it away altogether, if it doesn't work.' (#3, P29)*

INITIAL EMPHASIS ON PHYSICAL PROTOTYPES AND OPERATIONAL USE OF DESIGN THINKING

In the early phases of Design Thinking adoption in the Ministry, especially in the training workshops conducted by the Corporate Planning Department, the focus of Design Thinking application was more operational. This was linked to the version of Design Thinking promoted by the d.school in Stanford which had concentrated on physical prototypes and process improvements. It seems that the Corporate Planning Department had initially copied from the Stanford template of Design Thinking with regard to the areas of application.

> *'I don't know, was it because of what we have learned in Stanford? We were more focused on physical prototypes, the physical outcome, so when we tried to conduct workshops back then, during the initial stage, many [officers] could not see the relationship and the value that Design Thinking could [...] bring to not just a physical form or template that they actually fill out or certain processes just to streamline and increase efficiency. They did not see the value behind it could actually help you understand your stakeholders better. [...] Back then the impression […] was very operational […].' (#1, 21)*

The emphasis on physical prototypes is also attributed to the perception that is easy to prototype physical artefacts, like forms, which are simple prototypes to test with users (#1, P220). It also seems easier to prototype spaces, the service centres, than to prototype policies (#22-1, P60). Prototyping seems to have been used heavily more during the service centre space's initial adoption phase than five years later, in 2014 (#22-1, P60).

EMPHASIS ON A COLLABORATIVE APPROACH

Another element Design Thinking mentioned by several CPD members is the collaborative approach and use of teamwork. The members viewed Design Thinking as a team-based exercise focused on gaining consensus and hearing from other people, a function they also described as 'a lot of democracy' (#4-1, P18). Furthermore, they believe that Design Thinking helps them to build highly functional teams (#4-1, P80) because it removes the usual structural hierarchy or authority by basing decisions on user research (#4-1, P82). For example, brainstorming rules seem to remove negative team dynamics and foster fruitful discussions in which everyone has a say, unlike the usual meeting culture in which superiors

drive the discussion and vocal participants are often the only ones heard (#4-1, P82). They therefore believe that Design Thinking builds stronger teams and engenders confidence in people because it empowers everyone to contribute (#4-1, P82), and they perceive Design Thinking's notion of voting ideas as democratic (#4-1, P81). Whereas Design Thinking has not changed the amount of intra-organisational collaboration between divisions very much, because their work is regarded as interlinked anyway (#24, P348), the empathy building it encourages has allegedly improved it (#24, P367, P371). Design Thinking seems to have fostered mutual understanding (#24, P371) as well as changed the way the divisions communicate, making it less transactional (#24, P351, P353, P367). Although divisions who want to do user research on similar user profiles have sometimes collaborated (#1, P206), their silo-mentality seems to prevent regular collaboration (#1, P212).

EMPHASIS ON A CULTURE OF INNOVATION

The Corporate Planning Department has framed Design Thinking as a methodology of innovation (#24, P299) that has produced a new mindset of continuous improvement (#25, P122). Design Thinking is said to promote a culture of innovation that revolves around user-centredness by listening to customers and incorporating their feedback as well as starting small, learning from mistakes and failing early (#25, P240). Based on an open-ended process of innovation, Design Thinking has promoted tolerance towards ambiguity and a willingness to more readily accept changes (#24, P329, P336). Nevertheless, the implementation of Design Thinking has faced numerous obstacles because civil servants in Singapore are seen as risk-averse (#24, P389, P393, P395, P397) and seem to have found the ambiguity Design Thinking's open-ended process challenging: 'DT is […] like discovering new land' (#24, P395; also #24, P329).

As a methodology of innovation, Design Thinking is seen as a way of improving the Ministry's work (#1, P188; #7, P27, P142), e.g. 'internal systems, processes, even policies, for our work internally or externally to the public and the citizens' (#7, P87; also #3, P6).

> *'I would say Design Thinking is […] just a term. So the entire thing should be thought of like innovation,* but innovation is also a very big word where […] some people don't understand exactly what is innovation. So I guess it's just about improving things, making things easier for people and for yourself.' (#1, P188)

EMPHASIS ON A CREATIVE WORKSPACE AND VISUALISATION TOOLS

As part of its adoption of Design Thinking, the Corporate Planning Department set up a dedicated innovation space called the 'Imaginarium' at one of its service centre sites. This room is used for training purposes and meetings of the Design Thinking facilitators and can be booked by any Ministry member through the room reservation system. Moreover, the innovation space hosts a small library of selected Design Thinking and innovation literature that employees are welcome to borrow. The space is decorated in bright colours and contains flexible furniture, such as sitting cubes. Whiteboards and post-its underline Design Thinking's emphasis on visualisation, and prototyping material, such as paper, cardboard etc., is available for use.

Figure 21: Door sign of the innovation space

Figure 22: The innovation space during a workshop

Figure 23: Interior of the innovation space

The headquarters site contains a small innovation space that served as a prototype of the bigger innovation space. It is situated in an office room that has been repurposed and equipped with whiteboards and prototyping material.
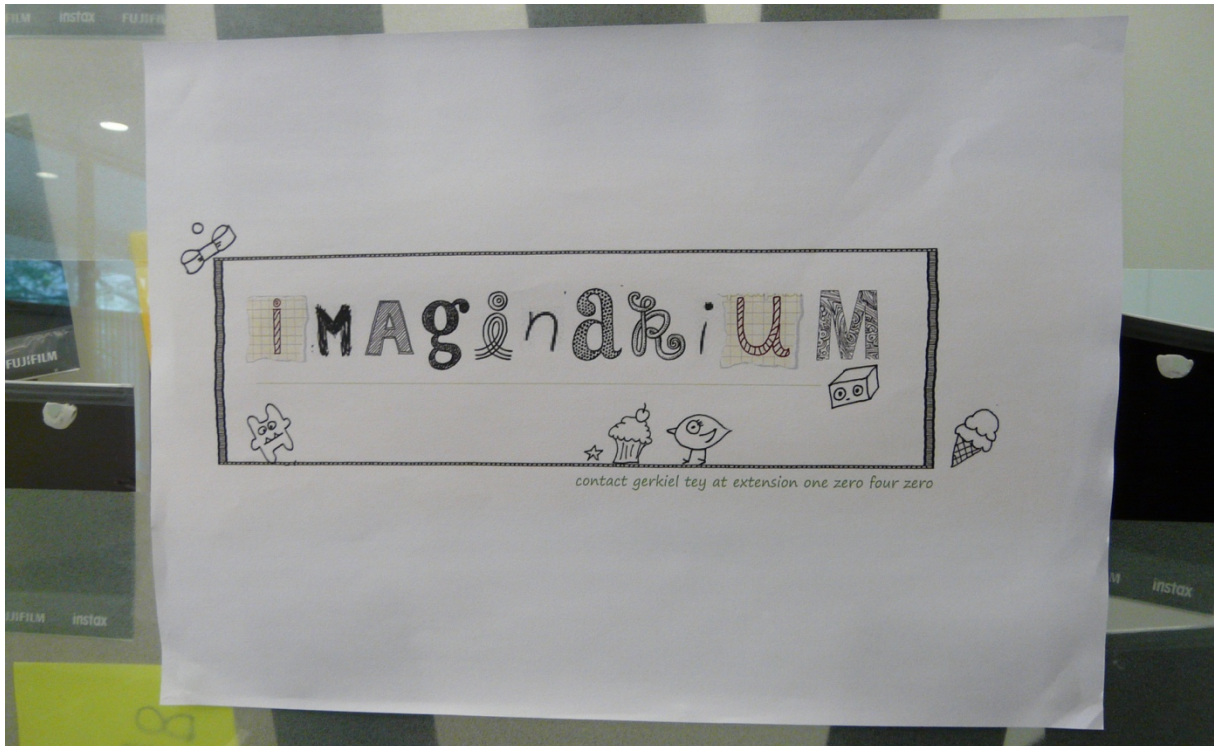
Figure 24: Door sign of the prototypical innovation space

Figure 25: Interior of the innovation space prototype

Figure 26: Prototyping material inside of the headquarter's innovation space

Moreover, in the open-plan office of the Corporate Planning Department employees have hung up posters featuring d.school Stanford's Design Thinking rules as visual reminders. The workspace is otherwise organised in a cubicle structure. Several meeting rooms available through a booking system are equipped with whiteboards and post-its that were put to use during my stay.

Figure 27: Workspaces are organised in cubicles. DT rules are on the walls

Figure 28: Cubicle of a CPD employee

Figure 29: Use of post-its within the cubicle structure

Figure 30: DT rule written on a wall
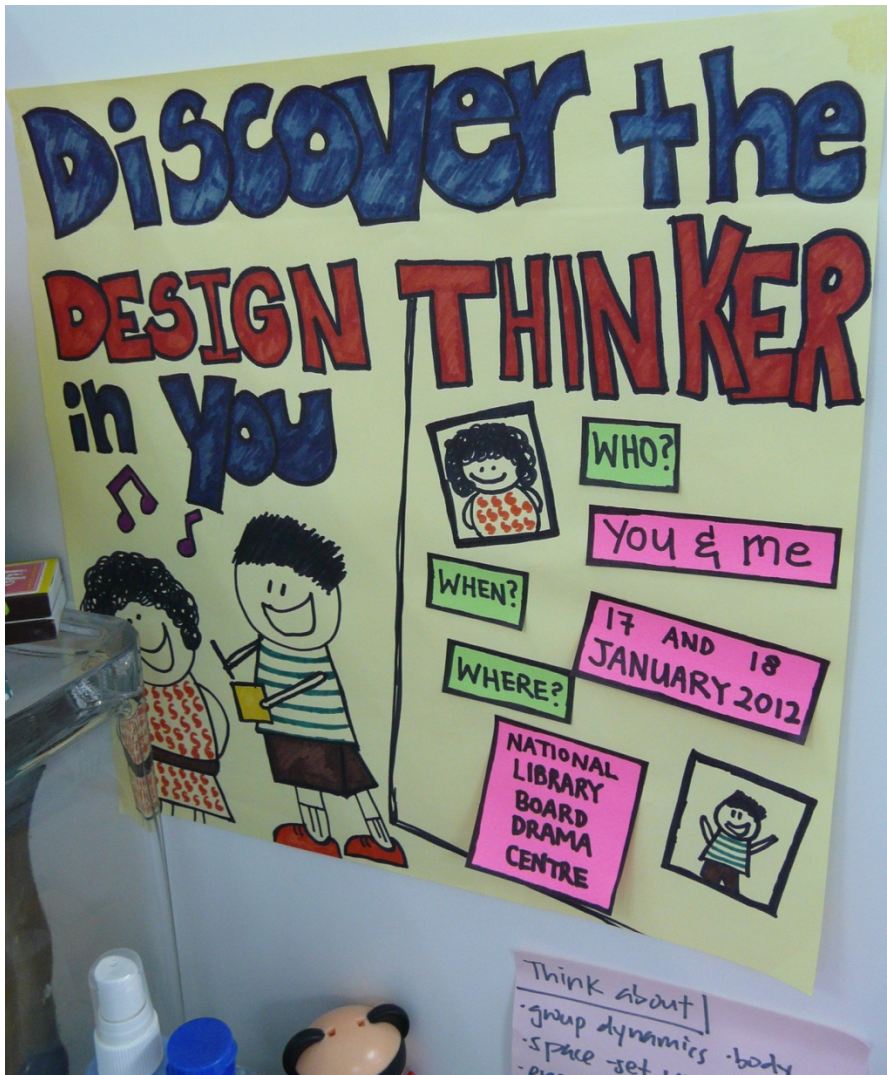
Figure 31: Self-made DT poster within a cubicle

However, the innovation space as well as the CPD's meeting rooms stand in contrast to most other meeting and conference rooms in the Ministry. For example, I was invited to observe a kick-off meeting for one of the CPD's facilitated Design Thinking projects that was held in a typical meeting room. Everyone sat around the table and one person presented PowerPoint slides – it could have been a normal corporate meeting because it made no use of any of the visualisation tools associated with Design Thinking. This example shows that although the CPD has recognised the importance of a creative space for Design Thinking, this insight is not always apparent in actual practice.
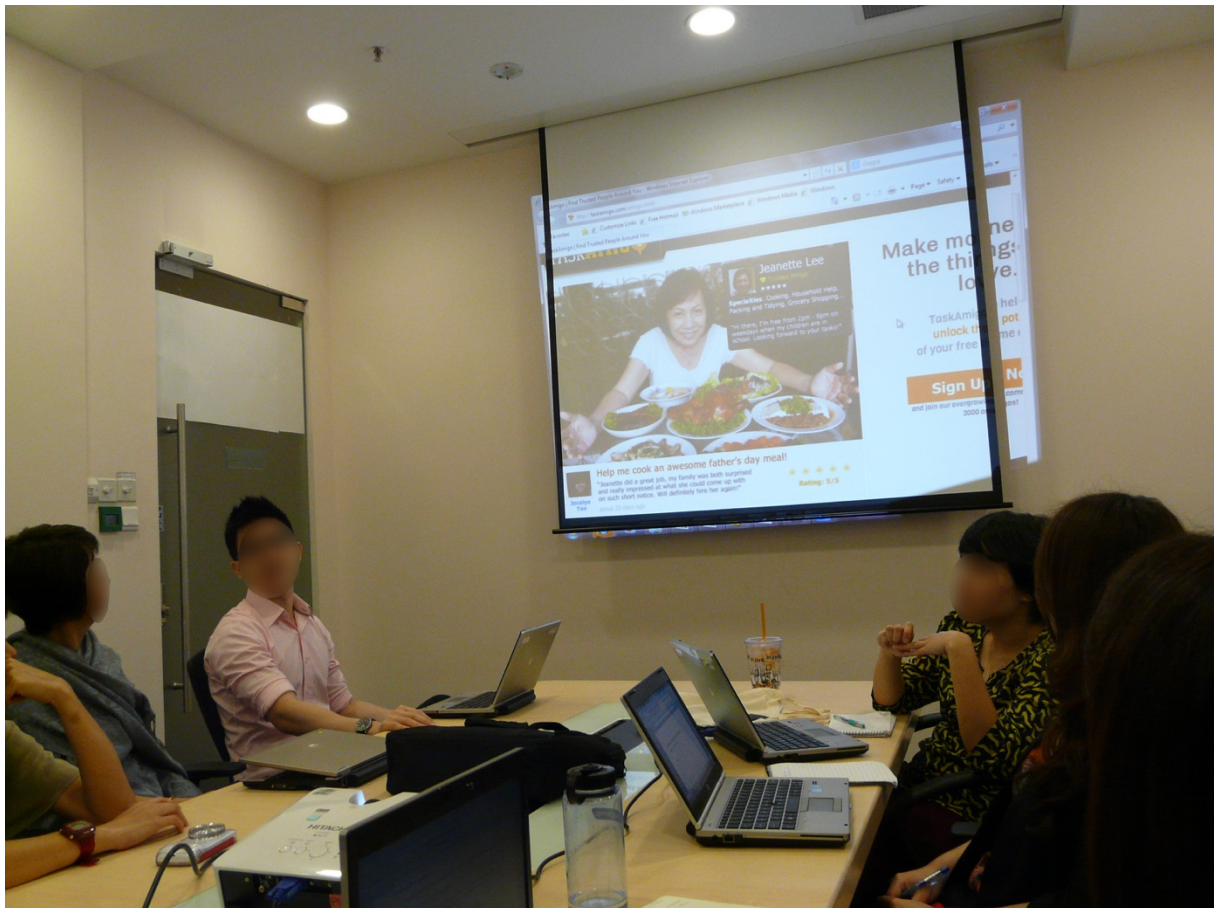
Figure 32: DT project meeting in a regular conference room

This spatial manifestation in the form of the 'Imaginarium' can be seen as another type of filtering by emphasis. On the other hand, the establishment of a dedicated innovation space could be seen as a manifestation of silo-ing rather than mainstreaming the approach, as it is not part of the daily work environment.

Filtering by removal in the Corporate Planning Department

EMPHASIS ON THE MODULAR USE OF THE DESIGN THINKING PROCESS AND ITS ELEMENTS

The Corporate Planning Department advocates the modular use of the Design Thinking process (#1, P91; #2, P47#4-1, P194; #6, P25, P153, P154; #24, P313). Although the whole process is demonstrated for training purposes, the department acknowledges that not all of its stages need to be applied to the projects that make use of the Design Thinking approach:

'How we have used DT in [the Ministry] is we have, obviously for workshop purposes, we would actually go through the whole slew of DT tools. But when I say the most recent study [...], we have only used the part on empathy, doing a lot more interviews, and a bit of observations in there. So we have actually dissected that in [the Ministry], to apply stages where it is applicable instead of always using the same, always going through the motions of all these five stages, yes.' (#2, P47)

The intention of the project is said to be a decisive determiner of what parts of the Design Thinking process will be put to use. For example, one Design Thinking project was trying to understand a specific target group for a policy review better and therefore focused on the empathy part of Design Thinking (#6, P154). People seem to use parts of Design Thinking in the daily course of their work (#24, P313). Hence, Design Thinking is not used as a full package – rather, different elements are employed at different times and for different purposes (#1, P91; #2, P47; #4-1, P194, P237; #24, P313). Accordingly, Design Thinking projects sometimes stop after the interview part (#1, P107, P216; #2, P47, P100; #3, P99), especially for policy work (#4-1, P194, P239), partly because policy divisions do not own the implementation process (#4-1, P196).

Such departures from the strict use of the process – that is, an adaptation of Design Thinking – are associated with more experience, meaning that the practitioners emphasise the principles rather than the process per se (#4-1, P237; #24, P315).

*'**[W]e are becoming more confident in using it in a way that suits our needs.** So in a very, very early stage we may have thought that, you might, you need to use the process from start to end. Whereas now we may be very comfortable with breaking the process up into different parts and using parts of it that works better for us or that meets your needs at a point in time.' (#4-1, P237)*

*'I think **for people who are not very familiar with the process, they tend to think Design Thinking must be used in its full process,** in order for it to be Design Thinking. [...] I guess for the rest of us who have been through a few more projects, [...] **Design Thinking is really, it's a principle, it's not so much that full process.** It's the principle behind deploying this process, it's the user-centric approach, yeah.' (#24, P315)*

In the long run, it is believed, the principles will stay, such as empathy for users (#23, P385). Since 2014, the Design Thinking unit in CPD has also put a stronger focus on promoting Design Thinking as a mindset, i.e. a user-centred approach, and on de-emphasising Design Thinking as a tool (#4-2, P2). There seems to be a general awareness of Design Thinking in the Ministry, namely an understanding of the user-centred approach, although individuals may not be familiar with its exact tools (#22-1, P56, P58).

Design Thinking is claimed to be time- and resource-intensive, which is given as another reason for not applying the entire Design Thinking process (#6, P25, P154; #23, P21, P296, P346; #24, P397). CPD members report difficulty in implementing Design Thinking because it is costly in terms of time and manpower, especially conducting user research (#24, P399) or prototyping and testing (#23, P391, P395, P397, P399). A lot of time seems to be required to gather stakeholders, findings, empathy and research (#23, P296). Conducting interviews is said to take longer than desktop research (#23, P346). Another obstacle seems to be that the process pulls staff away from their core work, e.g. Design Thinking facilitators who volunteer their time for training and projects (#1, P101; #2, P89, P106; #4-2, P28; 22-1, P127).

'I think the whole value chain of Design Thinking methodology is pretty extensive, even resource-intensive if you want to apply from [...] the start, in the very pure manual, the start to the end, so we also believe that the different parts of the Design Thinking process [...] can be applied on a modular basis. [...] So

interviewing, brainstorming and stuff like that is one part you can even use in your daily work without having the need to transit into prototyping, for example.' (#6, P25)

The modular use of Design Thinking suggested by CPD members represents a type of filtering by removal. Another instance of filtering by removal can be seen in the de-emphasising of the principle of user-centredness, while dismissing the value of following the Design Thinking process in its entirety.

LIMITATION OF THE PRINCIPLE OF USER-CENTREDNESS

Despite the general emphasis on Design Thinking's principle of user-centredness, CPD members caution against its unconditional applicability to Ministry matters. They argue that the Ministry should not only take account of the users' point of view but counterbalance it with internal, national or political considerations (#7, P75). The Ministry should therefore not gear its policies to any particular group but strike a balance between the different needs and interests (#7, P75).

> *'Because a large part of Design Thinking, from my view, is about designing something that the users want and need, but when it comes to policies, it is not all the time that we can do something like this, because* **we have to balance a national agenda, and we can hear about what people want, but we may not be able to give them what they want**, *because there are maybe bigger national objectives or agendas that we need to fulfil.' (#7, P69)*

On a different note, members of the CPD's Design Thinking unit mention that they have encountered people in the Ministry who feel that user-centredness is not relevant for the government because they believe in the expertise of government officials rather than the need to consult citizens for feedback (#23, P296; #24, P397). According to the CPD, this mindset represents an obstacle to adopting a user-centred approach like Design Thinking.

> *'And then there's* **the old mindset that we are the government, we should decide, there's no need to ask what customers want**.' *(#23, P296)*

> *'"But we are the government, you know. So, why are we out to please customers***, *why?' […] So, that was one big obstacle.' (#24, P397)*

Although the CPD has embarked on a more user-centred approach with Design Thinking, this does not necessarily mean less government involvement, as engagement is rather seen as a prerequisite for the government making better informed policy decisions (#7, P16).

The restrictive use of the principle of user-centredness can be seen as another instance of filtering by removal.

RESTRICTED CO-CREATION AND STAKEHOLDER ENGAGEMENT

The Ministry has hitherto hardly employed co-creation with the public, in the sense of building solutions together (#22-2, P9). According to the CPD, a decision about co-creation needs to be made on a case-by-case basis (#22-2, P27). CPD members see constraints for co-creation, including policies that are deemed unsuitable for disclosure for political reasons or because of issues of fairness (#3, P11; #7, P75, P77; #22-2, P17), e.g. financial benefits for first movers who would have an informational advantage if they participated in a hackathon (#22-2, P19, P23). Issues such as taxation and monetary or relatively monetary incentives seem harder to co-create (#22-2, P27). Moreover, CPD members caution against public engagement because it could raise expectations about government action that may not be

fulfilled, believing the Ministry should not be sending mixed signals (#22-2, P25). There is a concern that people may have difficulty reflecting on the larger societal good if they are personally at a disadvantage (#22-2, P29).

As the Ministry is hesitant to use Design Thinking to engage users for sensitive policy issues, a new approach has been suggested that would draw on the expertise and experience of Ministry employees. This would mean using officers who are themselves concerned citizens in their everyday lives to co-create and test solutions (#22-2, P13). Such an internal engagement of Ministry staff in their role as citizens is discussed as an alternative to engaging and co-creating with external customers and stakeholders because it is considered a safer environment (#22-2, P13, P15). This presupposes, however, that officers are reflective and have first-hand experience of the matter at hand (#22-2, P13).

Such a limitation of co-creation and stakeholder engagement represents a type of filtering by removal. In this understanding, the government seems to decide if and when citizens and stakeholders will be interviewed or invited for feedback based on the perceived sensitiveness of the issue. Internal user research is therefore suggested as an alternative.

LIMITED USE OF PROTOTYPING AND TESTING

The Corporate Planning Department also employs filtering by removal with regard to prototyping and testing. As far as the CPD is able to judge, the elements of prototyping and user testing have not been thoroughly applied outside of Service Delivery Department A (#1, P216; #2, P98; #4-1, P205; #23, P391). Many Design Thinking projects have hitherto stopped at the interviewing stage and not proceeded to the prototyping phase (#1, 216). Whereas some CPD members believe that there is an increasing emphasis on prototyping (#3, P9), the CPD's Deputy Director sees a counter-development with prototyping becoming less important due to an increased use of Design Thinking for policy work, for which prototyping needs to be adapted (#22-1, P60-61).

CPD members de-emphasise prototyping because of its perceived limitations in government, especially with regard to prototyping policies (#1, P218, P220; #3, P11, P17, P25; #6, P153, P154). They deem prototyping and testing artefacts, such as reviewing forms, easier (#1, P220) than creating more cognitive prototypes, e.g. for a policy (#22-1, P60). The prototyping of policy changes supposedly raises an issue of fairness, as the Ministry needs to ensure equal treatment of different cohorts (#3, P11). Moreover, some CPD members assume that there is little urgent need for prototyping as the Ministry is constantly reviewing its programmes and policies anyway (#2, P100).

A weaker emphasis on prototyping may also stem from a lack of skill on the part of the divisions' content owners (#2, P100) and more generally from the government's lack of creativity, resources and prototyping skills (#23, P393). The Ministry seems to exhibit a particular lack of skill and willingness as regards hands-on and low-resolution prototyping (#23, P391). Prototyping is further downplayed because of time constraints (#23, P395, P397, P399, P403). Iteration is considered especially time-consuming, which presents another obstacle for the application of Design Thinking (#23, P391, P395, P397).

> 'But prototyping is still […] not that common […] because I think we are not very good with hands-on and low-res prototyp[ing]. It takes a lot of time for iteration […]' (#23, P391)

The creative freedom and 'playfulness' of Design Thinking associated with how it is taught in the United States at Stanford's d.school has not translated easily to the Singaporean setting. The CPD's Design Thinking portfolio manager, who is in charge of the training workshops, reported that they had to adapt the workshops to the Singaporean – or rather Asian – mentality (#1, P67, P81, P83). Consequently, workshop leaders had to tone down Design Thinking's high-energy, outgoing teaching style to suit an audience that is less prone to speak up on unfamiliar topics, more reserved during interviews and used to a more teacher-centred instruction style. This has meant, for example, reducing the number of games and warm-ups employed during the training sessions (#1, P67).

Apart from the training workshops, this Asian mentality of being more reserved and less outgoing also seems to affect the user research phase of the Design Thinking process, making it more difficult for officers to interview and talk to people (#1, P81, P83; #23, P198, P206, P208). On the respondents' side, people tend to be less open to sharing their thoughts during interviews (#23, P208), which is linked to the Asian culture (#23, P198).

Filtering also occurs during the Design Thinking training workshops, with instructors preferring to present local examples of how Design Thinking has been used by other Singaporean Ministries and agencies rather than quoting case studies from the internet or the d.school Stanford (#1, P67, P89). This demonstrates a deliberate act of contextualizing the approach to the local setting, an approach introduced after participants of earlier training workshops complained that they were finding it difficult to link Design Thinking back to their own work sphere and the Singaporean context in general because most examples were international and centred on the US (#1, P67, P71, P113).

Training participants also found it difficult to relate Design Thinking back to their work because most internationally renowned Design Thinking examples were product-focused (#1, P59). This is linked to the fact that the design agency had previously mainly worked on products for private companies and had no prior experience of applying Design Thinking to the public sector (#24, P79).

While the CPD has so far not managed to fully customise Design Thinking and adapt it to the organisation's needs, it is deliberately attempting to link it back to the local context (#1, P89). Such adaptations demonstrate a type of filtering by removal.

Some CPD members indicate a lack of knowledge, competency, skills and training in Design Thinking before the Ministry adopted its methodology (#24, P399, P401, P403, P407). The people driving Design Thinking in the Corporate Planning Department did not know much about it or have the necessary skills, which members naturally perceive as an obstacle to its successful implementation (#24, P399). The Ministry had neither prior experience nor expertise in the field of Design Thinking or design skills in general. There has also been no subsequent upgrading of Design Thinking skills (#23, P284). Rather, officers participate in one-off training sessions and even previously trained Design Thinking facilitators are supposedly in need of further training and a deepening of their skills (#1, P65, P67; #22-2, P35).

According to the design consultancy, the Ministry still needs to build up its capabilities in Design Thinking, as most facilitators have only participated in a two-day training course and lack practice and experience (#27, P21, P23). They do not seem to be equipped to conduct ethnographic research,

synthesise insights or come up with ideas and therefore cannot fully leverage the potential of the consultancy's approach (#27, P25), as expressed in the following quote:

> '*The other part of it was what they wanted to do is to do it themselves and deploy their Design Thinkers against it*. **It became very clear to me very early on that they were literally terrified and they didn't know how to design ethnographic research. [...] They didn't know how to conduct research, they didn't know how to synthesise, to come up with ideas around it.** *A two-day [training], it's like you try to be an accountant in two days, clearly you are not going to be. It's actually quite an art to it, to things like synthesis. Really good ethnographic research is not something you learn in a workshop and then you become an expert ethnographer. But you got to start somewhere. So, I think it turned okay, I think, government generally they talked about it a lot,* **very few people here are genuinely, genuinely are Design Thinkers.**' *(#27, P25)*

This perceived lack of Design Thinking practice may have also led to a narrower understanding of the methodology as such, because 'a lot of [the Design Thinking facilitators] are just imitating what they were being taught [...] in Stanford' (#1, P67; also #9, P220, P224). This therefore represents an example of filtering by removal. An example of such a narrow understanding of Design Thinking, partly as a result of a lack of continuous training, is the restriction of user research methods to qualitative interviews. According to the Corporate Planning Department, while interviews are conducted, observation and ethnographic research are seldom employed (#2, P35, P47, P98). The department claims that it would be difficult to fully apply observation techniques during user research because doing so might create a biased situation, causing people to act in a different way than they would if they felt unobserved (#2, P35).

> '*Okay,* **the way we apply DT in [the Ministry] is we head down to interview**; *there is a certain amount of observation that we do, but I won't say it's a lot. It is not, it may not be as much as we want to or as compared to ethnographic research where you would really immerse yourself in a certain situation, and then observe people's behaviour.*' *(#2, P35)*

Reframing in the Corporate Planning Department

ALIGNING WITH EXISTING CUSTOMER SERVICE ORIENTATION AND AIMING TO INNOVATE THE SERVICE EXPERIENCE

The Corporate Planning Department discursively aligns Design Thinking with the Ministry's existing strong focus on customer service. The former Design Thinking portfolio manager linked this customer orientation to the establishment of a Customer Services Division (CSD) in the mid-2000s as a dedicated unit to manage the customer services counters of the Ministry (#24, P171, P173, P187, P217). The Ministry's focus on customers meant that, prior to the introduction of Design Thinking, CSD was already benchmarking against private sector companies, such as the banking industry, in terms of customer service (#24, P165, P171, P191), with the aim of offering a private sector customer experience in the public sector (#24, P189). Around 2006 and 2007, the organisation is said to have been no longer satisfied with an incremental improvement approach, but was looking to dramatically improve its customer service (#24, P23, P89, P101, P105, P137, P222, P417) – and aim that resulted in the exploration of Design Thinking during a study trip to the US (#24, P89, P187, P191).

> '*But the deciding factor was really [...] because we wanted that leap in terms of [...] our customer service. [...] We are not happy with just incremental improvement anymore. We wanted that wow so it's almost like taking a risk because we have not done Design Thinking before.*' *(#24, P89)*

'We were not looking for specifically public sector examples; we were looking for service experience examples. It's [...] because if you, if you keep comparing yourselves with public sector, I think we won't be here today. We'll still be as five years ago, stagnant, yeah. So it's, [...] I think back then we were just joking, how would it be like if we are able to offer [...] a private sector customer experience in a public sector.' (#24, P189)

The design agency was associated with designing for great service experiences, a reason why the former Director of the Customer Services Divisions wanted to engage the company (#24, P191). The CPD is said to have invested in building up Design Thinking capabilities because it believed the methodology would enhance the design and delivery of the Ministry's programmes and services and allow the Ministry to serve its customers better (#6, P57). In this context, the re-design of the first service centre is quoted as providing a revolutionary service experience for a government agency (#22-1, P60). The decision to expand Design Thinking to the whole organisation was made after SDD A's alleged success in using it to enhance its understanding of its customers (#6, P47; #24, P252). Moreover, Design Thinking is framed in terms of enhancing the Ministry's customer orientation (#7, P31). One Design Thinking facilitator believes that the new approach was in accordance with an already present customer orientation but gave officers specific tools to put that orientation into action, such as user testing (#13, P341).

Henceforth, an existing customer orientation and the organisation's quest for better customer service are constructed as references for the introduction of Design Thinking. Such a reframing constructs Design Thinking as something familiar and underlines the methodology's potential fit with present practices, such as benchmarking.

ALIGNMENT WITH TASK RELEVANCE FOR POLICY IMPLEMENTATION AND FRONTLINE SERVICES

The Corporate Planning Department regarded Design Thinking as a useful approach because the Ministry has to deal with a very diverse group of customers and stakeholders, sometimes with conflicting needs (#6, P17, P173; #24, P313). Managing customers' expectations has allegedly become an increasingly important task in the current political climate (#6, P173). The Ministry sees itself confronted with higher demands from its citizens as well as from other external stakeholders who raise their concerns and voice complaints more frequently than before, a change that is burdening the frontline services with an increasing volume of customers (#4-1, P38, P53; #6, P173).

'So there is a lot of tension, and I mean, the [Ministry] has large customer who is businesses and the other large, who is Singaporeans [...]. Their needs are very different and often incomplete. [...] So how do you manage that expectation? [...] And we need to manage our customer's expectation, even more now than before.' (#6, P173)

Unlike many other government agencies, the Ministry owns its own frontline and is directly in charge of service delivery and customer service. This fact is discursively linked to Design Thinking, highlighting the significant relevance of the approach, which is framed as a way of understanding its customers and stakeholders better (#2, P108; #6, P41). This reframing underlines that Design Thinking is perceived as a useful tool because of the Ministry's direct customer services and frontline work (#4-1, P243).

'I think it's because we have, we handle our own customers. So there are some agencies that don't have customer services, they don't have frontline officers. For them they may find it hard to see how useful this tool can be. Yeah. Whereas for us people are calling up our officers, they are coming to see our officers. So because we continue to own the frontline work, I think that's why the methodology is, continues to be useful.' (#4-1, P243)

Moreover, the adoption of Design Thinking is constructed as a strategic decision, as the Ministry has to implement a lot of policies that need to be anticipated well in advance (#25, P94, P96). In that regard, the Ministry's organisational set-up deviates from other ministries that have statutory boards for implementation (#25, P94).

ALIGNMENT WITH EXISTING ORGANISATIONAL VALUES OF PEOPLE-CENTREDNESS AND A CULTURE OF INNOVATION

Furthermore, members of the Corporate Planning Department have aligned Design Thinking with existing organisational values, especially the notion of 'people-centredness' and a culture of innovation. They present Design Thinking as a good fit with the organisational values of customer-centricity and innovation (#24, P57, P63, P137, P299).

> '*I think the whole organisation culture has a big part to play in us adopting Design Thinking because it being a very human-centric approach. It's very in line with how [the Ministry] is like very people-centric, [...] very people-focused, yeah.' (#24, P57)*

First, the organisational values of people-centredness and Design Thinking are linked by their common root in empathy (#24, P57, P63, P299, P305). As empathy lies at the heart of Design Thinking, this approach seems to be in line with the Ministry's culture and focus on people (#24, P57, P63). The Ministry is described as very people-centred (#3, P52; #24, P57, P61, P301-309; #25, P270) and as having a cordial culture that shines through in how much co-workers care about each other (#24, P309). Furthermore, CPD members indicate that the value of people-centredness is directed towards people inside and outside of the organisation, thereby demonstrating both staff and customer orientation (#3, P52; #6, P91).

> '*[Design Thinking] is very [...] aligned, like I said, to the [Ministry's] core value 'People-centredness', it's really putting people at the heart of everything that you're doing.' (#24, P299)*

> '*I would think it's the people relations. It's the focus on people, because instead of focusing on business outcomes, [the Ministry], if you've spoken to a lot of people, you'd understand that [...] to a lot of [Ministry officers], it's people that is important. That's why one of our shared values is people-centredness which is really to care for people from the heart, to put people at the heart of every decision that you make. So, it's not about dollar and cents it's really the hard impact to people.' (#24, P61)*

Second, Design Thinking, especially the elements of prototyping and testing, is linked to the Ministry's effort of establishing a culture of innovation that is open to making mistakes and trial-and-error. Design Thinking is framed as providing a fit with the innovation culture that the Ministry has tried to promote since the late 2000s, a culture that is about 'safe to fail' (#25, P4, P38), starting small, prototyping and trial-and-error experimentation before large-scale implementation and tolerating and learning from mistakes (#6, P63; #25, P30, P34). Design Thinking has been understood as a tool to implement and strengthen this new culture of innovation (#25, P38, P230). On the other hand, an existing openness for trial-and-error experimentation was helpful when introducing Design Thinking (#6, P63, P71).

> '*So there, when [the Ministry's delegation] met [the design consultancy], I think they were quite wowed [by] this concept of Design Thinking, prototyping, you know, early experimentation, you know, and I think, I think,* **they realised actually it fit very well with this culture that we are trying to promote within [the Ministry] which is [...] safe to fail,** *right?' (#25, P4)*

> *'I think if we don't even have this culture to start off with, then I don't think Design Thinking will even help out in the Ministry. [The Ministry] is an organisation where we encourage a lot of experimentation and trial and error [...].' (#6, P63)*

Around 2006, the Corporate Planning Department started to promote a culture of innovation that signalled a departure from the previous focus on continuous improvement, which had been channelled through the central Public Service Excellence initiative[30] (#24, P11). The CPD's innovation team, which later became the Design Thinking unit, was mandated with changing the culture towards a more innovative organisation (#24, P179). The team wanted to improve the current situation (#24, P417), while priding themselves on being pioneers in the civil service (#24, P87, P419, P423). From 2009 onwards, the CPD aimed at creating a culture of innovation within the organisation that could tolerate mistakes (#25, P2, P26). Because the CPD was seeking to instil this safe-to-fail culture to promote innovation, in 2008 or 2009 some of its members took a study trip to the U.S., in the course of which they met the design agency (#25, P4). Furthermore, the CPD's innovation team understands Design Thinking as promoting a culture of innovation and integrated it into the innovation framework the CPD established around 2009, which consists of three building blocks: 1) the notion of 'every idea matters', e.g. in the form of staff suggestion schemes and bridge projects, 2) the promotion of a culture of innovation, e.g. in the form of Design Thinking and 3) putting systems and structures in place to support a culture of innovation, such as the Core Innovation Fund, which is used to finance innovative projects (#25, P230, P238).

> *'I think to me Design Thinking [...], it started off as just another innovation methodology, [...] **something that would bring us that next leap in our state of innovation** that we wanted.' (#24, P299)*

> *'I mean, **we ultimately recognize that this is one of the many tools that we can employ, can use to help make things better in [the Ministry]**, yes. So, of course, the goal is basically to help us better achieve our business and our strategy outcomes.' (#7, P27)*

Henceforth, Design Thinking is discursively linked to CPD's innovation efforts (#23, P375; #24, P299). It is said to have changed the Ministry's notion of innovation because prior to the adoption of Design Thinking the Ministry's innovation efforts mainly comprised staff suggestion, work improvement projects, so called "boring stuff" (#24, P327). It seems that with Design Thinking there is less reverse engineering of solutions but more tolerance towards ambiguity (#24, P327, P329, P336). However, there seems to be a lack of direction in terms of the Ministry's innovation efforts which also makes it difficult to assess the impact of Design Thinking (#23, P369, P373, P375).

> *'If you don't know what this innovation effort is going to [do], then how do you know what Design Thinking will help you achieve? So, it's a chicken and egg thing [...]. So, we are just blindly trying out everything that we can in hope to improve our innovation effort [...].' (#23, P375)*

In the Corporate Planning Department reframing occurs by linking the adoption of Design Thinking to existing organisational values which makes the methodology appear less radical. Whereas the value of people-centredness seems to be deeply rooted in the organisation, CPD's effort of promoting an innovation culture interestingly seem to have coincided with the introduction of Design Thinking seems.

---

[30] The reform initiative 'Public Service for the 21st Century' (PS21) was launched in 1995 to improve service quality and promote change-readiness in Singapore's Civil Service (Quah, 2010: 8).

The alignment of Design Thinking with CPD's renewed focus on organisational development functions (#7, P27; #24, P137, P299) represents another type of reframing. The Ministry is known for scanning trends and adopting new methodologies (#2, P30, P110; #22-1, P73, P127; #22-2, P62, P64). For example, after Design Thinking's peak in 2010 (#1, P97) Behavioural Insights now seems to on the rise (#2, P108). Design Thinking is considered one of many tools (#6, P49, P53; #7, P27) and it is acknowledged that different methodologies serve different purposes (#6, P51). The Corporate Planning Department is therefore looking into how to complement and substitute different methodologies (#1, P190).

> *'But [the Ministry] was one of the first movers in, in that. And I think […] if you asked why, I would say, I think **we are looking to go out there to see what's available, and bring it back and try it**.' (#22-2, P62)*

By adopting Design Thinking, the Ministry could and wanted to position itself as an innovative public sector organisation (#7, P197; #22-2, P53, P55; #23, P131; #24, P87, P101, P105, P419, P459; #25, P114, P204, P220, P250). CPD members recognize the organisation's pioneer role in introducing new methodologies, like Design Thinking and Behavioural Insights (#1, P99; #2, P110, P158, P160; #7, P197; #22-2, P53, P55, P62; #24, P459; #25, P114, P250) as well as daring to do new things (#24, P139) such as re-organising the workspaces (#24, P467-473). This has also led other government agencies to approach the Ministry to share what they have learned (#7, P207). Although members of the CPD claim that the Ministry is more prepared than other government agencies, they also admit that it still has a long way to go (#22-2, P35).

> *'So there's this pride thing that we want to be the forefront. We want to be the pioneers. We want to […] do something that everybody else has not done.' (#24, P419)*

> *'We were like the benchmark for innovative Ministry.' (#24, P459)*

It is interesting to note that operational divisions have been perceived as less prone and ready to adopt new practices than policy divisions (#2, P24). This tendency seems to contradict the diffusion of Design Thinking, which was first picked up by service delivery and operational divisions and only later used by policy divisions.

ALIGNMENT WITH EXISTING METHODOLOGIES AND PRACTICES

Furthermore, Design Thinking is related to other capabilities promoted by the CPD's organisational development branch. The CPD claims that different methodologies and tools help it to understand the behaviour and needs of its customers and stakeholders and to test solutions with them, Design Thinking being only one of many (#4-2, P2; #6, P59; #7, P134). For example, facilitation and public engagement are also important tools in this regard (#4-1, P241; #7, P16).

> *'Things like facilitation, which is, some of these are also related to Design Thinking because when you do Design Thinking, you need to go out there and you need to probably have focus group discussions and things like that, you need to talk to people.' (#7, P16)*

There seem to be particular synergies between Design Thinking and methodologies, such as Behavioural Insights and ethnography, because these can enhance the Design Thinking process (#7, P136, P138). The previously-adopted approach of Systems Thinking is regarded as complementary (#1, P192; #4-2, P2). Moreover, Design Thinking is discursively aligned with the previously adopted Six Sigma approach,

as its emphasis on continuous improvement seems similar to Design Thinking's notion of prototyping and iteration (#2, P47, P53, P192). Design Thinking is said to be made up of many other small tools and it remains to be seen how the approach can possibly integrate them all into a whole (#2, P192).

Reframing also occurs by downplaying the perceived novelty of individual Design Thinking components. The CPD does not consider prototyping and testing elements that are new (#3, P11); rather, it considers them elements that have not been consciously applied in the past (#25, P166, P178). Design Thinking's ideation is also not entirely new, as officers previously gauged different options for their policy papers (#3, P11, P13, P17). Such discursive alignment can be seen as an attempt to increase the local acceptance of the approach.

Different methodologies are also said to speak to different people (#4-1, P18). In that respect, Design Thinking is considered to be personality-driven (#4-1, P229, P233) and therefore not suited to everyone (#4-1, P16) as it is, for example, team-based and requires its practitioners to be open-minded and outgoing during interviews (#4-1, P18).

NEW AREAS OF APPLICATION

Reframing or repurposing can mean that Design Thinking is applied to new areas in the process of adopting it to the local context. Overall, Design Thinking has been translated to a new context, namely that of a public sector organisation in Singapore. The design agency contracted by the Ministry had previously only worked with private companies and was focused on products, whereas the Ministry needed support in revamping an experience, an entirely new area of application (#24, P77, P79).

Design Thinking has provided a probably unintended benefit to internal work relations, another form of repurposing – namely, it has allegedly contributed to improving collaboration between officers and divisions because it helps with empathy-building (#24, P367, P371).

PERCEIVED SUITABILITY AND UNSUITABILITY OF DESIGN THINKING

One of the challenges the CPD has been facing is to identify suitable projects for applying Design Thinking (#1, P9, P13). Design Thinking may be more suitable for some projects than others (#2, P194; #7, P65, P95, P97; #25, P72, P146) because it is not a cure-all methodology (#7, P65, P99; #25, P72). Some years into adopting the new approach, the organisation is still exploring and experimenting with how and where Design Thinking can be applied (#2, P33). This also means complementing and customising different methodologies depending on which is more suitable for the project, e.g. DT and Behavioural Insights (#1, P91). For example, Design Thinking was supposedly once used for the wrong purpose of scoping a project, with officers using it to develop certain specifications because the division was not clear about what they wanted to do (#7, P95, P97).

> '[I]t may not be that Design Thinking is suitable or relevant, is like **not exactly a cure-all for all the issues that they need to be addressed**' (#7, P65)

Design Thinking has been used in different parts of the Ministry and in various functions to help in areas such as policy, service and operations (#7, P91). The methodology is used in problem- or issue-specific way (#7, P128, P130; #23, P63), e.g. for understanding the problem of frequent callers (#7, P130) or for improving communications with a target group (#4-1, P14). As mentioned earlier, adopting the Design Thinking methodology from the d.school Stanford may have initially led to a strong operational focus on streamlining processes and increasing efficiency, which may then in turn have obscured Design

109

Thinking's value in terms of understanding stakeholders better (#1, P21). Policy and service delivery divisions had the same intent in utilising the new approach (#6, P164). However, CPD members believe that it may be more difficult to apply Design Thinking to policy-related work than to the operational and service-related context (#6, P153, P154; #7, P77; #21, P39. Policy work, they argue, concerns not only the user but must also take the national (political) agenda into account (#7, P69, P71, P75). Moreover, CPD members believe that it is more difficult to apply prototyping to policies (#6, P153). The scepticism regarding Design Thinking's application to policy work also seems to stem from the outcome of an initial workshop that delivered no new insights and therefore failed to show the value of its methodology (#2, P33). Specific Design Thinking elements, such as prototyping and testing, may also be more applicable to operational divisions and frontline customer services than to policy divisions (#4-1, P200).

Apart from policy work, Design Thinking may also be less suitable for regulatory, enforcement work than for service delivery and customer service projects (#2, P26, P30). For political or national reasons, it is also viewed as less applicable to certain government projects (#7, P75, P77). Furthermore, Design Thinking's open-ended approach makes it appear less suitable when everything has already been scoped out (#23, P123).

> *"So the trick about **Design Thinking is […] it cannot be so restrictive I suppose. So while you already have the solution in mind there's no point in doing things**, backtrack the things, I mean the steps." (#23, P123)*

Legal services are another area of work believed to be problematic for the application Design Thinking, because they are limited in their creative freedom (#24, P323, P325). Similarly, there seem to be limitations to using Design Thinking in the Statistics Department, which needs to adhere to international guidelines (#1, P43).

ABANDONMENT OF THE TERM 'DESIGN THINKING'

Another type of reframing is the abandoning of the term 'Design Thinking' itself. De-emphasising, the term, however, does not mean that its principles are valued any less, and practitioners believe it will continue to be useful in the future (#4-1, P247; #23, P285; #24, P315). After the initial excitement, the Corporate Planning Department found that interest in Design Thinking waned (#1, P53; #3, P58; #7, P35; #23, P282; #24, P379). One way to sustain the approach is to abandon the label to avoid people perceiving it as a come-and-go fad or mere hype (#23, P152).

> *'So I don't see Design Thinking as Design Thinking, I just see it as something that… if you tell me or I… spoke to these customers, I got these qualitative insights and then I thought about it myself and then after that had these ideas and I went to test it with my customers. If you ask me is it Design Thinking? I would say it is Design Thinking. So **I'm not very tied to the term Design Thinking, I just see it as a culture of knowing your customers and learning to build effective solutions**.' (#4-1, P247)*

> *'I think [Design Thinking] will stay for a while more but I'm not sure if it will be here for good. But maybe, the way**, the principles of it will stay**, like how you should always emphasise with your users […].' (#23, P385)*

Moreover, CPD members mention that Design Thinking elements are used without explicitly referring to Design Thinking (#1, P188; #24, P315). It seems as if people have started using Design Thinking subconsciously, for example when engaging in user testing by seeking feedback via email etc. (#1, P188). This could be seen as an indication of how Design Thinking has been incorporated into daily practices.

However, an organisational development manager cautioned that such incorporation would be more of an ideal than reality (#7, P168, P176).

ALIGNMENT WITH THE POLITICAL SITUATION IN SINGAPORE

Design Thinking is also contextualised by referring to the current political situation and the Singaporean government's efforts to becoming more citizen-centred. Following the general elections in 2011, citizens have been voicing their dissatisfaction with and higher expectations of public services, demanding faster service delivery and customised services tailored to their needs (#4-1, P38; #6, P172, P173). However, compared to the past, when the ruling political party decided on what would be delivered and then did so, the government nowadays seems no longer able to keep up with its citizens' broad expectations in terms of resources, speed and efficiency (#4-1, P38). This manifests itself in an increasing number of complaints, mainly via social media or public engagement sessions (#4-1, P27, P31), and is being felt across Singapore's public service (#4-1, P38, P53; #6, P174). Citizens have become more vocal than before, in part because they are more highly educated and want to have a say in government policy (#3, P39; #6, P176). In the eyes of CPD members, the wider socio-political context is, therefore, putting greater pressure on the government because its citizenry is increasingly dissatisfied (#3, P11; #4-1, P25; #6, P174), allegedly making the government more receptive to change (#3, P39).[31] In this political climate, members of the CPD believe that the government must understand its citizens' needs and concerns better as well as re-build their trust, and they believe that the government has adopted Design Thinking because it thinks it will help it achieve these goals (#1, P178; #3, P11; #4-1, P27; #6, P176, P177, P179; #7, P16). Since the 2011 general elections, the government also seems to be facing demands for greater transparency (#4-1, P27). Consequently, for service delivery and policy implementation it is regarded as important for the government to consider how they approach citizens and how they engage them in the whole process (#6, P174). Apart from managing customer expectations, the government needs to more strongly engage its citizens in the entire process of policy design and delivery (#6, P176).

> 'And things like public engagement, which, due to the recent events, **we need to engage and listen to our citizens, empathise with them so that we can decide better policies for them**, things like that. So **Design Thinking is one important methodology** or resource to help people.' (#7, P16)

The Ministry's adoption of Design Thinking is aligned with how Singapore's government is increasingly adopting a citizen-centred perspective for policymaking, a change Design Thinking is said to enable (#22-2, P5). With the entire government going through a transformation and the central government unit Public Service Division apparently pushing Singapore's Civil Service to enhance customer experience (#25, P196), the timing seems to be good for Design Thinking (#3, P58). Hence, there seems to be enough urgency for the Singaporean government, and consequently for the Ministry, to become more user-centred (#2, P158; #4-1, P241), or rather citizen-centred (#1, P178). Officers believe that a user-centred approach like Design Thinking, including prototyping and testing, will soon become the norm (#4-1, P245).

> 'Design Thinking can be sustained and I think the timing is also right in the sense that the political environment and the whole government is going through this transformation journey' (#3, P58)

---

[31] For example, the Singaporean government started the Singapore Conversation to engage its citizens and understand their needs and concerns better (#6, P176).

This kind of reframing interprets the external environment and the current political context as drivers for the willingness to further invest in Design Thinking in order to understand and cater for customers and stakeholders better (#6, P47, P174).

Bricolage in the Corporate Planning Department

INTEGRATION OF PROTOTYPING WITH THE EXISTING NOTION OF PILOTING

The CPD promotes integrating the existing practice of piloting with Design Thinking's element of prototyping (#3, P29; #25, P166). CPD members do not consider piloting a new notion, believing instead that it was simply not consciously applied or ingrained before the introduction of Design Thinking (#25, P166, P178). The aim is to use piloting to really a test an idea, because in the past it was merely an attempt to communicate, a way of informing the public about upcoming changes or implementation (#3, P29).

INTEGRATION WITH BEHAVIOURAL INSIGHTS METHODOLOGY

Different methodologies are said to have their own benefits and it therefore appears sensible to take the best of each one and use them together (#14, P53; #17, P219). This means complementing and customising different methodologies, depending on which is more suitable for the project at hand (#1, P91). Design Thinking is therefore considered to be not the only tool for understanding customers and stakeholders (#4-2, 2; #6, P59).

More recently, starting in 2013, the Corporate Planning Department has been exploring how to combine Design Thinking with Behavioural Insights, an approach rooted in behavioural economics that aims at studying and influencing human behaviour (#1, P85, P192; #3, P58, P60; #6, P141; #14, P284; #17, P219; #24, P383). Both methodologies are seen as ways to understand customers better, because they look at people's behaviour (#1, P91; #4-2, P2; #6, P174), and to apply a human-centred perspective to the Ministry's work (#4-2, P2#11, P160). The Ministry is thereby trying to create its own personal methodology by merging the benefits of Design Thinking and Behavioural Insights (#14, P51, P284; #17, P219) and using them to reinforce each other (#3, P60). Behavioural Insights is believed to back up Design Thinking's qualitative user research with quantitative insights from randomised controlled trials (#3, P58).

> '[…] we're actually looking into this new process called Behavioural Insights. [...] It's a new thing again and Design Thinking is there but [CPD is] trying to **find ways to merge both benefits of Design Thinking and Behavioural Insights into one, our own personal methodology**.' (#14, P51)

> 'So I think we are at this inflation point where we are going for another phase, so with Behavioural Insights and by merging, **doing [Design Thinking] together with Behavioural Insights and hopefully complementing it with the quantitative insights** that we get from our trials and things like that.' (#3, P58)

For example, Design Thinking is said to be compatible with Behavioural Insights elements during the user testing phase (#1, P91). The use of randomised controlled trials in Behavioural Insights can serve as a way of testing prototypes (#1, P91; #17, P242).[32] Officers say that Design Thinking helps them to

---

[32] In a randomised, controlled trial, participants are randomly allocated different treatments under study. This is often used to test the efficacy or effectiveness of interventions and is frequently utilised in clinical trials. (Haynes, Service, Goldacre, & Torgerson, 2012: 8–9)

understand user needs, while Behavioural Insights helps them to design the policies that will aid them in fulfilling those needs (#22-2, P3). Moreover, Behavioural Insights is deemed more applicable to enforcement work than Design Thinking because it deals with understanding human behaviour (#2, P35). What is more, Behavioural Insights is considered more reliable and less biased due to its use of randomised, controlled trials (#2, P35). It is assumed to mitigate the interviewer bias present in Design Thinking (#2, P37), partly because its interventions seem to be subtler and less intrusive (#2, P45).

How officers combine the two methodologies and whether one is more suitable than the other must be determined on a project-to-project basis (#1, P91). However, the general perception is that Design Thinking has taken a back seat (#24, P383), with the initial excitement attached to it now reaching a stagnant stage (#3, P58).

Summary of the Corporate Planning Department's translated version of Design Thinking

How has the Corporate Planning Department translated Design Thinking? This subchapter summarises which aspects of Design Thinking have been filtered, reframed and integrated in this central organisational division (see Table 8).

In sum, the Corporate Planning Department shows a comprehensive understanding of Design Thinking. Whereas members of the CPD espouse a broad definition of Design Thinking, the actual application signifies an emphasis on the empathy part, namely qualitative user research, and the principle of user-centredness. The Design Thinking elements of prototyping and testing are highlighted as well but play a minor role. Another instance of filtering by emphasis can be seen in the initial emphasis on physical prototypes and an operational use of Design Thinking. Members of the CPD have also underlined two other aspects promoted by Design Thinking, a collaborative approach and a culture of innovation. The set-up of a dedicated innovation space represents another type of filtering as emphasis.

In the Corporate Planning Department, filtering by removal takes different forms. First, the suggested modular use of Design Thinking elements indicates how Design Thinking is adapted to the organisation's needs and agenda. Second, this is perpetuated with regard to particular elements, such as the limitation of the principle of user-centredness, restricted stakeholder engagement as well as the limited use of prototyping and testing. Third, adaptations of Design Thinking seem to have been required to contextualise the methodology in the local Singaporean context. Fourth, a narrow understanding of Design Thinking seems to have been fostered by a lack of continuous training, e.g. in user research methods.

All in all, the Corporate Planning Department exhibits many instances of reframing. Design Thinking is discursively aligned with an existing customer service orientation and the CPD's aim to innovate the service experience. References are also made to the challenges of dealing with a diverse customer base and operating frontline and customer services. Reframing also occurs by aligning Design Thinking with organisational values, an organisational development portfolio and existing methodologies and practices. Moreover, a repurposing of Design Thinking can be seen in translating the methodology to the new organisational context of the Singaporean Ministry as well as applying it to internal relations. The perceived suitability and unsuitability can also be understood as a kind of reframing, because it shows for which purposes and types of work Design Thinking is deemed applicable by CPD members.

The abandoning of the term 'Design Thinking' and the alignment with the political situation in Singapore represent other instances of reframing.

The Corporate Planning Department claims that Design Thinking enhances and brings to life the existing notion of piloting by adding the element of prototyping, allowing officers to actually test solutions. Furthermore, in the CPD bricolage does not primarily occur in the form of adding new elements to widely accepted practices but by integrating Design Thinking with the newly adopted methodology of Behavioural Insights to increase its perceived usefulness. Interestingly, this bricolage occurred in a later phase of adoption, approximately four years after the first encounter.

Table 8: Translation of Design Thinking in the Corporate Planning Department

TRANSLATION ACTIVITY	CORPORATE PLANNING DEPARTMENT
(1) Filtering	
(1b) Filtering by emphasis Emphasising or highlighting specific elements that could be perceived as 'congruent' with the new context.	Comprehensive definition of Design Thinking Primary emphasis on user research and the empathy phase User research means qualitative interviews Emphasis on the principle of user-centredness Use of other Design Thinking elements Secondary emphasis on prototyping and testing Initial emphasis on physical prototypes and operational use of Design Thinking Emphasis on a collaborative approach Emphasis on a culture of innovation Emphasis on a creative workspace and visualisation tools
(1a) Filtering by removal Removing or downplaying elements that could be perceived as 'incongruent' with the new context.	Emphasis on the modular use of the Design Thinking process and elements Limitation of principle of user-centredness Restricted co-creation and stakeholder engagement Limited use of prototyping and testing Adaptations to local Asian context A narrow understanding of Design Thinking because of lack of training
(2) Reframing Discursive alignment with local myths, past history, social movements or current trends and/or change of use/ area of application in order to enhance perceived usefulness/ acceptability in the new context.	Alignment with existing customer service orientation and aiming to innovate the service experience Alignment with task relevance for policy implementation and frontline services Alignment with existing organisational values of people-centredness and innovation culture Alignment with organisational development portfolio Alignment with existing methodologies and practices New areas of application Perceived suitability and unsuitability of Design Thinking Abandonment of the term 'Design Thinking ' Alignment with political situation in Singapore
(3) Bricolage Integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalised construct in this context.	Integration of prototyping with the existing notion of piloting Integration with Behavioural Insights methodology

Comparison of the Design Thinking template and the Corporate Planning Department's translated version

Based on this chapter's analysis of the divisional translation of Design Thinking, this section compares the template of the d.school (see Chapter 4.1.2) with the translated version of Design Thinking in the Corporate Planning Department (CPD).

MINDSET AND PRINCIPLES

The d.school's Design Thinking principle 'focus on human values' stands out in the way the Corporate Planning Department has translated the Design Thinking approach. CPD members have interpreted it with a strong emphasis on understanding customers and stakeholders in order to design better programmes, policies and services for them. In their translated version, CPD members also extend this principle of empathy to internal staff. Taking up the d.school's principle of 'radical collaboration', CPD members have highlighted that Design Thinking encourages less hierarchy in teams. In practice, however, radical collaboration is far from the reality, as the silo-mentalities of the divisions continue to prevail. The CPD also interprets 'radical collaboration' in terms of co-designing solutions with external stakeholders, which has, however, not been implemented so far. The d.school's Design Thinking principles regarding prototyping and testing ('embrace experimentation', 'bias toward action' and 'show don't tell') have been part of the CPD's translated version to a lesser degree, although CPD members have noted a shift from the previous mindset of piloting as a marketing activity towards a mindset of real testing. The d.school's principle of 'craft clarity', in the sense of inspirational reframing, is not explicitly mentioned by CPD members. The d.school's principle 'be mindful of the process' has been relevant for the training hosted by the CPD, which guides participants through each step. What sets CPD's translation of Design Thinking apart from the other divisions is its emphasis on a creative workspace and visualisation, manifested by the creation of an innovation space in the Ministry. This interpretation is in line with the d.school, which stresses the positive influence of spatial design on the creative process. However, not every Design Thinking project makes use of the facilities and material. Additionally, four years after the first d.school training, the CPD's later phases of adoption have started to focus more on the principles of Design Thinking rather than on strict adherence to its process.

Table 9: Translated Design Thinking principles in the Corporate Planning Department

D.SCHOOL TEMPLATE	TRANSLATED VERSION
Focus on human values	+++
Radical collaboration	+
Embrace experimentation	+
Bias toward action	+
Craft clarity	+/-
Show don't tell	+
Be mindful of the process	+/-
Role of space and visualisation	+

+++ strong emphasis   ++ moderate emphasis   + minor emphasis   +/- indifferent   - minor de-emphasis

In sum, CPD's translated version of Design Thinking features a strong emphasis on the principle of empathy and user-centredness ('focus on human values'). Compared to the d.school template, other principles, focusing on prototyping, experimentation, collaboration and the role of space play a minor role in CPD's translated version of Design Thinking.

PROCESS

While members of the Design Thinking unit in the Corporate Planning Department (CPD) mention the whole process of Design Thinking as laid out by the d.school Stanford, they highlight the empathy part as the primary focus. Design Thinking training teaches participants about all process steps and is based on d.school material (Design Thinking training slide decks by CPD, 2013). In contrast to the more comprehensive approach of the training sessions, however, the Design Thinking projects facilitated by the CPD have so far concentrated on the front-end of the Design Thinking process. CPD members advocate a modular use of the Design Thinking process and elements, depending on a project's needs and focus. Prototyping and testing play only a minor role in the projects the CPD initiates.
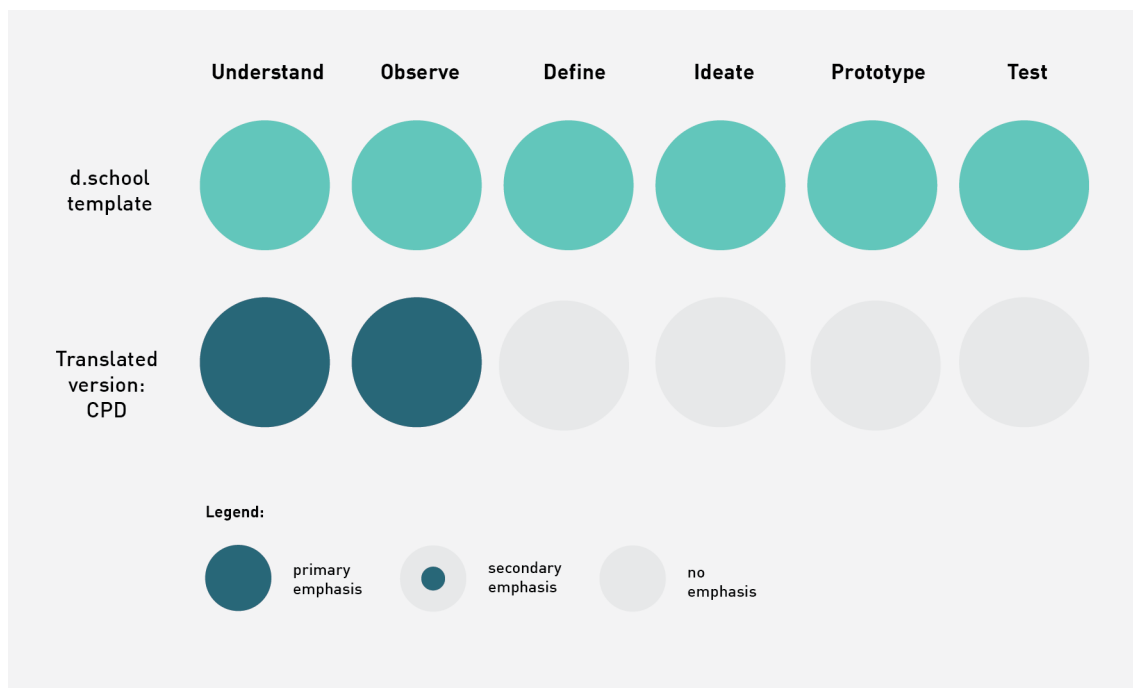
Figure 33: Translated version of Design Thinking process in the Corporate Planning Department

In sum, the CPD's translation of Design Thinking shows a clear bias towards the empathy phases ('understand' and 'observe') of the d.school's process, as indicated by the fact that its projects often stop at the interviewing stage.

METHODS AND TOOLS

The Corporate Planning Department has translated user research mainly in terms of qualitative interviews. While some interviewees refer to the use of some observation, it is not a common approach. During my research stay, the team heading the CPD's Design Thinking training programme also mentioned its desire to broaden the skill set taught in future training sessions by addressing more observational techniques. CPD members thus associate the limited use of user research tools with a lack of (upgrading) skills and experience. In their oversight role of managing the Design Thinking training and supporting its projects, members of the CPD's Design Thinking unit do not necessarily practice Design Thinking themselves, except in their role as Design Thinking facilitators. They therefore seldom mentioned specific tools and methods in their interviews.

116

4.2.3 Design Thinking in the service delivery & customer service divisions: The followers

Filtering by emphasis in the service delivery and customer service divisions

EMPHASIS ON THE EMPATHY AND USER RESEARCH PART

The empathy part of Design Thinking, which aims at understanding people better, is highlighted by the majority of members in the service delivery and customer service divisions (#11, P76, P140, P142, P158, P160; #12, P33, P129, P242; #14, P8, P47, P97; #17, P63, P119, P121, P123, P147, P205; #18, P11, P53).

> *'The real essence I think is about really understanding the person that you are designing for. You have to see the world through the person's eyes. [...] You need to be able to climb into his skin and know what is his experiences every day. [...] You have to understand his fears, yeah. So, to me, that is the most [...] useful part of [...] DT in government, in my work.' (#11, P138)*

> *'So, there's this on-going conversation to actually understand the people that are impacted and to incorporate them into how we design our policies and processes [...].' (#17, P63)*

The members regard the empathy and synthesis phases of the Design Thinking process, during which user research is conducted and analysed, as the main takeaways from the new approach (#11, P140, P142; #18, P15). The empathy phase is especially said to help officers uncover user insights (#17, P61, P125, P141; #18, P15, P81, P87), for example through negative customer feedback (#12, P33) or empathise with and learn from extreme users (#12, P69, P75).

> *'So along the way you will find that actually this technique is quite useful in uncovering a lot of things. Because whatever the person say to you may not really be the root problem, until when you keep digging, then you realise that, "Hey, it is totally something new".' (#18, P81)*

This focus on the empathy part of Design Thinking is further demonstrated by the fact that members cite interviews as one of the more-widely used elements of Design Thinking (#17, P47, P69).

There are a number of examples of how the empathy phase of Design Thinking was applied in the service delivery and customer service divisions. For example, in a simulation exercise at the new service centre, Design Thinking was used to uncover user insights (#18, P81). In another project, Design Thinking was applied to understand the motivation of frequent service hotline callers better by conducting user interviews (#17, P119, P121, P123, P147). Empathy tools are used to get stakeholders' feedback before changes are introduced (also #23, P137), e.g. in the form of stakeholder forums, or storytelling techniques are used to gather feedback as well (#12, P33, P51). The central Customer Service Department (CSD) also encouraged frontline staff to integrate user research into their daily work by asking feedback questions at the end of each customer interaction at the service counters (#18, P87), reasoning that understanding them better would help them to improve their service. However, this empathy is not only applied to external stakeholders but also to the Ministry's own staff (#12, P37). Officers went through the phases of user research and synthesis for an internal case management project (#11, P70). One team conducted interviews to understand the pain points of the work of the officers investigated and improve how duties were organised (#12, P11, P107). Empathy is also said to help engage staff to ensure compliance during implementation (#12, P125, P127).

Such highlighting of the empathy part of Design Thinking is a clear example of filtering by emphasis in the service delivery and customer service divisions of the Ministry.

EMPHASIS ON SYNTHESIS TOOLS

To get the most out of user research, members perceive the point-of-view or problem statement technique of Design Thinking as a helpful tool for synthesising the information and deriving insights into the users (#11, P140, P142; #18, P15). They say that the point-of-view synthesis technique helps them to reach a more balanced view of a situation, one that is less biased because it questions assumptions, e.g. about service recipients (#11, P140).

> 'But I think through the lens of going through a deeper, a more DT-type of lens, if you speak to people, speak to [target group/service recipients] you try to understand the whole situation outside, how [other stakeholders] are behaving to what extent. [...] And you form a POV, your POV will be very different [...]. So, that is very useful. Because if not you will be blinded to all these things easy.' (#11, P140)

EMPHASIS ON THE PRINCIPLE OF USER-CENTREDNESS

Similarly, members of these divisions emphasise Design Thinking's notion of user-centredness (#11, P138; #12, P37, P75, P246; #14, P49, P97; #17, P85; #18, P23, P42), which serves as a guiding principle (#18, P42). Design Thinking is hence understood as a human-centric problem-solving approach that stands for designing solutions around the customers (#12, P75; #14, P8, P49, P97, P105; #17, P85; #18, P11, P23). This is achieved by understanding user needs first before scoping a project (#14, P8). Members emphasise that empathy in terms of understanding stakeholders' needs and desires is an important part of designing user-centred solutions (#12, P246). Design Thinking seems to have shifted the perspective centred on the government to one centred on the person who will utilise the service (#18, P23, P42).

> 'It is really about looking at things from a total and a very different perspective. The first thing about **Design Thinking is really designing something for the person who is using it**, consuming it. [...] Because in Design Thinking you are putting the person who is using it first.' (#18, P23)

> 'Using DT, [...] when we do things in the Ministry, whether it is policy process or anything that we are making changes, **we put our customers at the heart, the centre, customer first**. [...] I think in a nutshell, [Design Thinking] has helped us to do our work and understanding that the work that we are doing is not for ourselves. But it is really for the people out there.' (#18, P42)

IMPROVING THE USER-FRIENDLINESS OF PROCESSES

Design Thinking is said to make processes more user-friendly, while at the same time reducing costs (#19, P92). The following examples illustrate how user-friendly processes have been put in place in one of the service delivery divisions. In one project, this was achieved by switching from paper to electronic delivery, which cut down on waiting times (#19, P92). In another project, the process of getting customers' signatures was simplified through the introduction of an electronic pad, removing the need for officers to walk around the office with hardcopy documents and hence saving a lot time (#19, P102, P104). In a third project, the team looked at how to make information on the Ministry's website more accessible (#19, P73). Yet another example of the principle of user-centredness being applied on a regular basis comes from one service delivery division that used it to mind-map current processes in order to make them more user-friendly (#12, P21, P23). Design Thinking is said to have increased the

Ministry's customer orientation and improved the customer experience of its counter services, for example by significantly reducing waiting times (#8, P56).

Apart from the empathy part of Design Thinking, other Design Thinking elements have been used on different occasions in the service delivery and customer service divisions. The following examples show the wide-ranging use of Design Thinking in these departments. In terms of filtering by emphasis, this means that different elements are used for particular purposes in different situations, highlighting what is important in the specific context.

Brainstorming and ideation are reportedly used in daily work (#12, P89-91; #17, P153, P155, P157, P159; #18, P15, P51, P81). Examples include application during prototyping of information material (#18, P51), during a simulation exercise at the new service centre (#18, P81), to get ideas for the re-organisation of investigation work (#12, P107) and to invite frontline staff to participate in brainstorming sessions on service improvements (#17, P157, P159). Moreover, officers believe that Design Thinking encourages employees to go for radical ideas and be open and not restrictive when thinking about solutions (#14, P97).

The Ministry has applied prototyping and testing on several occasions (#11, P170, P172, P228, P230, P232; #12, P69, P85, P93, P129; #18, P17, P42, P51, P53; #23, P238, P242). Members of the service delivery and customer service divisions highlight that prototyping and testing allow them to get quick feedback from real users to learn whether something works or not (#12, P69; #17, P189, P191) and before implementing solutions, which also creates better buy-in from superiors (#12, P129, P131). Design Thinking is employed to run trials and pilots with small groups of people (#11, P170, P172; #23, P242) made up of internal and external customers (#18, P53, P55). Saving money is seen as one of the benefits of prototyping (#12, P69). Examples from the service delivery and customer service divisions include low-resolution prototyping and testing of information material (#18, P42, P45, P51), a simulation exercise for the new service centre, including a service walk-through with customer role play to test interactions (#18, P77, P79, P83, P85; #23, P238), and testing a new form with investigation officers (#23, P242). Prototyping and testing build on the principle of iteration, which several members of the service delivery and customer service divisions have highlighted (#11, P236; #12, P75; #17, P199). Refinement is believed to improve solutions (#12, P37, P75). Among other things, this principle has been applied through repeated rounds of user testing with refined service prototypes (#18, P79, P83) and during the testing and reviewing of a re-organisation of investigation work in one division (#12, P107). Moreover, Design Thinking is believed to create an environment where experimentation and failing early and often are allowed and encouraged (#17, P95, P97).

Members of the service delivery and customer service divisions also highlight Design Thinking's collaborative approach, which involves multiple internal and external stakeholders for projects (#17, P59, P167, P175, P177, P215; #18, P55, P59). For example, staff from different divisions came together for a simulation exercise at the new service centre (#18, P79) and frontline staff have been invited to brainstorm on service improvements (#17, P157, P159; #18, P53, P55). A senior officer from the Customer Relations Division claims that Design Thinking promotes a collaborative atmosphere in which everybody, not just superiors, is asked to contribute to solutions (#17, P161, P163, P167). This can be seen as a departure from the usual 'mentality that the leader will provide the solutions' (#17, P161).

The Design Thinking process also seems to have encouraged more interaction with the management, thanks to its iterative way of working (#14, P131, P144, P146). People from different teams collaborate on Design Thinking projects (#17, P177, P179) and the approach is understood as a way of enabling informal collaboration between people from diverse backgrounds (#17, P185, P187, P199). Staff from other divisions are accordingly invited to make suggestions and brainstorm together (#18, P55, P59). Furthermore, Design Thinking is linked with direct collaboration, as compared to remote forms of technology-enabled collaboration (#17, P79), and is associated with co-creating solutions with stakeholders and promoting joint solutions through shared responsibility (#17, P61, P63, P193, P199). For example, in one project users were invited to participate in testing to give feedback on prototypes, which were later refined (#17, P199).

As the examples above have shown, different elements of Design Thinking have been highlighted in the service delivery and customer service divisions. Whereas these divisions place their greatest emphasis on the principle of user-centredness and the user research part of the Design Thinking process, bits and pieces of other components – such as brainstorming, prototyping and testing as well as working in an iterative and collaborative way – have been associated with Design Thinking as well. This shows that the divisions have interpreted the approach in a wide-ranging way and represents a form of filtering by emphasis.

DESIGN THINKING AS A TOOL FOR INNOVATION

Members of the service delivery and customer experience divisions have also highlighted that Design Thinking is linked to innovation. They understood it as a natural but defined approach to problem-solving and innovation (#14, P97; #18, P63) and a useful tool for discovering opportunities for improvement, e.g. by identifying pain points (#12, P69). It has been understood as teaching people a new way of doing things (#12, P37), of doing things innovatively (#12, P240). Others have highlighted the fun and light-hearted atmosphere associated with Design Thinking (#17, P89), e.g. projects and workshops conducted by the team of Design Thinking facilitators include a lot of props and photographs of crazy activities (#14, P230).

Filtering by emphasis has also occurred in this instance because Design Thinking is interpreted as a tool for innovation that can help the Ministry deliver better service and policies.

Filtering by removal in the service delivery and customer service divisions

EMPHASIS ON THE MODULAR USE OF THE DESIGN THINKING PROCESS AND ELEMENTS

Owing to organisational constraints such as time, resources and peoplepower, the Ministry's service delivery and customer service departments have de-emphasised the necessity of applying the full process of Design Thinking. Instead, interviewees advocate a modular use of the Design Thinking process and elements (#11, P70, P232; #12, P19, P33, P230, P250, P252; #14, P83; #17, P67, P69, P153; #18, P15, P53).

The modular use of Design Thinking components represents a form of filtering by removal because it de-emphasises the use of the entire process, using Design Thinking as and when it fits, depending on the project. For example, the conductors of an internal case management project used the elements of prototyping and testing while skipping the dedicated user research phase (#11, P232). In another

situation, officers went through the Design Thinking process stages of interviews, synthesis and ideation to come up with a new concept for the service centre (#18, P15).

Representing another instance of filtering by removal, strict adherence to the Design Thinking process steps is hence softened and interviewees argue for sticking to the principles (#11, P256; #14, P83). What is more, the confidence to break up the Design Thinking process and use components of it is associated with more experience (#24, P315).

> *'You need not necessarily go through the entire steps, you need to tackle the essence of each stage* and use it without even knowing that you're using it.' (#14, P83)

Design Thinking is perceived as very time-consuming (#14, P43) and time constraints in operational divisions seem to inhibit the deployment of the full Design Thinking process (#11, P70, P180, P182; #12, P19, P95; #17, P65, P67, P69, P71, P73; #18, P53; #23, P166, P170).

As a consequence, interviewees from these divisions report that parts of the Design Thinking process, e.g. brainstorming and prototyping (#11, P70) or the problem statement section, are not used thanks to time constraints (#12, P93, P95). Moreover, Design Thinking projects sometimes remain incomplete because of a lack of resources and peoplepower (#17, P125, P139). Hence, filtering by removal not only occurs because components of the Design Thinking concept are deemed incompatible with the local context, but simply because time and budget pressures do not permit a full use of the approach.

> *'We don't have very much time, so we really can't use the whole DT process* in doing the project. So we can only get snippets of the process in design thinking.' (#18, P53)

LIMITATION OF USER RESEARCH TO QUALITATIVE INTERVIEWS

The service delivery and customer service divisions seem to focus on the emphasis part of Design Thinking (see Chapter 4.2.3). As another instance of filtering by removal, empathy is more or less equated with interviews (#14, P47; #17, P47, P69), as members of the service delivery and customer service divisions believe that Design Thinking is mainly about 'going out and talk[ing] to people' (#11, P76). This represents a narrow view of the repertoire of qualitative user research, which could include methods such as ethnographic user studies, self-reported user diary studies (such as cultural probes) and observation techniques. The empathy part of Design Thinking has therefore been reduced to conducting qualitative interviews.

LIMITATIONS BECAUSE OF LACK OF EXPERIENCE

A limited use of Design Thinking could be linked to a lack of experience and knowledge. For instance, members of the service delivery and customer service departments reported that they found it difficult to extract user insights during the synthesis stage of Design Thinking (#18, P13). Similarly, user testing has not been fully applied because officers were selecting only their preferred solutions for testing and then attempting to find supporting evidence for that solution (#12, P99).

LIMITATION OF THE PRINCIPLE OF USER-CENTREDNESS

The service delivery and customer service departments have toned down the universal application of the principle of user-centredness. The focus on user-centredness may have a negative impact and even stir up conflicts with staff because it increases the workload (#11, P196, P198; #23, P228). There is also the fear that customers might abuse the feedback systems (#18, P29). What is more, members of these

departments believe that the government needs to balance multiple interests (#18, P25, P29) and therefore argue that the principle of user-centredness cannot always be fully applied, as different projects require different priorities regarding government decisions and user feedback (#18, P19; (#23, P220, P222, P224). In one project, for example, user research showed that customers preferred face-to-face interactions at the service centre, but the Customer Services Division had already decided to promote a self-help strategy to reduce service personnel (#23, P220, P222, P224). This is another example of filtering by removal, in which Design Thinking is adapted to the local context.

RESTRICTED VERSION OF USER RESEARCH AND STAKEHOLDER ENGAGEMENT

The government context and dealing with sensitive information, in particular, seem to affect the application of Design Thinking. Members of the service delivery and customer service divisions believe that there are restrictions for engaging in user research when it comes to sensitive government issues, which would require deciding when and how to interview stakeholders as well as informing stakeholders to keep interview contents confidential (#12, P137, P139, P141; P143). Their main concern is that such an approach could create misleading expectations regarding government action (#12, P139). In addition, the decision to conduct user research needs to be pre-approved by senior and top management if it concerns sensitive government information (#11, P176).

LIMITATIONS BECAUSE OF THE LOCAL ASIAN CULTURE

Members of the service delivery and customer service departments cite cultural differences as one difficulty of applying Design Thinking in Singapore. During the empathy stage of Design Thinking, officers seem to be too shy and sometimes uncomfortable to interview and engage with the public (#14, P47, P131-135; #18, P13). These cultural differences may inhibit the full use of the empathy tools of Design Thinking.

Furthermore, the service delivery and customer service departments perceive the notion of creating wild ideas during brainstorming as incompatible with the local mentality. As people in Singapore tend to be more cautious, only pragmatic solutions will be implemented (#17, P240). Similarly, officers try to mitigate the 'going wild' attitude of Design Thinking because they believe that real projects inevitably come with constraints (#18, P15), e.g. spatial constraints to display information in service centres (#18, P17), or that there are other business priorities (#18, P19).

Reframing in the service delivery and customer service divisions

ALIGNMENT WITH SERVICE DELIVERY AND CUSTOMER SERVICE TASKS

Design Thinking is deemed more suitable for projects that have an impact on customers, like customer service, service innovations and enhancing the customer experience (#18, P42; #25, P74). Therefore, Design Thinking is considered relevant for any service organisation that delivers services to internal and external customers in order to create user-centred solutions (#18, P11). Consequently, Design Thinking is described as particularly useful for divisions with a lot of 'customer-facing kind of interactions and operations' (#8, P35, P66). This is an example of how Design Thinking is discursively aligned to demonstrate a fit for service delivery and customer service.

As mentioned above, the Corporate Planning Department presented the adoption of Design Thinking as a strategic decision, because the Ministry is implementing a lot of policies and thus faces a lot of

customer concerns that it needs to anticipate (#25, P94, P96). Moreover, Design Thinking is argued to be relevant to catering for a diverse customer base as well as to understanding the multiple stakeholders of the Ministry (#11, P258).

> *'So, [...] it is highly relevant because we have so many customers and we don't really know all of them. And we have so many businesses, we have so many transactions with everybody in Singapore, you know, yeah. So, it's highly relevant, just whether or not the term sticks and whether or not its form evolves.' (#11, P258)*

Design Thinking is discursively aligned with enhancing the Ministry's customer orientation. It is believed to bring customer orientation to a new level by digging deeper to understand stakeholders (#17, P47). Seeking feedback from stakeholders previously happened 'on a very surface level' (#17, P47). Understanding customers is considered particularly important for frontline staff, allowing them to deliver better service (#18, P87). Members of the central Customer Relations Division therefore encourage staff at the service counters to use Design Thinking in order to uncover customer insights by incorporating feedback questions into their customer interactions (#18, P87). Because of the workplace proximity to the service centres that ensures that customers are always around, members of the Customer Services Division find it easy to conduct user tests with customers (#18, P53). Design Thinking is also employed in the Customer Services Division to deal with the pressure of increased customer volume (#13, P223).

REPURPOSING OF DESIGN THINKING FOR INTERNAL PROCESSES

One example of repurposing is the application of Design Thinking for internal process optimisation with a focus on staff (#12, P37), such as internal case management (#11, P70, P228) or the re-organisation of investigation work (#12, P107). One interviewee even applied Design Thinking outside of his work context, when his church was re-designing the choir room, identifying pain points and making improvements (#12, P67).

PERCEIVED SUITABILITY AND UNSUITABILITY OF DESIGN THINKING

Members of the service delivery divisions suggest that there are limits to the universal applicability of Design Thinking in government. One concern is dealing with sensitive and classified information that should not be disclosed to the public because it might raise expectations regarding implementation the government may not be able to fulfil (#12, P137; P139). This kind of reframing is used to explain why Design Thinking cannot be fully applied in the public sector.

Furthermore, certain areas of work are believed to be more or less suitable for Design Thinking. For example, Design Thinking is considered to be less applicable to enforcement work (#11, P118, P120, P228, P391; #12, P230): As the government's function in this area is to arrest its citizens, there seems to be little room for user-centredness (#11, P120; #12, P238; P29).

> *'So, even though, you know, I enjoy, you know, doing that part of it of improving the process for, for [the customers] but however, you know on the other end,* **we also play the bad cop role whereby if there's any infringement that we found or what, we still must take enforcement action against the [customers].** *So that's the other part of it.' (#12, P29)*

Design Thinking is also considered less suitable for problems in which only one solution is deemed possible (#18, P123). However, more opportunities to apply Design Thinking are seen when improving

the user-friendliness of processes (#11, P122; #12, P21, P23, P238), when multiple stakeholders are involved (#12, P236) and when the scope of a problem is not clear (#18, P123). Following the view that Design Thinking is suitable for certain problems but not others, the approach is perceived as only one methodology of innovation among others (#12, P240; #18, P119, P127).

ALIGNMENT WITH EXISTING PRACTICES

Another kind of reframing is the discursive alignment of Design Thinking with previous practices, such as piloting, in the sense that Design Thinking has made people more aware of the concept of testing and prototyping (#12, P85, P89, P204). Such discursive alignment with the previous practice of piloting also makes the approach appear less radical. However, this does not mean that piloting is the same as prototyping. Several members of the service delivery and customer service divisions reported difficulties with prototyping and user testing (#12, P99).

> *'But probably even before I was trained in Design Thinking, right, sometimes when we implement certain solution [...] like when people say let's do a pilot first, then that's already Design [Thinking].' (#12, P85)*

In a similar instance of reframing, Design Thinking has been described as a natural way of problem-solving (#14, P97) and a logical way of doing things (#17, P215), which makes Design Thinking appear less radical.

ABANDONING THE LABEL OF DESIGN THINKING

Reframing has also occurred in the form of abandoning the label of Design Thinking to avoid resistance during adoption. Although members in service delivery and customer service divisions sometimes refrain from using the term, they apply the principles (#11, P138, P158, P256; #14, P25; #24, P315) and individual components of Design Thinking (#12, P252).

> *'They would keep suggesting the usage of Design Thinking, even subtly, [...] they won't even mention Design Thinking. Maybe they will start off with 'Why don't you go and interview them, why don't you ask for more information from them first to find out the problem?' and slowly guide their officers through the process, without them knowing they are actually doing Design Thinking.' (#14, P25)*

ALIGNMENT WITH THE POLITICAL CONTEXT IN SINGAPORE

In the aftermath of Singapore's 2011 general election, the service delivery and customer service departments have discursively aligned Design Thinking with the political situation (#17, P203, P205; #18, P23). Members of these divisions understand Design Thinking as a way for government to understand and engage an increasingly vocal and seemingly more demanding public better (#17, P61, P203, P205; #18, P23). Public servants also seem to be afraid of increasing complaints and demands from citizens, as can be seen in the framing of gaining insights about citizens in terms of 'knowing your enemy' (#18, P87). Design Thinking is seen as a way to abandon the previous government-centred perspective and the expert mentality of public servants who decide on behalf of citizens (#17, P193). Furthermore, Design Thinking has been contrasted to the one-way communication approach of public engagement that was predominant in the past (#12, P33).

> *'Okay, it brings us closer to the ground when we do things [...] as in, I mean sometimes the government works in such a way that we will sit in the office and we think that we know everything [...]. So, now, there is this increasing focus on really going out and asking people in building solutions together, yeah. I think there is a shift in that direction, yeah.' (#17, P193)*

Bricolage in the service delivery and customer service divisions

NECESSITY OF COMBINING DESIGN THINKING WITH OTHER TOOLS

In terms of translation activities, bricolage appears to be hardly used in the service delivery and customer service divisions. Several members of the service delivery and customer service divisions note that Design Thinking is just one tool among many and needs to be combined with other tools, but they give no concrete examples other than the CPD's attempt at merging Design Thinking with the Behavioural Insights methodology (#17, P236; #18, P117, P127).

Summary of the service delivery and customer service divisions' translated version of Design Thinking

How have the service delivery and customer service divisions translated Design Thinking? This subchapter summarises which aspects of Design Thinking have been filtered, reframed and integrated in the operational divisions of the Ministry (see Table 10).

In the service delivery and customer service divisions, in sum, filtering by emphasis focuses on the empathy and user research phase. Qualitative interviews are interpreted as the main user research method and synthesis tools are highlighted as well. Moreover, members of these divisions emphasise the principle of user-centredness, which they interpret in terms of improving the user-friendliness of processes. Secondary emphasis is placed on other Design Thinking elements, such as ideation, prototyping and testing, the principle of iteration as and a collaborative approach. Last but not least, Design Thinking is translated as a tool for innovation for service delivery and customer service.

Filtering by removal has manifested itself in an emphasis on a modular use of the Design Thinking process and elements. User research has been limited to qualitative interviews, which also represents a type of filtering by removal. A lack of experience is also given as a reason why Design Thinking has not been fully implemented in the service delivery and customer service divisions. Moreover, the principle of user-centredness has been slightly de-emphasised and a restricted version of user research and stakeholder engagement proposed that does not include sensitive policy issues. The local Asian culture is cited as an impediment to fully applying Design Thinking, for example because Singaporeans tend to be shy during interviews. Filtering by removal also applies to prototyping and testing.

In terms of reframing, Design Thinking is discursively aligned with service delivery and customer service tasks, such as managing a diverse customer base or dealing with an increase in customer volume. In this way, the adopting divisions construct the relevance of the new methodology. The service delivery and customer service divisions have also repurposed Design Thinking for internal processes, which represents a new area of application. Furthermore, Design Thinking is perceived as suitable for improving the user-friendliness of processes, when multiple stakeholders are involved and when the scope of a problem is not clear. The alignment with existing practices, such as piloting, and the abandoning of the label of Design Thinking while continuing to use the principles represent other types of reframing. Design Thinking is also discursively linked to the political situation in Singapore to highlight its relevance for engaging an increasingly vocal and demanding citizenry.

The service delivery and customer service divisions seem to hardly apply bricolage as a translation activity. Members of these divisions, however, acknowledge the necessity of combining Design Thinking with other methodologies.

Table 10: Translation of Design Thinking in the service delivery and customer service divisions

TRANSLATION ACTIVITY	SERVICE DELIVERY AND CUSTOMER SERVICE DIVISIONS
(1) Filtering	
(1b) Filtering by emphasis Emphasis or highlighting of specific elements that could be perceived as 'congruent' with the new context.	Emphasis on the empathy and user research part Emphasis on synthesis tools Emphasis on the principle of user-centredness Improving the user-friendliness of processes Secondary emphasis on other elements of Design Thinking: ideation, prototyping and testing, principle of iteration, collaborative approach Design Thinking as a tool for innovation
(1a) Filtering by removal Removal or downplaying of elements that could be perceived as 'incongruent' with the new context.	Emphasis on the modular use of the Design Thinking process and elements Limitation of user research to qualitative interviews Limitations because of lack of experience Limitation of the principle of user-centredness Restricted version of user research and stakeholder engagement Limitations because of local Asian culture
(2) Reframing Discursive alignment with local myths, past history, social movements or current trends and/or change of use/ area of application in order to enhance perceived usefulness/ acceptability in the new context.	Alignment with service delivery and customer service tasks Repurposing of Design Thinking for internal processes Perceived suitability and unsuitability of Design Thinking Alignment with existing practices Abandoning the label of Design Thinking Alignment with political situation in Singapore
(3) Bricolage Integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalised construct in this context.	Necessity of combining Design Thinking with other tools

Comparison of the Design Thinking template and the service delivery and customer service divisions' translated version

Based on this chapter's analysis of the divisional translation of Design Thinking, this section compares the template of the d.school (see Chapter 4.1.2) with the translated version of Design Thinking in the service delivery and customer service divisions.

MINDSET AND PRINCIPLES

The translated Design Thinking version of the service delivery and customer divisions features most of the d.school's principles, albeit to a different degree (Table 11).

Table 11: Translated Design Thinking principles in service delivery and customer service divisions

D.SCHOOL TEMPLATE	TRANSLATED VERSION
Focus on human values	+++
Radical collaboration	+
Embrace experimentation	+
Bias toward action	+
Craft clarity	+/-
Show don't tell	+
Be mindful of the process	++
Role of space and visualisation	-

+++ strong emphasis   ++ moderate emphasis   + minor emphasis   +/- indifferent   - minor de-emphasis

The 'focus on human values' has been a central aspect of the translation of Design Thinking in these divisions, despite the fact that the principle of user-centredness is not fully applicable in a government context characterised by the need to balance multiple, conflicting demands. Furthermore, the divisions have highlighted the collaborative mindset of the d.school's version, enabling more informal exchange and encompassing both external and internal stakeholders. The d.school's three mindsets concerning prototyping and experimenting ('embrace experimentation', 'bias toward action' and 'show don't tell') can also be found in these divisions' translated versions. For example, divisional members mentioned the principle of iterative testing and the notion of 'failing early and often'. They also felt encouraged by management to test ideas and run small trials. While divisional members also mentioned the d.school mindset of 'crafting clarity', which is about synthesizing research data in an inspiring way to spark ideation, it seems to be less prominent than the other mindsets.

In sum, the d.school's Design Thinking principles seem to resonate with the members of the service delivery and customer divisions in their translation of Design Thinking. Overall, these members place a greater emphasis on the Design Thinking principles than on strictly adhering to the Design Thinking process.

PROCESS

Similar to the Corporate Planning Department, the translation of Design Thinking in the service delivery and customer service divisions is characterised by a focus on the empathy and synthesis part of the process, whereas a secondary emphasis is placed on prototyping and testing . As a consequence, the process steps of prototyping and testing are only occasionally applied.
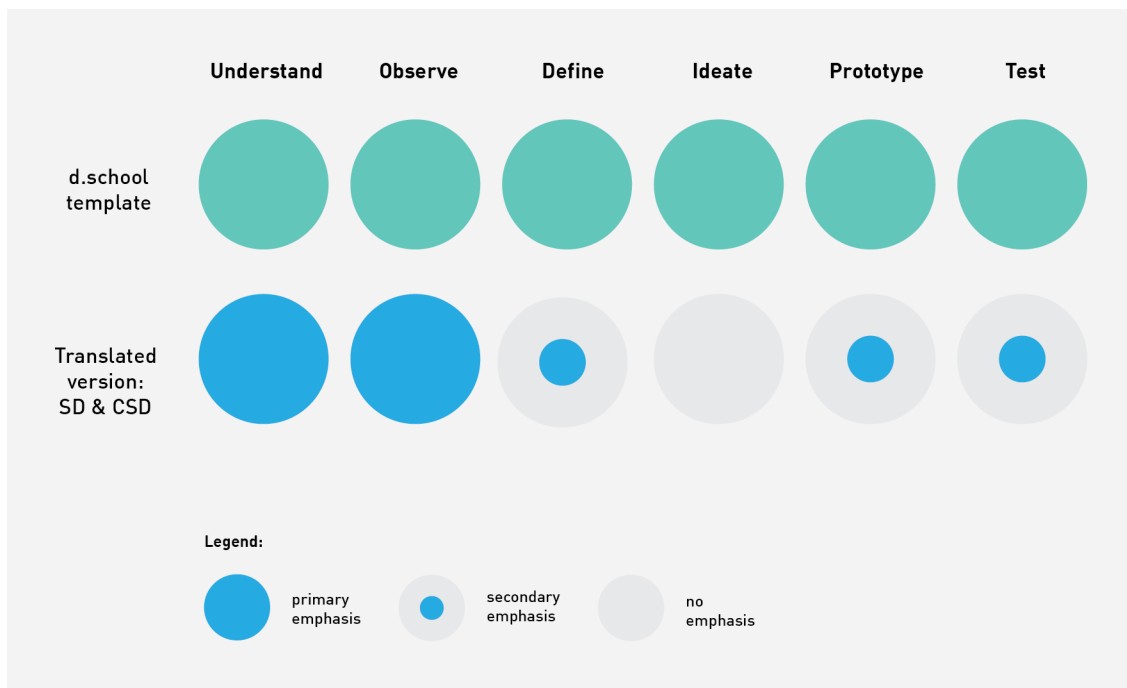
Figure 34: Translated Design Thinking process in the service delivery and customer service divisions

The members of these divisions above all call for a modular and more flexible use of the Design Thinking process and its elements, for example, prototyping without conducting user research. This also means incorporating some Design Thinking elements, such as a quick brainstorming session (ideation phase), into the daily course of work without having to go through all the process steps.

METHODS AND TOOLS

Members of the service delivery and customer service divisions have used a range of Design Thinking tools with a focus on the empathy ('understand' and 'observe') and synthesis phases of the Design Thinking process. Qualitative user interviews are the main method used during the empathy phase. A number of other empathy tools have also been used, such as storytelling techniques and stakeholder forums to gather feedback. As part of the empathy phase, members of the service delivery and customer service divisions have also looked at extreme users for inspiration. The d.school described such storytelling and learning from extreme users in their method cards. The divisions have also used the tool of identifying pain points in current processes. Identifying pain points and highlights can be part of the journey map method described in the d.school's method cards. The bias towards interviews in the translation of Design Thinking in this part of the Ministry means that other elements of user research suggested in the d.school template, such as observation and more ethnographic methods, have been removed. For the point-of-view phase, members of the service delivery and customer service divisions have applied synthesis techniques, like problem or point-of-view statements, found in the d.school methods cards. In addition, these divisions have used different prototyping types, such as low-fidelity paper prototypes of informational material and service walk-throughs for a test run at one of the service centres.

In sum, while members of the service delivery and customers service divisions seem to stick to the Design Thinking tools of the d.school, they have used only a small range of those tools.

4.2.4 DESIGN THINKING IN POLICY DIVISIONS: THE LATE ADOPTERS

Filtering by emphasis in Policy Divisions

EMPHASIS ON THE EMPATHY PART

While the definition of Design Thinking theoretically encompasses the entire process, including empathy, ideation and prototyping (#9, P162), policy officers especially highlight the empathy part of Design Thinking and the importance of understanding people's needs for policy reviews and drafts (#9, P45, P97; #19, P12, P102; #20, P5, P12, P21, P73, P174, P188, P231). This focus on the initial stages of the Design Thinking process represents filtering by emphasis.

> *'I think that the empathy part, the very first portion, the empathy part where we interview people and gain their insights, because everybody thinks differently, and what we think that is suitable for them, they would be able to be the one who tell us that, 'Hey it's not feasible because of this, this, this, this', and not only that, during the empathy process [when] they say that it is not feasible because of this, we can delve deeper and deeper as to why it is actually, the root cause of the problem or the root cause of their concern when we are going to roll out something. So I thought that **the empathy part is very important**.' (#19, P12)*

> *'At least for this project that I was working on it was quite clear that we were planning to just **emphasise on the earlier stages** and the **policy formulation part will probably not incorporate the Design Thinking**.' (#20, P21)*

In contrast to traditional, high-level policymaking that looks at data and sometimes incorporates feedback from operational divisions, Design Thinking is said to have contributed to a culture of investigating citizens and stakeholders by conducting user research first-hand – that is, a culture of being closer to the public in order to understand them better (#4-1, P90). This effort of more deliberately understanding customers and stakeholders began in 2012 in one of the policy divisions (#4-1, P190). Since 2014, other policy divisions seem to have a greater interest in this approach as well (#4-1, P192).

For policy divisions, Design Thinking is hence understood as a tool to understand the people affected by policies better and therefore to overcome the perceived lack of clarity about target groups (#20, P5). Design Thinking has, for example, been used to understand specific target groups in a policy division (#2, P30, P32; #6, P33, P154-155; #7, P31; #9, P210), with officers interviewing different profiles of the target group and creating personas based on user insights that were then later used during policy evaluation (#6, P155; #9, P210; #20, P5). The policy unit wanted to get a better understanding of the policy target group because its previous reliance on quantitative data appeared insufficient (#20, P5). For another policy review, officers employed the empathy part of Design Thinking to learn more about the situation of a specific policy target group and were surprised to find their assumptions refuted while generating new insights (#9, P97, P216). For another Design Thinking project, two policy divisions collaborated during the user research phase, for which they interviewed different profiles, because they were looking at similar subsets of users; afterwards, they continued to work separately with these user profiles (#1, P206).

> *'But all along we have been relying on quantitative data about them and we were thinking **we need to have a clearer understanding of the people that we are trying to serve, the people that we are trying to develop policies for**. So last year we decided to try and form some archetypes of [policy recipients] and we*

thought one useful way would be the process of interviewing them. The typical starting process of the whole Design Thinking workflow.' (#20, P5)

DESIGN THINKING'S QUALITATIVE USER RESEARCH GOES BEYOND STATISTICS

Design Thinking's empathy part is said to include interviews and sessions for reflecting on the interviews, in which the team summarises and synthesises insights and creates user profiles (#9, P216, P218). Moreover, user research is understood as an iterative process; a policy project, for example, may require additional interviews if the first round fails to provide sufficient information about certain policy target group archetypes (#20, P93). Conducting user research and the ensuing synthesis phase, in which insights are distilled from the interviews, are said to require some time (#20, P95). This means setting aside time to conduct additional research, such as one month to meet with stakeholders or conduct telephone interviews (#4-1, P96). In one of the policy divisions' Design Thinking projects, for example, it took team members an entire month to conduct interviews and create personas in addition to their regular work (#20, P93). User research is also said to need sufficient preparation, as officers need to prepare by thinking of user profiles to interview and developing interview questions, for example (#19, P90). For one Design Thinking project in a policy division user research and synthesis took three months in total, partly because the project team could not work fulltime on the project. Policy divisions often engage additional Design Thinking facilitators to conduct user research (#18, P34, P40).

The empathy part is described as understanding customer views, fears, concerns, needs and challenges by conducting in-depth interviews and drawing insights for policy design (#9, P45; #19, P12; #21, P37). The quality of user research is said to depend on the ability to distinguish between feedback and insight because insights are something that one could not have imagined without research and are therefore inspirational (#19, P12). Policy officers believe that Design Thinking aims at understanding the user, her needs and her challenges holistically by adopting a broad scope when conducting interviews rather than focusing merely on the intended policy changes. The officer should, for example, ask about subjects such as the household, family and education needs (#9, P55, P212). In that regard, Design Thinking's empathy part is considered a very personal section in which people talk about their concerns (#19, P92). Design Thinking is further believed to promote a human-centric approach to interviews that differs from the usual way of conducting policy consultations (#9, P45). During its usual policy consultation sessions, the Ministry asks a pre-defined catalogue of questions they want to clarify rather than attempting to discover what people truly need (#9, P45).

> *'So I thought that the **empathy part is very important**. […] And if you know how to differentiate between an insight and a feedback, you can develop something really good. […] But insight is, you will be like, 'wow, that is really something' and **you wouldn't know how this person come up with such a sentence that can shake your world.**' (#9, P12)*

Design Thinking's qualitative research approach stands in stark contrast to policy officers' previous reliance on statistics, an approach described as 'just analysing data, slicing, cutting data to come up with policy solutions for them' (#20, P77). The previous statistical approach is said to have led to a rather one-dimensional understanding of the policy target groups (#20, P73, P75, P77). Before Design Thinking, policy work seems to have been guided by assumptions about the group of people affected, whereas the mindset has now shifted towards understanding stakeholders better and actually speaking with them (#11, P162). By conducting user research and generating insights, Design Thinking is said to challenge assumptions, such as those the project leader may hold about the user group (#2, P32; #6, P155, P158; #9, P216).

'You can't put a face to the [policy recipient]. So we look at them as a monolithic block, […]. You can't really tell what kind of problems would they have, and I suppose even if they have problems it would differ depending on how old they are, what life stage they are in, so we can't quite get that from statistics.' (#20, P75)

Empathy itself seems to be a prerequisite for the user research part of Design Thinking. If someone has a closed, not an open mind, there is no point asking them if they are negatively biased towards the interviewees or not willing to listen to them (#19, P186, P188). On the other hand, Design Thinking is said to have helped its practitioners to develop empathy skills beyond the workplace, for example in personal relationships (#19, P65).

*'I think to do Design Thinking all you need to know is whether or not you have the **empathy streak** in you, there are just some people who do not have compassion. So I think to do a DT project successfully is that **you must be willing to listen to people** and if you are not that type who is willing to listen to people the DT methodology is not going to work for you because the **DT methodology requires you to be open and not so close minded** […].' (#19, P186)*

USER RESEARCH FOCUSES ON QUALITATIVE INTERVIEWS

The empathy part of Design Thinking is described as interviewing people and gaining insights from them (#9, P12; #19, P102). User research is equated with qualitative interviews (#20, P5). These interviews are usually one-on-one with policy target group members who have been identified beforehand (#20, P81), and they generally last for about one hour each (#20, P197). One policy division, for example, interviewed different profiles of the policy's target group for a user study (#20, P81, P197; #22-2, P7). For another project, the division conducted interviews to understand how stakeholders access information on the website (#19, P73).

EMPHASIS ON UNDERSTANDING THE PROBLEM BEFORE SEARCHING FOR A SOLUTION

In the past, policy officers usually based their policy reviews on pre-identified problems from past cases (#9, P156). The typical policy formulation is said to be top-down, in politicians bring the problem to the surface (#20, P178), and usually includes gaining some understanding of the problem by asking industry stakeholders, but not actually talking to those directly affected by the policy (#20, P178, P180, P182, P211), mainly because of time constraints (#20, P184). Asking other stakeholders about a policy target group, however, only provides second-hand information and leads policy-makers to form assumptions about the policy target group without ever talking to it (#20, P211). According to policy officers, the actual problem is rarely questioned but taken at face value, and they describe the research process as approaching understanding the problem at hand in a more streamlined way than Design Thinking does (#20, P178, P180).

'The main difference is policy officers did not really go down to talk to any customer, any user, we just talked on a project like that, based on some cases […] that happened.' (#9, P156)

*'I'm thinking that [Design Thinking] is **a possibility for us to really talk to the people who are affected by our policies because currently that's not how we do it.' (#20, P182)*

Design Thinking, on the other hand, focuses on the people who are affected by the policies (#20, P182, P209, P211, P213). It begins with understanding the policy target group in order to identify its needs and problems before proceeding to searching for a solution (#20, P197, P199, P203). This is done by relying on the 'initial stages of the Design Thinking process - interviewing, understanding the problem,

getting to the problem statement first before coming up with solutions' (#20, P73). According to policy officers, Design Thinking searches for the root causes of problems and delves deeper than the current approach, which they describe as more concerned with addressing symptoms (#19, P12; #20, P205, P180). They therefore perceive Design Thinking's value to lie in its ability to come up with a refined problem statement that questions or reframes the initial problem, in contrast to the usual way of immediately jumping at solutions (#20, P55, P57, P203). In the past, the usual approach would not foresee such a comprehensive study of the problem, as the following quote illustrates.

> 'At that point in time **it didn't occur to me that there was a necessity to even evaluate whether the problem statement is a true problem statement**. Because most of the time you go into the solutioning almost immediately, that's how we've been working, that's what we are used to.' (#20, P55)

Before the introduction of Design Thinking, policy officers would brainstorm among themselves for solutions, often choosing the most feasible one for the Ministry to implement (#19, P67). Design Thinking, especially the empathy part, is now said to have shifted the focus to listening to citizens rather than relying exclusively on the views of public servants (#19, P67).

> 'So with Design Thinking, the empathy part… because we are in a government sector, whatever we design, it's not for us, it's for the people. Because it is for the people**, it's the people we need to listen to, it's not just us.** So that's the difference now.' (#19, P67)

Design Thinking is understood as an open-ended process that has no pre-set solution; rather, the project's scope should still be open when officers talk to users and subsequently be based on their needs (#9, P153). Policy officers thus consider policymaking to be more robust if it is based on a clear understanding of both the policy target group and the problem that needs to be solved (#20, P213). In Design Thinking, solutions are therefore said to be based on insights from the empathy phase (#19, P6).

EMPHASIS ON CUSTOMER AND STAKEHOLDER ENGAGEMENT

Policy officers declare that engaging with the public for policy drafts and reviews is nothing new for the Ministry (#4-1, P35). However, in the past such engagement was considered rather procedural, whereas Design Thinking seems to have introduced a greater intent to incorporate people's feedback into policy reviews and public engagement now seems to happen earlier in the policy review process, where changes are more likely (#4-1, P35, #9, P160). In the past, public consultation was supposedly only an afterthought, a merely informative act executed before policy implementation (#9, P160). Officers usually did not proactively engage stakeholders early and throughout the policymaking process (#8, P68, P78; #9, P93) but only after the scope of the intended policy changes was clear (#9, P97, P117). Policy officers allege that one the main reasons why they did not reach out to the public was because they were scared of over-promising policy changes (#9, P93, P97). Design Thinking's emphasis on stakeholder engagement is hence contrasted with the previous government-focused mindset in which public engagement played only a secondary role.

> 'In the traditional work flow, engagement of your citizens or customers is not always [...] not seen as something necessary. **It is always what we think the customers want or need**, and then we put it on paper.' (#8, P68)

> '**Whenever we designed something we never asked them**, we just say: 'It's my design, you use'. So we have never asked them for their input before.' (#19, P80)

The Ministry has employed different ways and channels of customer and stakeholder engagement, such as email, website forms, audits, phone calls, focus group discussions etc. (#19, P199) to collect feedback and learn about citizens' and stakeholders' concerns. Apart from these formal channels, consultation sessions inspired by Design Thinking might bring certain concerns to light and help prioritise them (#9, P87, P89). In one Design Thinking project for a policy division, the team engaged members of the policy target group in a series of town hall sessions (#1, P13). For another policy review, team members invited multiple stakeholders to learn about different perspectives on a potential legislative amendment (#9, P55, P85). These stakeholder engagement sessions eventually led to legislative changes based on the insights that were gathered (#1, P13; #9, P53).

Before Design Thinking was adopted, the usual consultation process would include a written public consultation paper stating the scheduled policy changes and a request for feedback, followed by a public consultation meeting with a question-and-answer session on the policy changes that was usually restricted to a narrow focus rather than looking at the bigger picture (#9, P59). Design Thinking is said to have brought changes to this set-up of public consultation sessions, which would consist of rows of audience members and a panel of Ministry representatives sitting in the front to answer their questions about the policy changes intended (#9, P83, P85). The government would usually explain the policy rather than address citizens' concerns (#9, P85). This kind of set-up is now perceived as formal and rather confrontational (#9, P83, P85). Design Thinking, on the other hand, seems to allow a more open set-up for stakeholder engagement, for example breaking the stakeholders up into small groups for discussion, with representatives from each stakeholder group in every team (#9, P85).

> '[In] contrast when we do the **more open type of set-up** where [...] we break-up into small groups for discussion and then essentially if, if there is more deliberate process [...] each group can have that meaningful discussion of where we are coming from. So, the government has all these concerns that's why we are doing this. And the [stakeholders] say, but [the other stakeholders] really need this and this, then this is more [...] **a dialogue rather than just defending policies**' (#9, P85)

This informal set-up seems to encourage people to come together and share in a more open, collaborative way (#9, P61). In the past, public consultation was perceived as one-way communication in which the Ministry defended its policies, whereas Design Thinking is thought to have turned it into a conversation or dialogue (#9, P85). The introduction of Design Thinking seems to have led policy divisions to conduct more focus group discussions (#19, P90, P192, P194). Policy officers report that these discussions are well received because stakeholders feel that the government is reaching out to them and listening to their feedback (#19, P90, P192, P194). Therefore, the vision seems to be a more collaborative approach towards public engagement in which the Ministry works hand in hand with its stakeholders (#19, P194).

> 'And that **they felt that the Ministry is finally listening to them and not just rolling out policies based on what the Ministry thinks deems fit**. It's really encouraging because **people do feel that we are trying to reach out more to them** and I think that's the whole idea, because we want them to know that **we are listening even if their thoughts are not being put on paper** we are listening and it's a matter of time, if their thoughts are really good.' (#19, P194)

While policymaking after these consultations does not seem to have changed much, new insights from public consultation sessions may shift the priorities (#9, P87, P89). With a focus on stakeholder engagement, Design Thinking is said to help officers to anticipate citizens' expectations by consulting the public before implementing policies (#18, P40, P42; #25, P96), and the approach is increasingly used

to engage stakeholders before making any major policy changes (#23, P133, P135). Public engagement is hence conducted earlier in the process, before policy-makers reach their solutions, whereas before, stakeholder feedback was only used to make minor changes during the implementation phase (#8, P84).

Policy officers also believe that developing policies based on Design Thinking creates better buy-in from citizens and stakeholders before policy implementation (#9, P55) by listening to them and getting their input (#19, P3). However, although policy officers ask stakeholders for feedback to fine-tune their policy drafts, these stakeholders do not actually co-design the solutions (#23, P139). Nevertheless, the stakeholder engagement process seems to be managed better because Design Thinking's emphasis on empathy helps to create a common understanding and empathy for different viewpoints among multiple stakeholders, as compared to the usual consultation sessions, in which officers present their already-planned policy options (#9, P55). Rather than focusing on the intended policy output, Design Thinking begins with a broader scope and looks at the needs and challenges of the target groups (#9, P45, P55).

EMPHASIS ON THE PRINCIPLE OF USER-CENTREDNESS

Filtering by emphasis is evident in the policy divisions' highlighting of the principle of user-centredness. The divisions understand Design Thinking as a tool or process of understanding users before designing solutions, improving and making things easier for them (#9, P162; #19, P102; #20, P12). Hence, they consider it to be a way of understanding the citizens' perspective better and, on this basis, designing policies from their point of view (#1, P19; #9, P45, P55, P162; #19, P3, P10; #22-2, P7). Put differently, the approach means not designing policies in a vacuum (#22-2, P7).

> 'So, if you don't use Design Thinking, so **if you don't go and try to understand the citizen's perspective, you're designing policies really in a vacuum**. It's based on what we, in our little rooms think and that might not be what the citizen wants. So, to achieve the goal of, of really helping the citizens, then you need to find out what his perspective is, yeah.' (#22-2, P7)

The following examples illustrate how the principle of user-centredness has been enacted in the policy divisions. For one project, policy officers asked stakeholders to give feedback and make suggestions to help them to design a new regulatory framework (#19, P163). Learning about their pain points was especially helpful, allowing the officers to come up with better ideas to regulate accordingly (#19, P167). For another project, interviews brought new insights that helped to shift the emphasis of legislative work from enforcement towards more educational goals based on a greater understanding of people's needs (#19, P158). Moreover, Design Thinking has helped officers to tweak a policy to meet a target group's needs, resulting in legislative changes based on the user research (#9, P53; #21, P37).

According to members of policy divisions, Design Thinking has helped their divisions to become more customer-centred (#19, P155). While the divisions talked about being more customer-oriented before, the way of thinking about policy formulation and implementation was strongly focused on political objectives rather than customers (#8, P27).

> '[W]e have been talking about being more customer-oriented, but that has been something which we talk about, I think, but maybe in terms of the way we think about our policy formulation or the way we roll out policies, is still very much the way we have been doing before. It's more like, "Okay, what objective do we want to achieve with the policy?" And then we design the policy to meet that, [...], so it is always with the outcome in mind, but not necessarily with the customer in mind. So when we heard about Design Thinking then it was quite a radical idea to me, at least fresh.' (#8, P27)

Moreover, in the past Singapore's national policymaking was not targeted or customised to individual segments; rather, it followed the standard approach of increasing productivity that had proven successful before (#20, P207). Hence, policy-makers consider Design Thinking a useful methodology for becoming more citizen-centric with regards to policy design, for example by involving citizens in the policy review and design process (#19, P3). There is also hope that policies based on Design Thinking that cater for citizens' and stakeholders' needs better will last longer and thus result in less frequent policy changes (#12, P55), because the life span of policies has allegedly fallen from two to three years to only six months to one year (#12, P43). One policy officer described the shift from the previous, government-centred way of writing policy papers to the new, more citizen-centred method grounded in Design Thinking as follows (#19, P10, P65):

> 'I wrote papers before, as in policy papers before I was introduced to Design Thinking, and I can admit that when I wrote those papers, I did not think about the people who would be affected by this paper and its solely my thoughts on paper. […] Because I am not the majority of the people, I can't remember what paper I wrote before, but **there is just a difference when I write papers now. […] I will always think on how to better craft a reply or craft a product for the consumers instead of just my reply, 'You have to listen to what I say.'** It really changes the way I perceive the world […].' (#19, P65)

Officers say that Design Thinking has promoted adopting a more user-centred approach to the assessment of policy options or changes, whereas previously the main criterion for solutions had been how feasible the Ministry would find its implementation (#19, P67, P69). In the past, the Ministry is said to have applied a largely pro-business perspective to policymaking, which supposedly changed with the introduction of Design Thinking and its focus on the wishes of the citizens (#22-2, P7). Whereas policies in the past primarily catered for government's needs, Design Thinking has allegedly helped the Ministry to establish a more citizen-centric culture that promotes policies that increasingly cater for the needs of Singaporean citizens (#18, P23, P52). Employees are also said to enjoy Design Thinking because they feel satisfied when they can do something good for the people and positively impact their lives, for example by making processes more user-friendly (#19, P92). As a consequence, the creation of win-win situations for the government and the citizens has been proclaimed as a new policymaking objective (#19, P3).

> '[I]t was interesting **to listen from their point of view**, to craft out our policy papers, because at the end of the day these policy papers will affect them and **we want to craft out a policy that can possibly be a win-win thingy for both parties, the government as well as the citizens**.' (#19, P3)

> 'In my view, **Design Thinking has created a different culture in [the Ministry].** In the past we have policies that caters to our government's needs. In the recent years we have been talking about, coming up with policies that cater to the needs and the real needs of Singaporeans, which is really quite different.' (#18, P23)

Officers see the empathy part of Design Thinking, i.e. getting a deep understanding of a policy's target group and their needs through qualitative user research, as a prerequisite for user-centred policymaking (#19, P102; #20, P79). The insights generated in the research process would otherwise not surface and could not be used to develop relevant solutions for the target group (#19, P12). With Design Thinking, user research therefore happens before policy drafting (#1, P19).

> 'How do you know that the project is done through Design Thinking is when somebody says that this put a lot of people's mind at ease or it makes person's work so much better, so much easier, because **I don't**

think you can come up with [something] so fantastic to make a person's life better without understanding what the person is going through.' (#19, P102)

*'I was just coming into the [policy] division, so I guess the **natural question that I had in mind was who exactly are the people we are supposed to serve**. And then when I started looking at the information that we had **I realised that I don't feel comfortable with the information that I have for me to be able to come up with good solutions**. That's when I figured that **we probably have to dig a bit deepe**r.' (#20, P79)*

PERSONAS AS A TOOL FOR USER-CENTRED POLICYMAKING

Policy units have used personas or archetypes to develop user-centred policies. In one policy project, the aim was to find out more about a specific policy target group (#20, P5, P95). After the initial interviews left questions unanswered, the team decided that an additional round of interviews was needed to collect more information on certain policy target group archetypes (#20, P95). The team continuously refined the personas, whittling the initial five main archetypes down to three, for which more interviews were planned (#20, P95). The use of personas for policy work can be seen as another type of filtering by emphasis.

SECONDARY EMPHASIS ON OTHER DESIGN THINKING ELEMENTS

In the policy divisions, filtering by emphasis also occurs with regard to other elements of Design Thinking. However, ideation, prototyping, testing and the iterative process seem to be less emphasised compared to the empathy part and the principle of user-centredness.

IDEATION

Members of the policy divisions also emphasise Design Thinking's concept of ideation, which they sometimes apply to their policy work (#8, P5; #20, P190). For example, one of the policy divisions incorporated brainstorming into its annual strategy workshop (#8, P5, P9). Ideation techniques used in policy divisions include: using post-its to visualise ideas, inviting many people to contribute to ideation sessions and clustering and voting for ideas (#8, P5).

> *'For example, during brainstorming we used the ideas of using post-its; one idea per post-it and made really a lot of people to express their ideas and hopefully […] refining and editing and the idea of […] how do you group certain ideas together, and even vote for the ideas that you think are most reasonable ideas.' (#8, P5)*

Ideation and brainstorming techniques are said to have not changed much with the introduction of Design Thinking; what has changed, however, is the fact that ideas are increasingly based on insights from user research (#19, P69). Moreover, the evaluation criteria for ideas have changed as well. Previously, the desirability for the user was seldom considered. With Design Thinking, user-centred solutions have now become more important (#19, P69).

PROTOTYPING, TESTING AND THE ITERATIVE PROCESS

In the policy divisions, prototyping and testing play a minor role compared to the front-end of the Design Thinking process, such as user research and problem understanding. In terms of policy and programmes, prototyping would take the form of a pilot initiative with a selected group of users before any full-scale implementation, such as testing a new form with different users (#3, P19). Design Thinking seems to have engendered a greater openness to testing assumptions and changing the policy if it does not work

(#3, P31, P35), whereas in the past rolled-out policies only underwent minor adjustments (#3, P35). Previously, ideas were neither prototyped nor tested with users and officers designed solutions by themselves without asking for feedback (#19, P71, P80). Members of the policy divisions therefore see benefits in applying the Design Thinking elements of prototyping and user testing, which help helm them to validate policies or services from the users' point of view and see whether they work or not (#19, P18).

> *'I feel that **people are more open to say, 'We tested out and then we changed it.'** They are more willing to **change and test their assumptions**, rather than in the past […] policies are, when they are rolled out, they are more or less set in stone.' (#3, P35)*

> *'**Whenever we designed something we never asked them**, we just say it's my design, you use. So we have never asked them for their input before.' (#19, P80)*

Prototyping can involve low-resolution prototypes, such as paper sketches or digital mock-ups of websites with simple tools like Word (#19, P73, P75). For example, one of the policy divisions conducted user testing with a redesigned letter and discovered that different segments of user groups absorb information differently (#4-1, P210, P214, P217, P219). Using prototypes for testing also involves asking about details (#19, P80). Proximity to customers and stakeholders, which is the case at one of the Ministry's office locations that contains a service centre, seems to ease access for user testing (#19, P78). Officers see iterative prototyping as a Design Thinking feature that is key for addressing a problem statement (#20, P14, P59). The iterative process involves going back and forth, adjusting a solution by testing it with users until it provides a good fit (#20, P14).

Filtering as removal in Policy Divisions

EMPHASIS ON THE MODULAR USE OF THE DESIGN THINKING PROCESS AND ITS ELEMENTS

Policy-driven divisions have so far used Design Thinking in a more limited way than departments for service delivery (#21, P37). Policy divisions downplay the use of the whole Design Thinking process because its application seems too difficult to be practical (#6, P153-154; #8, P5; #9, P164, P170) and their Design Thinking projects often conclude after the empathy and synthesis phase (#4-1, P194, P241; #20, P188, P231). While ideation is sometimes applied, hardly any prototyping takes place (#8, P5; #20, P190). Such a modular use of Design Thinking represents a type of filtering by removal.

> *'So now, **for example for policy, we may be very comfortable finishing the project at the point of synthesis and documentation.**' (#4-1, P241)*

> *'I think because some of the colleagues were trained in Design Thinking, **we didn't use Design Thinking in terms of the full process, but we certainly used parts of it in our own work**.' (#8, P5)*

There are different reasons for policy divisions' modular use of Design Thinking. In some projects, the intention is simply limited to understanding trends and user profiles and the focus is accordingly placed on the empathy phase of Design Thinking, including interviewing and synthesis (#4-1, P196; #6, P154-156). Policy divisions also find it more difficult to apply prototyping and testing because they often do not own the implementation process (#4-1, P196).

As in the other divisions, time constraints seem to be major obstacle to applying Design Thinking. On the one hand, Design Thinking is considered to be a long, time-consuming and resource-intensive

process, especially the interviewing, synthesis and prototyping (#6, P153; #19, P59, P61; #20, P111, P178, P195, P197, P201, P239). Policy officers therefore refrain from using Design Thinking for every policy review or draft (#20, P111). Other limitations for the use of Design Thinking include the limited availability of Design Thinking facilitators to support projects in the policy divisions (#9, P198; #19, P61).

> *'If you really want to make it a DT project, it's really a long project, I don't think you can gain insights just within a day.' (#19, P61)*

Design Thinking is perceived as an additional burden on the policy officers' already-heavy workload; for example, policy reviews require a standard set of analysis features that need to be applied with or without Design Thinking (#9, P105, P107, P109). Design Thinking is therefore not deemed sufficient for conducting an entire policy review, but is rather treated as a complement to policy reviews' usual research activities, such as scanning for international policy trends and analysing statistical data (#9, P113). According to policy officers, Design Thinking is not replacing the typical policy formulation process and policy problems are still usually sourced from politicians instead of identified through the Design Thinking process (#20, P169). In light of time constraints, policy formulation apparently focuses on solutions rather than examining the problem more closely by talking to policy recipients (#20, P108).

> *'So, […] so, in general we think that **this is already quite comprehensive and to go and […] try and apply Design Thinking is […] in a way distracting this whole process** […] because that's really quite a lot of work in doing all these things so, so [laughs], yeah. At least at that level, we're like oh, no **if bosses never asked us to do this, maybe we just stick to the way we always do it,** yeah.' (#9, P107)*

Members of the policy divisions also admonish that they lack a good understanding of the empathy part of Design Thinking and therefore do not feel comfortable applying the whole process before having mastered the initial stages (#20, P193). Such a lack of Design Thinking skills and experience may naturally limit the range and depth of application.

Policy officers also report changes to the Design Thinking process. Such adaptations are said to depend on individual Design Thinking facilitators who may try out and experiment with new ideas during projects (#9, P228, P230, P232).

DE-EMPHASIS OF STAKEHOLDER ENGAGEMENT, CO-DESIGN AND THE PRINCIPLE OF USER-CENTREDNESS

Although officers say that Design Thinking has promoted stakeholder engagement, its application seems to be limited and co-creation appears absent from policy formulation or reviews (#23, P133, P135). Political reasons still seem to be the main driver behind policy decisions (#23, P133, #25, P72). The government judges some policies as too (market-)sensitive to be disclosed to the public before implementation, because engagement could create false expectations about policy changes (#25, P66, P68, P70, P72). As mentioned previously, in the past policy officers did not reach out and consult the general public for policy reviews because they were scared of over-promising policy changes (#9, P93, P97, P135). Therefore, policy officers usually only engage the public until the scope of policy changes is clear, which is generally later in the review process (#9, P93, P97, P135, P137, P147, P149). Sensitive policy issues are therefore deemed less suitable for Design Thinking, which is associated with engaging with and talking to users (#25, P70).

> *'There are **policies which are sensitive that you may not want to […] communicate,** you may not […] want to even do any form of engagement prior to that. I mean, certain policies are quite market-sensitive, right?' (#25, P66)*

*'We are very cautious with going out to the public asking what they think about this if there's no plan at all to change this policy, yeah. That's why, like I would say, [Design Thinking] actually helped, we hardly engage the public to try to find out their needs. Sometimes, I feel that […] it's a weakness, at least for policy officers we feel that our hands are a bit tied, we don't get to ask the public about what they think about things or, just reach out to get views because **we are scared of the concern of over-promising**.' (#9, P93)*

For policy reviews, this means that the government decides which parts of the legislation will be reviewed and opened up for feedback from citizens and other stakeholders (#9, P135, P137; #19, P162). Contested policies are hence less likely to be opened up for public engagement (#19, P162). For other policies that stand a greater chance of being positively received by the public because they improve people's lives, the Ministry will be more transparent and engage stakeholders by asking for feedback and suggestions (#19, P163).

*'I mean **it's not a popularity contest**, but we do want the citizens to feel that we are actually helping them, not hindering them from doing something.' (#19, P69)*

Users and stakeholders have so far not been personally involved in coming up with solutions, as no co-design sessions have taken place (#19, P82, P84; #23, P139). Design Thinking is rather employed to gather feedback and ideas for fine-tuning policy drafts (#23, P139). Moreover, while public engagement with stakeholders and citizens for policy papers and reviews is said to contribute to a broader scope, such engagement does not mean that the Ministry will take up or implement all of its ideas (#19, P3). Even with Design Thinking, stakeholder engagement for policy reviews is therefore clearly scoped (#9, P97; P119) and mostly confined to pre-defined policy changes (#9, P135, P137). As a consequence, public engagement often happens after a policy review has already been scoped, although Design Thinking seems to offer the chance of implementing it at an earlier stage (#9, P33). For one policy review, for example, public engagement was only conducted in a second round, after the scope was more clearly defined and the usual stakeholders and panels had already been questioned (#9, P97).

*'[T]he direction [the superiors] prefer was we scope clearly what are the areas under the [law] that we want to change. And then so that **when we start consulting the public it's confined in these areas**. It doesn't need that false impression that we are reviewing everything under the sun.' (#9, P135)*

Moreover, time constraints make it difficult to apply the empathy part of Design Thinking, which involves stakeholder engagement, meaning that policy formulation is usually carried out by applying a more streamlined approach of addressing a problem surfaced by politicians (#20, P178). Another constraint for stakeholder engagement comes with implementation. There might be dwindling acceptance of a policy as the time lag between a policy draft and its implementation usually consists of more than a year – by the time the solution is implemented, it may well be outdated or even altered because of the involvement of multiple stakeholders during the implementation process (#12, P47, P51). Thus, a gap may be created between what people voiced during policy consultations and the policy as it is actually put into effect (#12, P47, P51).

The restricted version of stakeholder engagement proposed by policy officers de-emphasises the principle of user-centredness for policy work because public engagement is still government-centred. The policy division's de-emphasis of stakeholder engagement, co-design and the principle of user-centredness can be viewed as a type of filtering by removal, as it delineates the boundaries for the application of Design Thinking in policy work.

In terms of filtering by removal, the prototyping and testing elements of Design Thinking are also toned down for policy work (#1, P218, P220; #3, P11, P17, P25; #6, P158; #21, P39; #22-1, P60-61). Prototyping has not been used much for policy work (#20, P5) and people have stopped trying to apply it (#20, P174). This can most likely be linked to the widespread perception among staff that it policies are difficult to prototype (#1, P218, P220; #3, P11, P17, P25; #6, P153, P154; #9, P45; #21, P39). One senior member of the Corporate Planning Division even voiced that policy divisions may have no need of prototyping (#6, P158). Nevertheless, most officers believe that prototyping must be adapted in order to be applicable to policy work (#20, P8; #22-1, P60-61), especially because it seems difficult to create a physical prototype for policies (#1, P220). Policy prototypes could be more cognitive, in part because it seems unfeasible to prototype things such as financial benefit levels (#22-1, P60-61).

> '*Today, we move Design Thinking towards a lot of policy areas, and I think prototyping is no longer done as much. Yes, we do go back to ask people, […] but that is **a bit different from prototyping it, because it is still very cognitive**. […] I mean; I can't possibly transfer money to your bank account; […] How do I transfer the money? Whether you have to queue up at this place and get it or whether out of your bank, **you can't prototype some of these things**.*' (#22-1, P60-61)

Sounding out policy ideas or changes in public engagement sessions before implementation is suggested as an alternative to the typical prototyping, which involves the creation of a physical object (#20, P8). Compared to testing physical artefacts, such as the reviewing of forms, it seems harder to prototype policies (#1, P220; #9, P45). Moreover, services or experiences are deemed to be more easily changed and tweaked along the way and therefore more susceptible to prototyping and testing than policies (#21, P39). Because policies have far-reaching implications for a large number of people, however, policy officers try to scope out policy changes prior to any implementation to avoid too many amendments, which might afterwards be perceived as policy failures (#21, P39). As a consequence, they de-emphasise the role that prototyping and particularly physical prototypes can play in policy work. Instead, they mention the need for an adapted form of prototyping that caters for the requirements of policy work (#20, P8).

> '*I do not know whether that would constitute prototyping, but I suppose **one way we can adapt for our purposes would be maybe to sound out our policy ideas** […], to see whether or not it will meet their needs. So I would imagine prototyping would be more in that kind of area rather than typical prototyping where you really develop something that they can really try to see if it works.*' (#20, P8)

This de-emphasis of physical prototypes represents a type of filtering by removal in the policy divisions.

Officers consider prototyping less applicable to policies due to reasons of fairness: Policies should supposedly not be changed frequently or suddenly to ensure equal treatment across different cohorts (#3, P11, P17, P25; also #9, P45). They also deem it less suitable for policies because policies affect a large number of people and supposedly need to run for a longer period of time before their effects become visible (#20, P8, P18). While this argument that prototyping is not suitable for policy design because it affects a large number of people may seem counter-intuitive, officers seem to mean it in the sense that policies cannot afford to fail during prototyping because of their high impact. Moreover, policy interventions are deemed difficult to test (#20, P32) because there are many factors that will influence the outcome and cannot be controlled for, especially because of the involvement of multiple stakeholders (#20, P29).

'[W]hen you think about government policies, sometimes there is a limit to how much you can prototype *and how much you can work on the run, because of the, for example, issue of fairness; you want to **ensure*** ***fairness in different cohorts** and stuff like this, so you can't keep changing your policies all the time. So* *there is less emphasis in those areas' (#3, P11)*

Another limiting factor for prototyping and testing in policy work might be that policy divisions are considered to operate at a broader, conceptual level and to not go into implementation details. For prototyping, for example, this means asking about the contents rather than the appearances of a particular form (#4-1, P202, P204).

Reframing in Policy Divisions

POLICYMAKING AS A NEW AREA OF APPLICATION

Using Design Thinking for policy work can be seen as a new area of application in its own right. This demonstrates a repurposing of the 'original' approach. Design Thinking has primarily been used to improve services, products, processes and experiences, and policy officers accordingly find it difficult to apply Design Thinking to policy work, as it seems more intuitive to apply it to improve processes (#9, P43).

'It is quite intuitive how you can apply [DT] to improve that experience. But there isn't really some process *of [applying it] to policy, so I don't really know how to translate that, yeah.' (#9, P168)*

With regard to policymaking, Design Thinking is said to help policy-makers discover the motivations of people affected by a policy or gather feedback about policies (#13, P137). However, some policy divisions have also started using some of the Design Thinking techniques in strategy meetings (#8, P9) or to understand policy target groups (#21, P37).

ALIGNMENT WITH POLICYMAKING PRACTICES

Design Thinking is discursively aligned with existing public consultation and policy feedback practices in the Ministry's policy divisions (#14, P83). Such reframing makes Design Thinking appear as something 'natural', as policy officers already 'use it without knowing' (#14, P83). This can even mean abandoning the term 'Design Thinking' altogether and using the principles subconsciously (#14, P83).

*'So, they reach out to the public, in a way. But **they might not necessarily know they are actually using the*** ***first stage of Design Thinking already**. [...] I think that's the beauty of Design Thinking, very natural, very* *natural people just use it without knowing.' (#14, P83)*

Moreover, Design Thinking is described as being similar to policy formulation because both processes involve coming up with a problem statement (#20, P106). However, policy formulation is usually more of a top-down process initiated by politicians or senior officers (#20, P108). Because of time constraints, it generally focuses on solutions rather than examining the problem more closely by talking to policy recipients (#20, P108). Design Thinking, on the other hand, is believed to be able to help policy-makers to scope out the problem more clearly by talking to the policy target group (#20, P108). Policy reviews and evaluation are likened to Design Thinking's iterative approach (#20, P243, P249, P251). Contrary to the Design Thinking process, policy reviews do not seem to follow a conscious iterative process, but are often less systematic and more reactive in nature (#20, P245, P247, P249).

Design Thinking is discursively aligned with the objective of becoming more citizen-centric and is linked to a general push across Singapore's civil service (#8, P137; #19, P3). Singapore's government is said to be adopting a more citizen-centric perspective in a concerted effort to design and view policies from a user-centred perspective and it believes that Design Thinking is the right tool to enable this change (#9, P45; #19, P3, P10; #22-2, P5, P7). Against this background, Design Thinking is interpreted as gaining a deeper understanding of stakeholders and citizens in order to develop more citizen-centric policies (#6, P17; #8, P137). As a consequence, Design Thinking is said to have initiated a shift from government-centred, politically-driven policy formulation to a more citizen-centric approach (#8, P27; #14, P8; #18, P23, P34).

> *'When I was introduced to Design Thinking methodology, I thought that this was an awesome thing because I think **in Singapore we are trying to move towards the climate that we want to be seen, not just seen, but actually practice what we preach that we listen to the citizens** and not just like, 'Hey, I am rolling out this policy, you have to listen to what I do'. So developing a policy based on design thinking methodology, I feel that we can get better by letting in the citizens whenever we want to roll out something.' (#19, P3)*

Moreover, the design consultancy admonishes that citizen-centredness should be extended from service delivery to policymaking (#27, P25). The Ministry has started to experiment with applying Design Thinking to policymaking, but the Design Thinking facilitators' lack of experience seems to so far have hampered this process (#27, P25).

> *'Can Design Thinking add value to policy decisions? […] we believe that **Design Thinking has a contribution to policy making because it's inherently human-centred**. Singapore has an ambition to be citizen-centred and you can't just be citizen-centred at service delivery. **You need to be citizen-centred through everything you do. You need to be citizen-centred at policy-making level as well**.' (#27, P25)*

The alignment of Design Thinking with the notion of citizen-centricity represents another type of reframing in which Design Thinking has been constructed as the instrument of choice for attaining the government's alleged goal of becoming more citizen-centric.

PERCEIVED SUITABILITY AND UNSUITABILITY OF DESIGN THINKING FOR POLICYMAKING

The Ministry seems to have no general recommendations about when to apply Design Thinking; rather, it is used when it is deemed applicable (#20, P233). Design Thinking is considered suitable for all projects that are not confidential or that affect many people, whereas it is regarded as less applicable to policies of political or national concern, contested issues (#19, P180) or market-sensitive policies, for fear of creating false expectations about government action (#25, P66, P68, P70, P72). Policies with a clearly defined scope and limited varying factors, allowing for a controlled intervention, may lend themselves to the use of Design Thinking as well (#20, P235, P237). According to the design consultancy, Design Thinking can potentially add value to policymaking in areas that citizens care about, such as education, healthcare, transportation and housing (#27, P95). However, it may be less suitable for macro-economic policy, legal frameworks or drugs policy (#27, P95). Policy officers believe that Design Thinking has the potential and possibility to be more consciously and regularly applied in the main areas of policy work (#20, P233). Coming up with a suitable project for using Design Thinking is therefore considered a critical aspect (#20, P239).

> *'For me **the only reason why I would not do a project the DT way is just because if it is a political or it's a national concern**. [...] But other than that **I don't see a reason why a project should not be done the DT way especially if it affects a lot of people**.' (#19, P180)*

Nevertheless, the scope for applying Design Thinking in policy-driven divisions seems limited (#21, P33) for a number of reasons. First of all, neither Singapore nor the Ministry have explored Design Thinking's application to policy work. Policy officers are therefore not aware of any previous examples and find it difficult to intuitively relate Design Thinking back to their work (#9, P43, P105; #20, P221, P223, P229). Second, the public agency context seems to limit Design Thinking's application to policy work because policies are usually scoped by political reasons (#19, P160; #23, P133).

> *'But I think it's still quite restrictive because after all we are public agency: **A lot of decisions are scoped by political reasons**. So there is [only] so much that design thinking can do... A lot of policies are already decided up there, actually.' (#23, P133)*

Third, this difficulty is further aggravated by the confidentiality of certain policies for political or national reasons (#19, P169, P171, P180) or because it would constitute a breach of the Official Secrets Act, so that Design Thinking cannot be used for these projects or policy papers (#19, P160, P162). Eligibility criteria, for example, might present a contentious issue (#19, P162, P171). A fourth limitation relates to the perceived difficulty of prototyping policies, especially with regard to regulatory issues (#9, P45). Prototyping and testing seem less feasible for policymaking because policies have a long-term perspective and effects are only visible after some time (#20, P18). Additionally, legal constraints hamper the opportunity to apply Design Thinking, for example in dispute mediation in policy divisions (#20, P67).

> *'There isn't any other way to do it and it's also within the boundaries of what's in the law and so again there are certain constraints. **There wasn't really room for us to think about doing things differently.**' (#20, P67)*

Moreover, policy divisions also need other tools than Design Thinking, because different tools serve different purposes (#9, P260). Design Thinking seems to be less of a priority in policy divisions because it is not seen as the main tool for policy formulation; instead, it is assigned a complementary role that feeds into policymaking by creating a better understanding of a policy target group (#20, P97, P99, P102). Hence, policy-makers do not believe Design Thinking to be necessarily required for policy work (#19, P184). In one Design Thinking policy project, for example, Design Thinking seemed to contribute no added value whatsoever because policy officers still had to follow the standard protocol for policy reviews (#9, P99). In that regard, Design Thinking can even be considered an additional burden because of the volume of people's core work and the additional effort it requires (#9, P105, P107, P109). What is more, policy officers do not feel encouraged by their management to apply Design Thinking to policy drafts and reviews (#9, P109).

Scepticism about the application of Design Thinking to policy work was also fostered by an initial project's failure to produce new insights on top of the solutions the policy division had already explored (#2, P33). Another project was also limited to the earlier stages of the Design Thinking process because previous policy projects were said to have failed in applying prototyping and testing (#20, P21, P29).

Policy officers find it difficult to translate Design Thinking to policy work (#9, P172; #20, P223) and see its benefits for this area (#20, P172). This is linked to the fact that most Design Thinking examples refer to improving processes, customer experience, customer service and product development (#9, P43, P168, P170, P172; #20, P16, P23) or, generally speaking, more operational types of projects (#20, P25). There seems to be a lack of best practices of applying Design Thinking to policy work (#20, P16, P23, P25, P27, P223). The design consultancy has confirmed this impression, claiming that policymaking is a new area of application for Design Thinking (#27, P25).

> '*[I]t's a challenge every time to think about how to apply it in policy work. It seems more intuitive to apply it to improve processes rather than policy. So, it's, I still don't really know how can I see it apply Design Thinking process to policy group [...].*' (#9, P43)

> '*They just don't see how it fits in, at least from policy, the issues that I was sharing with you, **it's not that instinctive that it works.** [...] Nobody has really sat down and said, "Hey, actually if we do it this way Design Thinking can also be applied in policy thinking". I don't think anybody has really tried to do that yet.*' (#20, P223)

Members of the policy divisions would like to see more examples of Design Thinking being applied to policy thinking using the full process, including ideation and prototyping (#20, P235, P237). For policy work, Design Thinking has so far only been employed up to the understanding stage (#20, P229).

Furthermore, the publicity about the Ministry's pilot project of re-designing a service centre with Design Thinking seems to have created the impression that the approach is less beneficial for policy divisions (#20, P27). Members of the policy divisions seem to feel discouraged because they have not seen any examples of policy changes where the entire Design Thinking process is applicable (#9, P170). Design Thinking's original emphasis on product development and service experience and as the dominant organisational translation might explain why it has been primarily applied in service delivery and customer service areas and less so in policy work. This type of reframing, however, seems to have led to a perceived lack of relevance of Design Thinking for policy work.

> '*You probably heard [...], the first project that they started with [the design consultancy] was for the [...] Services Centre. So again, I suppose with that kind of publicity the **impression that we get is [...] for our policy division it won't really benefit us if we use the Design Thinking methodology.**' (#20, P27)

The policy divisions have also employed reframing by discursively linking the adoption of Design Thinking to the 'pioneer' role of the organisation in introducing new methodologies, like Design Thinking and Behavioural Insights (#19, P201). In that sense, Design Thinking has been framed as a tool for innovation (#9, P19). Asked about the future of Design Thinking in the Ministry, one policy officer mentioned that Design Thinking has established a group of facilitators in the Ministry who act as agents of change by helping other divisions to innovate and improve; in that sense, the facilitator model is perceived as an innovative tool itself (#9, P258). However, in order to sustain innovation in the Ministry, the current facilitators should also be equipped with tools other than Design Thinking (#9, P258).

In the search for new trends, previously adopted methodologies may be superseded by new ones. Although the Ministry believes that Design Thinking will be useful in the future, it might be replaced (#19, P155). There are speculations that Design Thinking may not continue because Singapore's Public

Service Division no longer seems to support it (#19, P210) and public servants outside the Ministry have described it as a 'dying methodology' (#19, P201).

PERSONAL SKILL DEVELOPMENT THROUGH DESIGN THINKING

Another instance of reframing can be seen in the alignment of Design Thinking with personal development and skill training for Ministry employees. In that regard, Design Thinking is said to contribute to enhancing the skill set of employees. The empathy part of Design Thinking, including the planning and conducting of focus group discussions, is seen as a career development opportunity, providing staff with the chance to learn new skills (#19, P90).

Bricolage in Policy Divisions

INTEGRATION WITH THE EXISTING POLICYMAKING PROCESS

The policy divisions have integrated Design Thinking with the existing policymaking process, including policy reviews and policy formulation. It complements rather than replaces the extant practice.

In terms of bricolage, Design Thinking is not seen as the main tool for policy formulation but feeds into policymaking by creating a better understanding of a policy target group (#20, P97, P99, P102). As a consequence, Design Thinking is not replacing the typical policy formulation process but is applied as and when it seems fit (#20, P169). Furthermore, Design Thinking is assumed to contribute structure to the policy review process in the sense of incorporating an iteration component (#20, P245, P247). In order to find synergies, policy officers suggest mapping the existing policymaking process against the Design Thinking process (#20, P251).

> *'We don't use Design Thinking as the main tool for policy formulation. So in this case it just happens that the Design Thinking process would help us with understanding the [policy target group], the understanding would eventually feed into our policymaking.' (#20, P102)*

> *'[Design Thinking] might be helpful to kind of structure how we work right now, mapping it against the Design Thinking process. I'm just thinking out loud.' (#20, P251)*

Design Thinking is not regarded as sufficient for conducting a policy review, but rather supplements the usual research activities, such as scanning for international policy trends and analysing statistical data (#9, P113). For a policy review, Design Thinking is usually applied after the standard analysis has been carried out and the scope has been defined (#9, P115, P117, P135, P137). As a consequence, Design Thinking may only be narrowly applied, for example to add qualitative user insights to statistical analysis. Although management seems to feel more comfortable with such a pre-scoped and restricted version of public engagement, policy officers suggest that one could also start with Design Thinking, which would keep the process more open (#9, P115, P119, P133, P135, P137).

> *'I personally feel that the Design Thinking process [...] can complement this [=policy review process], but we still need the core work, policy review still needs it [...]. The thing about the way we have been doing it, is we usually try to do our understanding of this topic first, before we go out, [before] we try to apply Design Thinking and try to do any consultation.' (#9, P115)*

In this type of bricolage, Design Thinking seems to complement the existing policymaking process.

Moreover, Design Thinking has been coupled with existing public engagement and consultation practices as part of the policy design and review process. Design Thinking seems to change both the timing and the set-up of these practices as well as to add a new skill set.

First, Design Thinking seems to be shifting public engagement to an earlier point in the review process, with policy officers no longer using it only shortly before rolling out the policy (#4-1, P35, #8, P68, P84; #9, P160). Previously, officers did not proactively engage stakeholders early on and throughout the policymaking process (#8, P78). Although public engagement is nothing new, in the past it was rather procedural, whereas Design Thinking seems to have encouraged officers to incorporate people's feedback into policy reviews.

Second, Design Thinking seems to broaden the scope of public consultations during policy reviews. Before Design Thinking, the consultation process was narrowly focused on the foreseen policy changes rather than looking at the bigger picture (#9, P59). The consultation would be informative in the sense of explaining the policy to the stakeholders rather than addressing their concerns (#9, P85).

Many policy and process reviews already stem from understanding and documenting a known problem and often incorporate feedback (#4-1, P102). Formal feedback channels, such as email, already provide policy officers with a sense about people's views about certain policies (#9, P89). Officers says that the process of policymaking, which needs to balance different concerns, has not changed significantly with the adoption of Design Thinking, but a new way of conducting public consultation sessions might surface additional stakeholder concerns and insights that could lead to a shift of priorities regarding policy changes (#9, P87, P89).

> *'So, I think in general **we have a sense what are people's views about certain policies**. [...]That's why I say it might not be very different, yeah, how are we going to do our policy, but **the session might help draw attention to certain concerns** more than another, so it helps prioritize what we will look at, what we will do first, the topmost concern of the people.' (#9, P89)*

Integrating Design Thinking into the policymaking process is complementary by including qualitative feedback from interviews and consultation sessions before the implementation of policy changes (#8, P78; #18, P34; #23, P133). Public consultation was previously only an afterthought and fulfilled a mostly informative purpose before policy implementation (#9, P160). User research, in the sense of understanding stakeholders and citizens, now happens before policy drafting (#1, P19).

> *'**In a way, it actually changed a lot of our policy decisions**, etc. So we will sound out from our stakeholders before embarking on any changes to the policy.' (#23, P133)*

Furthermore, Design Thinking is said to have contributed to a different style of public engagement. Compared to the existing engagement process, which is characterised by a formal, relatively confrontational set-up, Design Thinking is said to promote a more informal consultation arrangement with small-group discussions that encourage people to come together and share in a more open and collaborative way (#9, P61, P83, P85). Design Thinking is perceived as having changed the nature of consultation from a one-way communication effort to a 'two-way type of dialogue' (#9, P83, P85).

> *'[T]hey felt that the Ministry is finally listening to them and not just rolling out policies based on what the Ministry thinks deems fit. It's really encouraging because people do feel that we are trying to reach out more to them […].' (#19, P194)*

> *'But it was interesting to listen from their point of view, to craft out our policy papers, because at the end of the day these policy papers will affect them and we want to craft out a policy that can possibly be a win-win thingy for both parties, the government as well as the citizens.' (#19, P3)*

Design Thinking is said to complement the usual approach of policy consultations by allowing for more general, open feedback instead of focusing on the scheduled policy changes, a shift that seems to change the emphasis of policy consultations (#9, P45, P55). The emphasis on the empathy part of Design Thinking allegedly helps officers to manage the consultation process better because it concentrates on creating a common understanding and empathy among multiple stakeholders with often divergent viewpoints (#9, P55). Officers are also starting to use such broader scopes for consultation in their policy reviews (#9, P160). Design Thinking seems to have changed policy decisions, as stakeholders are increasingly involved before any major changes to policies are made (#23, P133). However, many policy decisions are still based on political reasons (#23, P133, P135).

> *'In general **because of the emphasis on the empathy part phase**, I thought that, at least **the process is better managed** rather than if we have done it [...] just in our usual former consultation way.' (#9, P55)*

Third, Design Thinking is said to complement existing public engagement practices by adding specific skills, such as identifying and interviewing stakeholders as well as the ability to listen (#8, P70).

> *'I think when people are trained in Design Thinking, I think whether or not it is used for work processes, **the fact that there are certain skills involved in Design Thinking**, whether it is about identifying stakeholders, [...] interviewing stakeholders, listening, **it enhances the process**.' (#8, P70)*

In terms of bricolage, the policy divisions' translation includes integrating Design Thinking with the existing policymaking process as well as with current practices of public engagement and consultation.

Summary of the Translated Version of Design Thinking in the Policy Divisions

How have the Ministry's policy divisions translated Design Thinking? This subchapter summarises which aspects of Design Thinking have been filtered, reframed and integrated in the two policy divisions (see Table 12).

In sum, filtering by emphasis in the policy divisions is characterised by a focus on the front-end of the Design Thinking process. Members of the policy divisions have highlighted both the empathy part and the principle of user-centredness, and they mainly interpret user research in terms of qualitative interviews and stress the benefits of qualitative research, which can provide deep user insights that go beyond statistical data. They have also stressed Design Thinking's emphasis on a thorough understanding of the problem at hand. Moreover, stakeholder engagement seems to play an important role in the policy divisions' version of the empathy phase. Filtering by emphasis allows these divisions to translate personas as a tool for user-centred policymaking. Members of the policy divisions also highlighted other elements of Design Thinking to a lesser degree, including ideation, prototyping, testing and the iterative process.

With regard to filtering by removal in the policy divisions, policy officers de-emphasise the use of the Design Thinking process in its entirety, which complements the aforementioned focus on the approach's empathy part. Adaptations of the Design Thinking process by individual Design Thinking facilitators represent another form of filtering by removal. Moreover, filtering by removal also applies to stakeholder engagement, co-creation and the principle of user-centredness, for which a number of

limitations and constraints have been reported. Another instance of filtering by removal with regard to policy work can be observed policy divisions' downplaying of the Design Thinking elements of prototyping and testing as well as their de-emphasis of the role of physical prototypes.

The policy divisions exhibit several instances of reframing. First of all, policymaking constitutes a new area of application. Furthermore, Design Thinking is aligned with policymaking practices, such as understanding problems for policy formulation, the iterative nature of policy reviews and existing public consultation practices, which makes it appear more familiar in the new setting. Another type of reframing can be seen in the alignment of Design Thinking with the notion of citizen-centricity. Delineating the suitability and non-suitability of Design Thinking for policymaking also represents a type of reframing. Overall, Design Thinking's applicability to policymaking is regarded as limited. Policy division members also perceive Design Thinking as less relevant for policymaking because of an initial operational and service-delivery focus in the Ministry's adoption of the approach. The adoption of Design Thinking is further linked to an organisational development portfolio of adopting new methodologies and reframed as an opportunity for the staff to develop its skills and become more empowered.

In terms of bricolage, Design Thinking has been integrated with the existing policymaking process as well as current practices of public engagement and consultation. For policy reviews, it adds qualitative insights and feedback to the focus on quantitative research. For policy formulation, the emphasis on Design Thinking's empathy part is said to contribute to a deeper and more comprehensive understanding of a policy's target groups. Design Thinking is also believed to have changed the timing and style of public engagement practices and added a new skill set.

Table 12: Translation of Design Thinking in the Policy Divisions

TRANSLATION ACTIVITY	POLICY DIVISIONS
(1) Filtering	
(1b) Filtering by emphasis Emphasis or highlighting of specific elements that could be perceived as 'congruent' with the new context.	Emphasis on the empathy part Design Thinking's qualitative user research goes beyond statistics User research focuses on qualitative interviews Emphasis on understanding the problem before searching for a solution Emphasis on customer and stakeholder engagement Emphasis on the principle of user-centredness Personas as a tool for user-centred policymaking Secondary emphasis on other Design Thinking elements Ideation Prototyping, testing and the iterative process
(1a) Filtering by removal Removal or downplaying of elements that could be perceived as 'incongruent' with the new context.	Emphasis on the modular use of the Design Thinking process and elements De-emphasis of stakeholder engagement, co-design and the principle of user-centredness Downplay of prototyping, testing and the role of physical prototypes
(2) Reframing Discursive alignment with local myths, past history, social movements or current trends and/or change of use/ area of application in order to enhance perceived usefulness/ acceptability in the new context.	Policymaking as a new area of application Alignment with policymaking practices Alignment with the notion of citizen-centricity Perceived suitability and unsuitability of Design Thinking for policymaking Perceived lack of relevance for policy work because of (initial) operational, service-delivery focus Alignment with the organisational development portfolio of adopting new methodologies Personal skill development through Design Thinking
(3) Bricolage Integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalized construct in this context.	Integration with the existing policymaking process Integration with the existing public engagement and consultation practices

Comparison of the Design Thinking template and the policy divisions' translated version

Based on this chapter's analysis of the divisional translation of Design Thinking, this section compares the template of the d.school (see Chapter 4.1.2) with the translated version of Design Thinking in the policy divisions.

MINDSET AND PRINCIPLES

The policy divisions seem to have embraced some, but not all, of the principles and the mindsets of the d.school version of Design Thinking. In their translation of Design Thinking, members of the policy divisions have highlighted empathy and user-centredness as an underlying mindset ('focus on human values') and adhered to the Design Thinking process ('be mindful of the process'). Although these members seek input from stakeholders and say that Design Thinking has introduced a shift towards more user-centred policymaking, they also see limitations to the principle of 'radical collaboration' and user-centredness in the governmental context. Three out of seven Design Thinking mindsets proposed by the d.school focus on prototyping, testing and a culture of experimentation ('embrace experimentation', 'bias toward action', 'show don't tell'). The policy divisions' translated version of Design Thinking downplays these principles.

Table 13: Translated Design Thinking principles in policy divisions

D.SCHOOL TEMPLATE	TRANSLATED VERSION
Focus on human values	++
Radical collaboration	+
Embrace experimentation	-
Bias toward action	-
Craft clarity	-
Show don't tell	-
Be mindful of the process	++
Role of space and visualisation	-

+++ strong emphasis   ++ moderate emphasis   + minor emphasis   +/- indifferent   - minor de-emphasis

In sum, the policy divisions have not interpreted the d.school's strong emphasis on prototyping, experimenting and doing instead of talking in the same way. Moreover, members of the policy divisions emphasise Design Thinking as a process and focus on empathy in their translated version.

PROCESS

The policy divisions' translation of Design Thinking indicates a focus on the front-end of the Design Thinking process (Figure 35).

Figure 35: Translated Design Thinking process in policy divisions

Policy divisions accordingly highlight the empathy part of the d-school's Design Thinking process. However, in contrast to the other divisions they also interpret the empathy phase in terms of a holistic understanding of problems that they regard as essential for policy formulation. Members of the policy divisions try to integrate the empathy part of Design Thinking, which refers to the d.school's process steps of 'understand' and 'observe', into the policy formulation and review process in order to gain a better understanding of their policy target groups. In practice, this means that members of the policy

150

divisions conduct qualitative user interviews with policy target group members. Moreover, they have also used Design Thinking elements of user research to collect feedback on proposed policy changes or drafts, which can be seen as an example of testing in terms of the Design Thinking process. Additionally, Design Thinking has enriched public consultation practices by broadening the scope for policy feedback and creating more collaborative and informal sharing. The prototyping phase of Design Thinking has not been applied.

In sum, the policy divisions have not applied all steps of the Design Thinking process. They use Design Thinking as a complement to the current policy formulation and review process and do not employ it for all projects.

METHODS AND TOOLS

The policy divisions have employed a number of concrete Design Thinking methods, covering the user research and synthesis phase. In terms of research, Design Thinking has enriched policy officers' tool boxes with first-hand qualitative interviews. This is a departure from the existing approach of relying exclusively on statistical, and hence secondary, data for policy reviews. Qualitative user interviews are one method used during the Design Thinking process's 'empathize' phase laid out by the d.school Stanford. Similarly to other divisions, the policy divisions exhibit a bias towards interviews. According to the d.school, Design Thinking usually comprises a wide range of methods that go beyond interviews, including observation techniques and self-immersion tools known to anthropologists and ethnographers, such as camera studies. The policy divisions, however, use neither observation nor self-immersion through experiments. For the point-of-view or synthesis phase of the Design Thinking process, the d.school suggests using a number of tools, including frameworks to visualise and reframe research data, such as the Empathy Map, journey maps, composite character profiles or point-of-view statements. In a Design Thinking project in one of the policy divisions, team members developed a set of user profiles based on the qualitative user research that they had conducted on the policy target group beforehand. These user profiles are one possible outcome of the synthesis process of Design Thinking and equal the composite character profiles proposed in the d.school's educational material. Policy officers also used Design Thinking methods to change the format of their public consultation on policy changes, which touches both on user research and on the testing phases of the Design Thinking process. The d.school's method cards describe how testing with users includes creating an inviting environment for feedback. In that sense, however, members of the policy divisions did not use any prototyping tools during their public consultation sessions.

In sum, the policy divisions' use of both Design Thinking and its tools is limited. Moreover, this can be linked to a focus on the empathy phase of the Design Thinking process.

4.3 Findings

This chapter comprises a synthesis of the case study findings regarding the Singaporean Ministry's translation of Design Thinking. The four case studies included the Service Delivery Department A (SDD A), the Corporate Planning Department (CPD), other service delivery and customer service (SDCS) divisions and policy divisions.

The previous chapters detailed the intra-organisational translation of Design Thinking. The four case studies examined how various divisions interpreted the approach, following the same structure based on the analytical framework of Boxenbaum and Gond's (2014) micro-contextualisation strategies. This chapter offers a synthesis of the case study findings regarding the translation of Design Thinking in the Singaporean Ministry. It departs from the analytical framework and offers a new categorisation in order to provide a more meta-level analysis of the findings.

Following this logic, the main findings of this study can be divided into four clusters. The first set of findings covers the object of translation: the Design Thinking process and elements. In terms of Boxenbaum and Gond's typology, it focuses on how Design Thinking has been filtered, reframed and combined in the process. The second set of findings details the context-specific translation and use of Design Thinking in the Singaporean Ministry. This cluster focuses on the context that co-produced the translation of Design Thinking. The third set of findings describes actors and their reframing. This cluster shows how members of the Ministry constructed a fit between Design Thinking and the local context, both within the organisation and within the broader political context. Finally, the fourth set of findings covers the characteristics of the innovation adoption process.
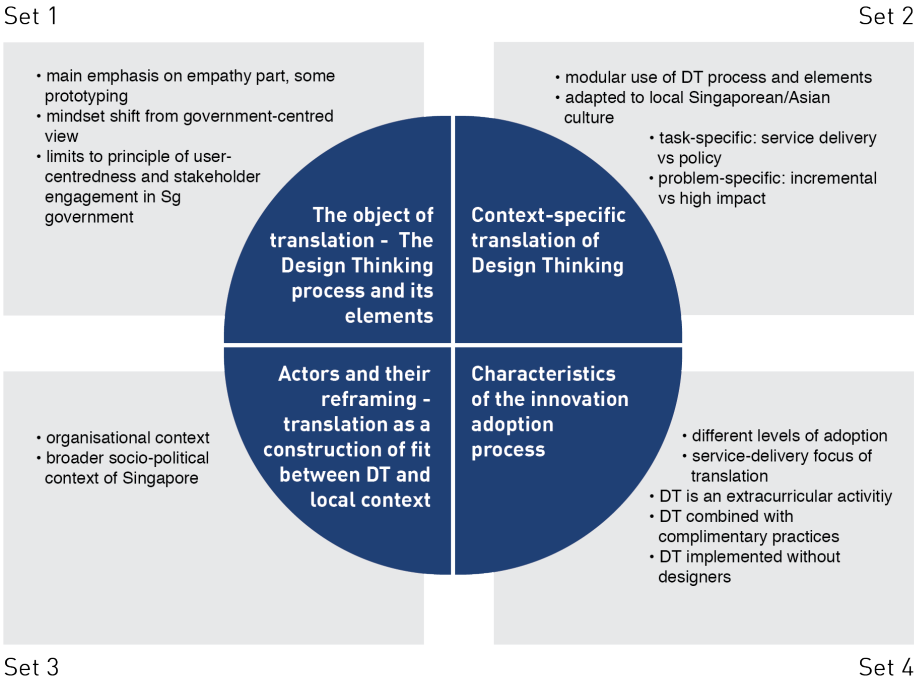
Figure 36: Overview of findings (own depiction)

4.3.1 THE OBJECT OF TRANSLATION: THE DESIGN THINKING PROCESS AND ITS ELEMENTS

When we look at the first set of findings regarding the translation of the Design Thinking process and elements, a few aspects stand out. In its translation of Design Thinking, the Ministry has, by and large, placed its main emphasis on the empathy part and therefore the front-end of the process. Other elements, such as prototyping and collaboration, seem to play a minor role. Whereas Design Thinking seems to have initiated some changes, for example a mindset shift from piloting to prototyping as well as a departure from a government-centred perspective, the translation of Design Thinking shows signs of adaptation and constraints, for example regarding the principle of user-centredness and stakeholder engagement.
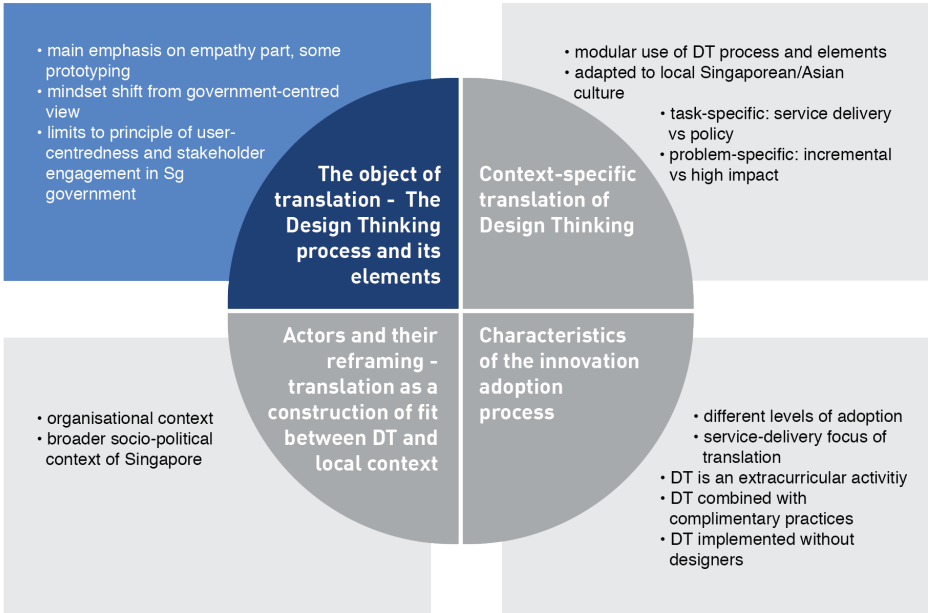
Figure 37: Overview with focus on the object of translation (own depiction)

DESIGN THINKING IS MAINLY INTERPRETED AS A WAY OF UNDERSTANDING CUSTOMERS BETTER

In terms of filtering by emphasis, a common pattern across divisions is the emphasis on the front-end of the Design Thinking process. All divisions feature a primary emphasis on user research and the empathy phase which is visualised in Figure 38. This dominant translation can be linked to a second translation pattern present in all divisions that highlights the principle of user-centredness.

Across the Ministry, Design Thinking is hence primarily framed as a way to understand customers and stakeholders better and to design better services and policies with the user in mind. The methodology is therefore perceived as helping to create a mentality where customer needs are deliberately taken into consideration. Design Thinking, especially its focus on user research, is said to allow an in-depth understanding of customer needs beyond the usual statistical approach previously applied in the Ministry. This is perceived as necessary due to the Ministry's diverse customer base and the increasing

volume of customers and complaints some divisions are now forced to confront. In light of Singapore's political situation after the 2011 general elections, in which the ruling People's Action Party lost some seats to the opposition, the Ministry's civil servants believe that the government needs to re-build trust with its citizens and they understand Design Thinking as a tool to enable this process.

User research is mainly associated with conducting qualitative interviews, although other research methods, such as observation or shadowing, are mentioned. Additionally, the service delivery and customer service divisions refer to synthesis tools, such as the point-of-view technique. Moreover, the policy divisions seem to have produced an elaborate interpretation of the empathy phase, including an emphasis on understanding problems before searching for solutions, complementing statistical analysis with Design Thinking's qualitative user research and a focus on stakeholder engagement.

Design Thinking's principle of user-centredness is related to an existing customer orientation, at least in parts of the organisation. Framed as a way of understanding customers better, Design Thinking seems to offer a specific tool kit to operationalise customer orientation. Design Thinking's empathy part encompasses user research tools, such as qualitative user interviews. Conducting user interviews as a type of primary research has so far been absent from the job of the civil servant, which mostly constitutes deskwork and secondary research. User research is a prerequisite for designing user-centred solutions and therefore an essential part of Design Thinking's methodology. Another example of how Design Thinking might help to translate customer orientation into tangible artefacts is the use of personas for policy work. These archetypical user profiles visualise specific user groups depending on the project and serve as a yardstick of comparison to evaluate ideas and solutions that come up during the concept phase.

The principle of user-centredness is, however, interpreted with regard to the type of tasks handled by the respective division. For example, service delivery divisions associate the principle of user-centredness with improving the user-friendliness of processes. In the policy divisions, personas are interpreted as a tool for user-centred policymaking.

Whereas the Ministry places its primary emphasis on the empathy phase of the Design Thinking process and the principle of user-centredness, the element of prototyping is highlighted as well, although to a lesser degree and mainly by service delivery and operational divisions.
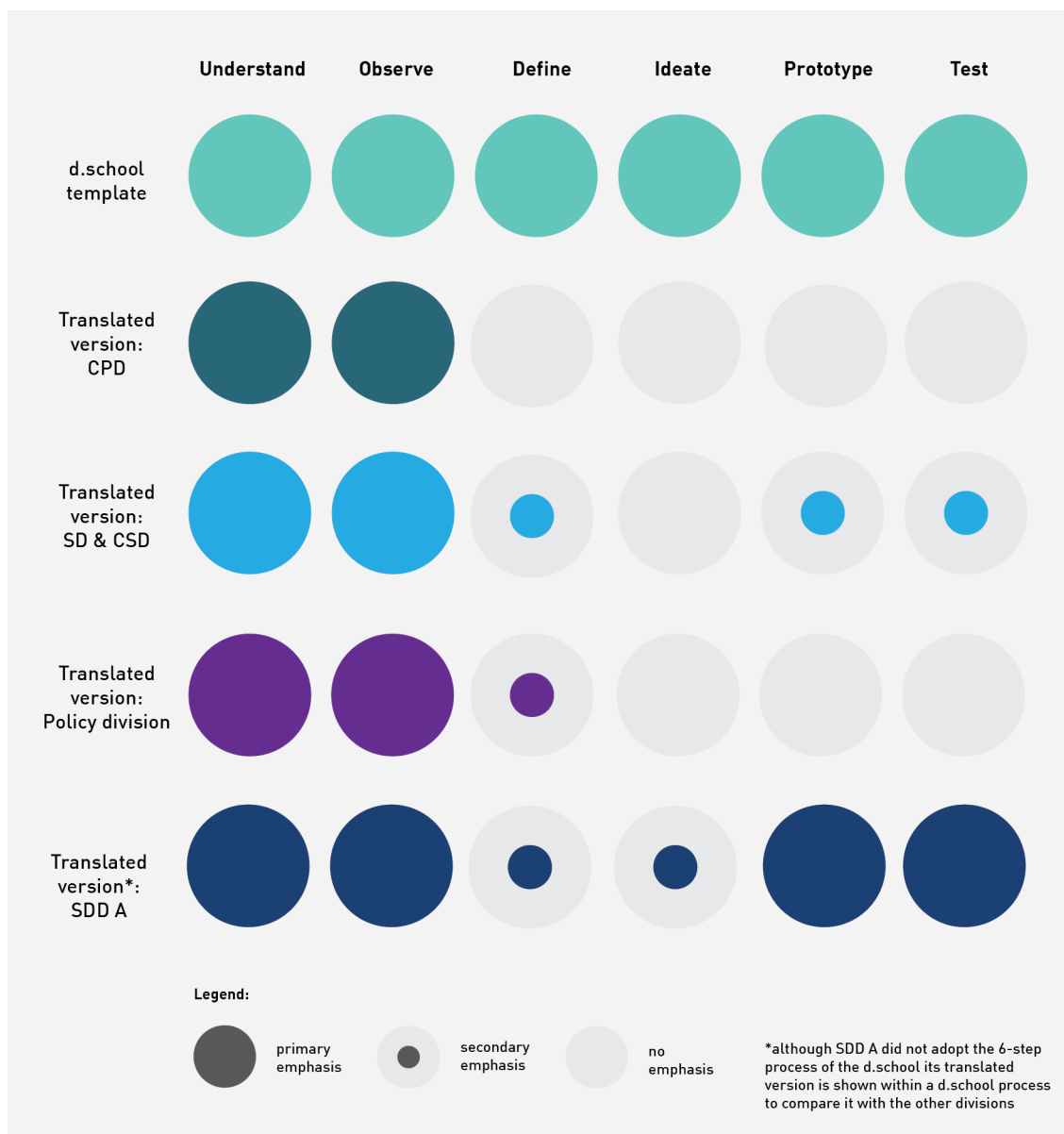
Figure 38: Comparison of translated DT versions across the Ministry (own depiction)

PROTOTYPING IS PERCEIVED TO PLAY A MORE MINOR ROLE FOR POLICYMAKING THAN FOR SERVICE DELIVERY

As a translation activity, filtering by removal includes the downplay of prototyping and testing in policy divisions. Policy officers underline that policies seem to be difficult to prototype. In the d.school and design agency's versions, prototyping is often associated with physical prototypes and has thus had little relevance for policy divisions, which mostly deal with policy changes and drafting policy reviews. Members of the policy divisions therefore de-emphasised the role of physical prototypes. This stands in contrast to the Service Delivery Department A, which used physical prototypes, such as cardboard spatial prototypes, during the re-design of the service centre and for their communications in the form of cover letters.

Furthermore, members of the CPD and policy divisions downplay the use of prototyping and testing for policies. CPD members also indicate that policies' far-reaching implications and the principle of fairness,

155

which refers to the requirement of guaranteeing equal treatment for different cohorts of policy recipients, also make it more difficult to apply prototyping and testing.

Another explanation for the more frequent use of prototyping in the Service Delivery Department A might be the relevance of prototypes during the initial application of Design Thinking, for example for the re-design of the service centre and for their communications in the form of their cover letters. What is more, the CPD also initially emphasised physical prototypes and a more operational use of Design Thinking during the early adoption phase. This focus was also associated with the available examples of Design Thinking, which were biased towards physical prototypes and therefore less relatable to more abstract policymaking.

All divisions except for the service delivery and customer service divisions show some filtering by removal with regard to prototyping and testing. In SDD A, the limitations of prototyping, testing and the principle of iteration are associated with time constraints, a view shared by CPD members, and the fact that the iterative process of Design Thinking does not seem to fit the current processes, leaving little room for changes during implementation. Additionally, CPD members also explain their weaker emphasis on prototyping with a lack of skill.

Although the Ministry has emphasised and applied prototyping less than the empathy part of Design Thinking, the notion of testing solutions with prototypes seems to have encouraged a notable shift from the previous practice of piloting.

DESIGN THINKING HAS ENCOURAGED A SHIFT FROM PILOTING TO PROTOTYPING

In the past, the notion of piloting meant being ready for implementation and marketing government solutions. According to members of the Service Delivery Department A and the Corporate Planning Department, the concept of prototyping, in the sense of testing ideas was previously not ingrained in the Ministry. Design Thinking is perceived to encourage learning from early mistakes through experimenting and includes real testing of solutions with small user samples before any full-scale implementation. This emphasis on testing is also supported by members of the service delivery and customer service divisions. With regard to policy work, Design Thinking is said to have led to a greater willingness to change policies. According to members of the policy divisions, before the introduction of Design Thinking officers used to design solutions by themselves without asking for feedback. Furthermore, Design Thinking is associated with cultivating a culture of experimentation, that members of SDD A and the CPD believe to be a vehicle for innovation.

Additionally, Design Thinking's emphasis on collaboration has been translated into the context of teamwork, where it seems to discourage hierarchical thinking.

DESIGN THINKING'S COLLABORATIVE APPROACH HELPS TO MINIMISE HIERARCHICAL THINKING IN TEAMS

According to members of the CPD as well as the service delivery and customer service divisions, Design Thinking promotes a collaborative atmosphere in which every staff member is encouraged to contribute to solutions, regardless of their hierarchical position. This is, for example, expressed in the approach's collaborative brainstorming rules, which include the notion of building on each other's ideas. One CPD member described Design Thinking's brainstorming and system of voting for ideas 'democratic'. Moreover, members from the service delivery divisions note that Design Thinking's iterative approach has increased the interaction with management during projects. In SDD A, user research is said to create

leverage for staff to back up their ideas and decisions, in contrast to the previous, hierarchical approach to decision-making. The service delivery and customer service divisions also perceive Design Thinking as enabling more informal collaboration among the staff, for example by bringing its members together for quick feedback or brainstorming sessions.

The translation of Design Thinking's principle of collaboration has not only affected internal cooperation, but has also had an impact on the Ministry's relationship with external stakeholders. Although stakeholder engagement has been around for a long time, Design Thinking has changed both the timing and way that the Ministry conducts stakeholder engagement.

DESIGN THINKING HAS CHANGED THE TIMING AND NATURE OF STAKEHOLDER ENGAGEMENT

Design Thinking seems to integrate stakeholder engagement into an earlier part of the policy process, which means that relevant stakeholders are consulted before any large-scale implementation takes place. In the past, the Ministry used consultations primarily to inform the public about upcoming policy changes. In the policy divisions, Design Thinking has contributed to a shift from a largely reactive, often survey-based and narrowly scoped policy feedback to a broader, more qualitative input. Apart from contributing to a better understanding of policy target groups and stakeholders through user research, Design Thinking has added a more collaborative format of conducting public consultations on policy changes, such as moderated small group discussions in lieu of the more formal, often confrontational question-and-answer panels of the past.

Design Thinking's translation to the context of the Singaporean Ministry has included a focus on understanding its customers and stakeholders better and has initiated a departure from a government-centred to a more human-centred perspective.

DESIGN THINKING'S TRANSLATION HAS INITIATED A MINDSET SHIFT FROM A GOVERNMENT-CENTRED TO A HUMAN-CENTRED PERSPECTIVE

Members from SDD A and the CPD have noticed a mindset shift from a government-centred to a human-centred perspective with the introduction of Design Thinking. This means that Ministry officials have started to relinquish their expert mentality as civil servants. Ministry members from various divisions described the old government mindset as being based on the assumption that the government should decide on behalf of the citizens because it knows what is best for them. In this view, there is no need to ask what customers want. However, Design Thinking seems to have loosened this mindset, and members of the Ministry have begun to test their assumptions about what citizens and stakeholders want by conducting qualitative user research and inviting them for feedback. This mindset shift seems to have gone the farthest in SDD A, including organisational re-structuring according to customer needs. One member of SDD A described Design Thinking as a reminder of civil service's (normative) purpose of serving people.

However, the translation of Design Thinking to the Singaporean Ministry has also been characterised by the perceived constraints of applying the design approach to the government context. It has thus led to adaptations that – partially – removed or downplayed elements of the 'original' template. On the one hand, Design Thinking has been interpreted as enhancing stakeholder engagement, incorporating it into an earlier part of the planning and policy process as well as conducting it in a more collaborative set-up. On the other hand, members of the Ministry have interpreted Design Thinking in a way that delineates the boundaries for stakeholder engagement in a more government-centred way and excludes the

notion of co-design or other participatory elements, apart from user interviews and stakeholder engagement sessions.

DESIGN THINKING IS INTERPRETED WITH A CONSTRAINED VERSION OF STAKEHOLDER ENGAGEMENT, NO CO-DESIGN ELEMENT AND A DE-EMPHASISED PRINCIPLE OF USER-CENTREDNESS

The translation of Design Thinking across divisions shows that stakeholder engagement is still government-steered in the sense that public servants decide if and when it is applicable. One can therefore speak of a constrained version of stakeholder engagement. Respondents argue that some policy issues may be too sensitive to be disclosed to the public. Such a demarcation of suitable and un-suitable policy issues is government-centred and most likely driven by political objectives. Apart from user research and testing, Design Thinking can also include co-design sessions during the ideation phase. However, with regard to co-creating policies, the direct involvement of users during ideation is downplayed in the policy divisions and the Corporate Planning Department for similar reasons of constraining stakeholder engagement. Still, the Corporate Planning Department has recently taken up the idea of hackathons as a type of co-designing element, in which members of the public are invited to help develop applications. As a consequence, the Ministry's first hackathon took place in early 2015. Nevertheless, the CPD deems hackathons only suitable for issues that are politically less sensitive.

The de-emphasis of the principle of user-centredness has also been closely linked to a restricted version of stakeholder engagement in which the government decides if and when it is applicable. Members of divisions other than SDD A reckon with restrictions for applying user research and stakeholder engagement with regard to sensitive government issues. Other service delivery and policy divisions are mainly concerned about raising misleading expectations among citizens and stakeholders about government action, such as planned policy changes. CPD members therefore suggest leveraging internal staff for user research and testing as a potential workaround.

In terms of filtering by removal, another dominant theme emerging across divisions is a de-emphasis and limitation of the principle of user-centredness, although to different degrees. Members of SDD A, the CPD and the policy divisions report that they are still inhibited from applying the principle of user-centredness by the existing government-centred mindset, although Design Thinking has started to bring about a mindset change. Moreover, the need to balance multiple and sometimes conflicting demands, especially in policymaking, seems to hamper the full application of the principle of user-centredness in government. Policies cannot be catered for one specific target group but rather represent a compromise in a multi-stakeholder setting. Similar views are shared by members of the Corporate Planning Department.

Although Design Thinking has been adopted, we can see that stakeholder engagement is still very much steered by the Ministry and is limited to areas that the Ministry deems fit. While Design Thinking has started to change both the timing and the nature of stakeholder engagement sessions, the government delineates the boundaries. As a consequence, Design Thinking's principle of user-centredness has also been perceived as not fully applicable to the government context.

4.3.2 CONTEXT-SPECIFIC TRANSLATION OF DESIGN THINKING
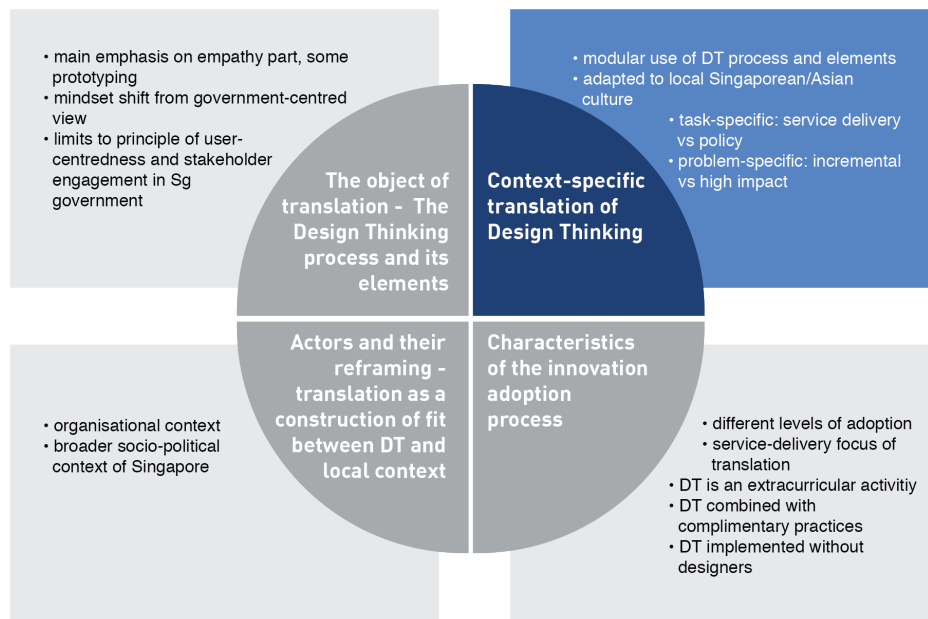
Figure 39: Overview with focus on context-specific translation of DT (own depiction)

A third cluster of findings reveals the context-specific translation and use of Design Thinking in the Singaporean Ministry. The case studies show that Design Thinking is not perceived as a cure-all methodology. First of all, members of the Ministry emphasise a modular use of the Design Thinking process and elements as and when deemed fit. Furthermore, Design Thinking has been adapted to the local Singaporean or even Asian culture, which is indicative of a context-specific translation of the methodology. One major finding from this empirical study is that Design Thinking is used in a task-specific way for service delivery and policymaking. Apart from this task-specific translation and use of Design Thinking, the approach has been applied to a spectrum of different problems in the Ministry, ranging from incremental changes to high-impact projects. Respondents also perceived certain issues to be more suitable for Design Thinking than others.

A MODULAR USE OF DESIGN THINKING PROCESS AND ELEMENTS IS EMPHASISED

A dominant interpretation and type of filtering by removal across all divisions is the emphasis of a modular use of the Design Thinking process and elements. Members of the organisation therefore unanimously de-emphasise a full application of Design Thinking but rather advocate using the methodology if and when it fits. They often mention time constraints, a lack of experience and missing design skills as hampering a more comprehensive use of Design Thinking. A lack of training is also linked to a limited use of user research techniques, such as the focus on interviews.

Additionally, SDD A members mentioned several barriers to implementation that impede the full use of Design Thinking, such as bureaucratic practices, a risk-averse administrative culture and a lack of incentives to innovate.

Members of the Ministry have called for a flexible and modular use of Design Thinking. This means that sometimes only parts of the process or certain Design Thinking elements, such as the visual work with post-its, will be used. However, this can also be seen as an indicator of a more mature use of Design Thinking in which flexibility takes precedence over a strict adherence to the process. Apart from a more flexible use of the process and elements, Design Thinking also required some adaptations of the 'original' template to fit the local Singaporean/ Asian culture.

DESIGN THINKING IS ADAPTED TO THE LOCAL SINGAPOREAN/ASIAN CULTURE

What is more, the CPD and the service delivery and customer service divisions discussed the limitations and adaptations to the local Asian culture. They described Asian people as less outgoing and less open to sharing, which poses an obstacle during user research and testing. Moreover, CPD members felt that they had to downplay the outgoing, U.S.-based training style and add more examples of Design Training drawn from the local context.

As we have seen, Design Thinking has been adapted to be employed more flexibly and to accommodate local cultural differences. What is more, the context-specific translation and use of Design Thinking extends to the task requirements in service delivery and policy work as well.

DESIGN THINKING IS TRANSLATED AND USED DIFFERENTLY IN SERVICE DELIVERY AND POLICY WORK

The examples from the case study show that Design Thinking has been applied in a broad range of ways in the context of service delivery. Design Thinking has been used to improve the customer and service experience as well as to make processes more user-friendly. The service delivery and customer service divisions have applied all stages of the Design Thinking process, from understanding service recipients to prototyping and testing service concepts. Design Thinking's use in policymaking paints a different picture. In this case study, the approach has complemented policy reviews with qualitative user studies, contributed to a more comprehensive problem understanding as part of the policy formulation and evaluation process, visualised and deepened the understanding of policy target groups through the use of personas as well as changed the format of public consultations. The case study suggests that the element of prototyping needs to be adapted for the policy context because the existing prototyping types and tools seem difficult to apply.

On top of the differences prevalent between the different types of department, the Ministry's translation and consequently use of Design Thinking shows that it is applied to a range of problems, from incremental to more complex issues. Additionally, some problems are deemed more suitable than others for the use of Design Thinking.

DESIGN THINKING SEEMS TO BE RESERVED FOR HIGH-IMPACT PROJECTS, NOT DAY-TO DAY WORK (IN THE FIRST-ADOPTER DIVISION)

Across divisions, Design Thinking is perceived as time-consuming and resource-intensive. In light of time and resource constraints of the organisation, members from SDD A therefore argue that Design Thinking should be reserved for high-impact and high-risk projects and not utilised in every-day work. Resources should be invested to tackle these issues because they require special attention and cannot afford to fail.

Respondents from the first-adopter division – the Service Delivery Department A – especially argue that Design Thinking is more appropriate for problems with an unclear or open scope and those that involve multiple stakeholders. Additionally, members of SDD A deem Design Thinking suitable for game-changing, so-called 'wicked problems' that defy simple solutions and have a broader scope, rather than requiring incremental fixes. This interpretation can be linked to SDD A's experience of identifying and addressing pressing issues in its own division with the support of the design agency.

However, as a service delivery division, SDD A's focus of using Design Thinking has been mainly on improving service delivery processes and the service experience of their users. Although SDD A members see the potential of Design Thinking for addressing wicked policy issues, this has not been realised in the Ministry so far. Furthermore, a Ministry-wide service delivery and customer experience focus regarding the application of Design Thinking might inhibit employees from addressing more salient complex policy challenges, the so-called wicked problems.

4.3.3 ACTORS AND THEIR REFRAMING: TRANSLATION AS A CONSTRUCTION OF FIT BETWEEN DESIGN THINKING AND LOCAL CONTEXT

The Singaporean Ministry has translated Design Thinking by constructing a fit between the new approach and the local context. On the one hand, members of the Ministry have linked Design Thinking to existing organisational values. On the other hand, they have framed Design Thinking in the context of the political situation in Singapore.
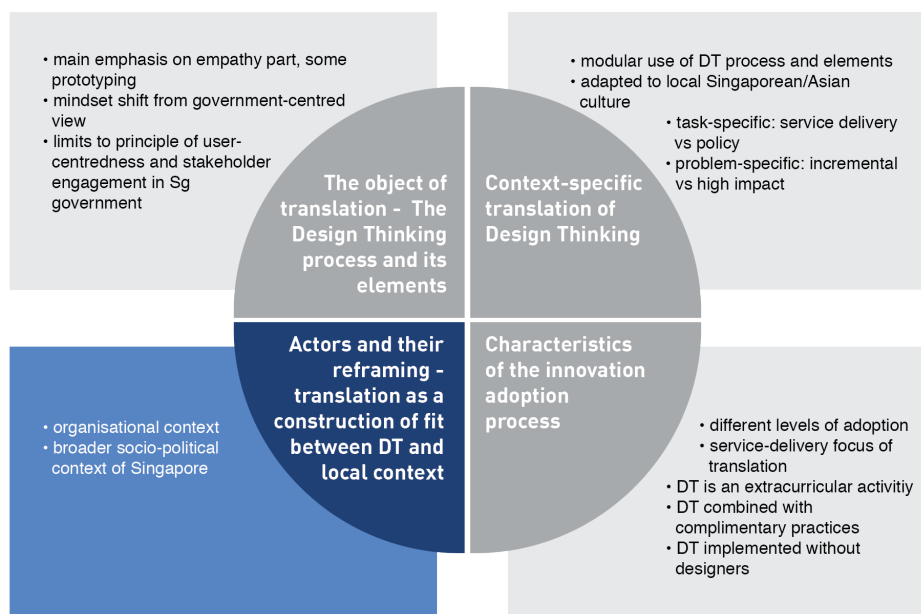

Figure 40: Overview with focus on actors and their reframing of DT (own depiction)

The Corporate Planning Department has linked Design Thinking to the set of organisational values that the Ministry instigated in the mid-2000s. Thus, the discursive alignment constructed a fit with the Ministry's existing values of customer orientation and innovative efforts.

The extant value of people-centredness already put an emphasis on internal and external relationships with employees, customers and other stakeholders. Design Thinking was hence interpreted as enhancing the existing customer orientation and bringing it to the next level. In all divisions except the policy ones, Design Thinking is framed as a tool for innovation and as a way to promote a culture of innovation in the organisation. The Corporate Planning Department had already established a framework for innovation and argued that Design Thinking would provide a good fit, especially by nurturing a culture of innovation. Although other divisions similarly highlight Design Thinking as an approach for innovation, the Corporate Planning Department is the only division to refer to these more strategic organisational development objectives. In terms of organisational development, Singapore's civil service is known for adopting new approaches. Environmental scanning activities are believed to ensure a competitive advantage. Interviewees report that they are continuously looking for new trends and methodologies, for example by participating in international conferences and study visits. The Corporate Planning Department adoption of Design Thinking can be interpreted in light of such environmental scanning activities. After an initial pilot of applying Design Thinking in the Service Delivery Department A was considered successful, the CPD came on board to scale the adoption across the organisation. Members of the CPD also mentioned that they felt pride in being the first Ministry in Singapore to adopt Design Thinking.

Members of the Ministry used existing organisational values as an internal reference point to increase the perceived acceptability of Design Thinking. By aligning Design Thinking with the Ministry's values of people-centredness and the pursuit of innovation, they constructed a cultural fit between the adopted innovation and the organisational context, making Design Thinking appear familiar in order to ease the acceptance among staff. Apart from constructing fit with the organisational values, the political context in Singapore served as a frame through which the members of the organisation established and sustained perceived relevance for the adopted approach.

DESIGN THINKING IS ALIGNED WITH SINGAPORE'S POLITICAL SITUATION

The reference to the political situation in Singapore is a dominant pattern across the divisions.[33] Members of the organisation interpreted the situation following Singapore's 2011 general elections as a political crisis that put pressure on a government that appeared to have lost touch with its constituency. In this sense, Design Thinking was reframed as a suitable response to the government's need to understand and connect with its citizens and other stakeholders better. Put differently, Design Thinking was constructed as the solution to a perceived problem. Although Design Thinking had been introduced into the organisation before 2011, this reframing helped to heighten and intensify its perceived relevance in the Ministry.

---

[33] Somewhat surprisingly, policy officers do not mention this, but that could be attributed to the small interview sample from the policy divisions (3 out of 25 interviewees).

4.3.4 Characteristics of the innovation adoption process

The final set of findings concerns the adoption/implementation process itself. First, we can notice a mixed picture that reveals different levels of adoption and maturity of Design Thinking practice in the Ministry, a picture that mainly differentiates between the first-adopter and the rest of the organisation. Second, the translation of Design Thinking is characterised by a service-delivery focus. Moreover, Design Thinking has not become part of the organisation's core but has in most cases remained an extracurricular activity. Another surprising aspect of the translation of Design Thinking is the fact that it has been implemented without designers, except in the first-adopter division of SDD A. We can also observe that design skills seem to play only a minor role in the translation of Design Thinking to the Singaporean Ministry.
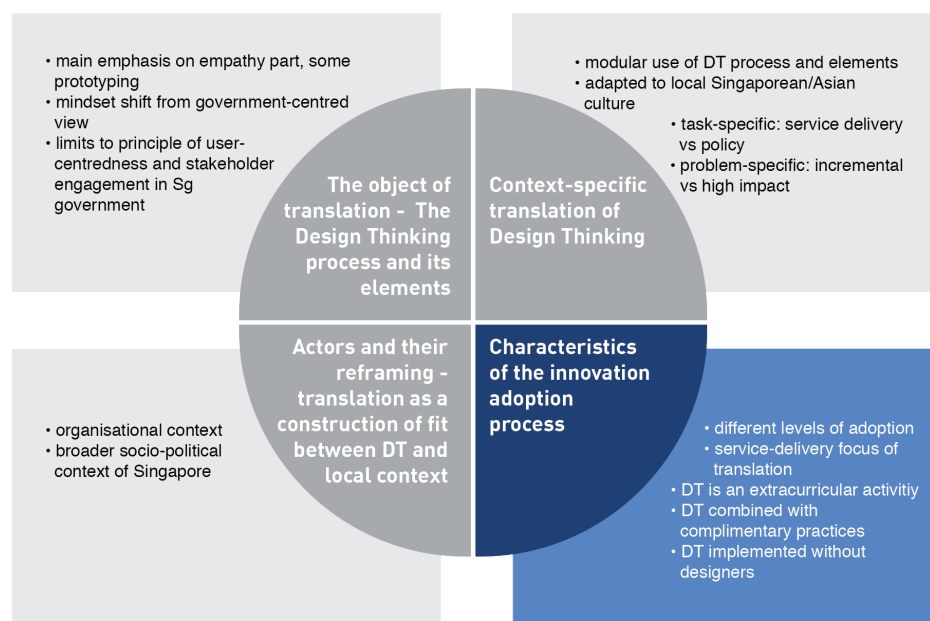
Figure 41: Overview with focus on characteristics of the innovation adoption process (own depiction)

A MIXED PICTURE: DIFFERENT LEVELS OF ADOPTION OF DESIGN THINKING PRACTICE IN THE ORGANISATION

In terms of Design Thinking's use in the Ministry, one can observe different levels of adoption. The first-adopter division, the SDD A, exhibits a comprehensive understanding of Design Thinking, as confirmed by the design agency, and is reflective of their practice of Design Thinking, for example being aware that they lack specific design skills. The core team in SDD A seems to have practised Design Thinking during several projects and over a longer period of time, intensively from 2009 to 2012 during the collaboration with the design agency. Moreover, they have applied all stages of the Design Thinking process and seem to be familiar with a number of its tools , e.g. user research techniques. Design Thinking has also entered the work place culture, for example creating an acute awareness of the users' perspective as well as encouraging the use of brainstorming rules and visual thinking elements. The Corporate Planning Department, which witnessed SDD A's collaboration with the design agency from the beginning, also shows a comprehensive understanding of the approach. However, it lack hands-on practice because it

is responsible for managing the training programme and facilitating Design Thinking projects. Its knowledge of Design Thinking is therefore mainly theoretical, with some application for training purposes or the facilitation of the projects. The members of the other divisions have acquired their practical experience through a Design Thinking training workshop, a CPD-facilitated Design Thinking project or through their role as a Design Thinking facilitator. Overall, employees trained in Design Thinking by the CPD have rarely been able to apply their skills in their work. Their use of Design Thinking therefore remains limited to the front-end of the process, the empathy and synthesis stages. Similarly, members of other divisions than SDD A use only a small range of Design Thinking tools, for example restricting themselves to interviews during user research.

Although members of the Service Delivery Department A highlight the importance of user research, they seem to make more use of the Design Thinking process in its entirety than the other departments, including prototyping, testing and the principle of iteration. Their more comprehensive use of Design Thinking is connected to their first-hand practice and greater exposure to the methodology, which they gained through working with an external design agency. As one of the initiators of the adoption of Design Thinking, the Corporate Planning Department exhibits a comprehensive understanding of Design Thinking but stresses the empathy phase in the practical use of the methodology.

Compared to the more wide-ranging application of Design Thinking in SDD A, the CPD, service delivery and customer service and policy divisions place a secondary emphasis on the prototyping and testing elements as well as other Design Thinking elements. Members of the CPD and other service delivery divisions also highlight the collaborative approach. The service delivery and customer service and policy divisions place a secondary emphasis on ideation and the principle of iteration. Although utilising a more comprehensive approach than the rest of the organisation, SDD A also emphasises some other Design Thinking elements to a lesser degree, such as synthesis, ideation and storytelling. What is more, both SDD A and the CPD mention visualisation and visual thinking as important elements of Design Thinking, with the CPD also placing an emphasis on creative workspaces.

In sum, SDD A exhibits a more mature use of Design Thinking and a higher level of adoption than the Ministry's other divisions. On top of this difference between the first-adopter and the follower divisions with regard to levels of adoption, Design Thinking seems to be predominantly applied in the service delivery divisions.

DESIGN THINKING IS MAINLY APPLIED IN SERVICE DELIVERY, LESS IN POLICYMAKING

As we have seen, Design Thinking was first introduced into the Ministry's service delivery divisions and has since slowly diffused to its policy units. However, the service-driven focus of applying Design Thinking as a type of filtering by emphasis remains a dominant pattern of the Ministry's translation of the approach. So far, Design Thinking has been predominantly used in service delivery projects to improve processes by making them more user-friendly and thereby enhance the service experience. Members of the policy divisions, on the other hand, have found it more difficult to translate Design Thinking to the context of policy work, which explains their greater use of filtering by removal, as they have been forced to adapt the approach to their work. Policy divisions have mainly used the empathy part of Design Thinking to understand policy users better.

Introducing Design Thinking in a government context therefore means dealing with different challenges in service delivery and policymaking. Whereas service delivery often encompasses direct customer interaction, policy work is considered more abstract and high-level. Service delivery challenges in the

164

public sector might resemble those in the private sector, although context conditions, such as funding, resources etc., may vary. Whereas analogies could be drawn between Design Thinking's application in service delivery in the private and public sector, there was no precedent of applying Design Thinking in policy work. Even the design consultancy had no prior experience with policy projects. A new approach therefore has to be found that specifies and adapts the methodology to the particular needs of policy work, a challenge that has so far been only partly achieved, for example by integrating Design Thinking with existing policy formulation and review processes as well as with public consultation practices.

What is more, the reference to an existing strong customer orientation as a type of reframing can be observed in all departments, including the policy divisions, albeit to a lesser degree. SDD A framed Design Thinking as the solution to enhancing customers' service experience beyond mere efficiency. The same framing can be found in other service delivery and customer service divisions. The reference to the successful pilot of SDD A's service centre re-design also represents a type of reframing which occurred in subsequent translations of Design Thinking in the Ministry. Moreover, Design Thinking was presented as a useful approach for dealing with the Ministry's high customer volume, diverse customer base and own frontline services, and was accordingly considered a suitable approach for customer-related projects in the service delivery and customer service divisions.

In sum, the Ministry's translation of Design Thinking shows a bias towards service delivery, as the approach is applied far less to policy work than it is to service delivery. Additionally, Design Thinking has not been fully integrated into current workflows or applied for strategic purposes. Consequently, it remains an extracurricular activity on top of employees' core work.

DESIGN THINKING IS SEEN AS AN EXTRACURRICULAR ACTIVITY, NOT AT THE CORE OF THE ORGANISATION

Across divisions, Design Thinking is perceived as an extracurricular activity that is mostly carried out on top of people's normal core work. The overall picture therefore reveals that Design Thinking has not been integrated into current workflows and procedures. Design Thinking has been mostly used in training courses and applied in selected Design Thinking projects. Even the first-adopter division of SDD A has mainly employed the approach on a project basis. The methodology is rarely an integral part of employees' day-to-day work.

As mentioned above, some principles and elements have found their way into employees' work, such as considering the user's perspective at the beginning of a project, for example in service delivery divisions. Policy divisions, meanwhile, see Design Thinking as a complementary and additional component to standard policy draft or review procedures. Although SDD A still applies Design Thinking principles on a project basis, some seem to have become part of the workplace culture, such as incorporating the users' perspective or testing ideas. Some of the first-batch Design Thinking facilitators report that they try to integrate parts of Design Thinking into most of their projects and encourage the staff to do the same. The success of this approach, however, depends on how much leverage the individual Design Thinking facilitator or trained employee has in their respective division.

Apart from the overall perception that time, resource and peoplepower constraints impede the full use of Design Thinking, there seem to be few incentives for individual employees to use the approach. For Design Thinking facilitators who volunteer their time to conduct training courses and support projects, these activities only account for five percent in their job performance reviews. In order to motivate Design Thinking facilitators, the CPD has asked the top management to write letters of recognition to the facilitators, which were then handed over in a special ceremony.

Furthermore, the translation of Design Thinking has included the coupling with existing practices to increase its perceived acceptability. On top of that, its combination with other recently adopted practices goes beyond the notion of bricolage, as it merges Design Thinking not with elements from the local context but with other new ones.

DESIGN THINKING HAS BEEN COUPLED WITH COMPLEMENTARY APPROACHES LIKE BEHAVIOURAL INSIGHTS AND AGILE SOFTWARE DEVELOPMENT

The micro-strategy of bricolage, which represents the coupling with existing local practices, has produced different outcomes in different departments. In the Service Delivery Department A and the Corporate Planning Department, Design Thinking has been coupled with the existing notion and practice of piloting. In the policy divisions, Design Thinking has been integrated with existing practices, such as public engagement and policy consultations.

Additionally, Design Thinking has been merged with other recently adopted practices, a change that occurred a couple of years after Design Thinking was first introduced to the Ministry. SDD A's IT transformation project has linked Design Thinking with agile software development methodology. Both approaches share similar principles, such as an iterative way of working. According to SDD A's project team, Design Thinking ensures that the user perspective remains integral to the whole project. The CPD is experimenting with merging Design Thinking with a Behavioural Insights approach, a methodology rooted in behavioural economics. Both methodologies share a focus on users. Behavioural Insights provides additional tools, such as randomised, controlled trials, to test interventions. At this point, it is unclear what exactly an integrated approach of Behavioural Insights and Design Thinking might look like, but it seems that both methodologies can complement each other and reinforce a human-centred mindset in the organisation. According to members of the Ministry, these mergers with other recently adopted practices have reinforced the relevance of Design Thinking.

Another interesting feature of the translation of Design Thinking in the Singaporean Ministry is that, apart from the design agency, no designers have been part of the implementation.

DESIGN THINKING HAS BEEN IMPLEMENTED WITHOUT DESIGNERS

In the Ministry, especially in SDD A and the CPD, there is an awareness of a lack of design skills that is said to hamper the use of Design Thinking. For building up its internal capabilities, the Ministry has relied on a train-the-trainers model in which an initial group of twenty trained staff members teaches the methodology to others. These Design Thinking facilitators participated in a training programme of three phases, lasting a few days each. As mentioned above, employees of the Ministry had no prior work experience or professional training in design. They gained practical experience of Design Thinking only through the training sessions they conducted and the Design Thinking projects they facilitated. A few interviewees mentioned that they did not feel confident in practising the approach. SDD A, on the other hand, gained access to design expertise by contracting the design agency and gathered practical experience in Design Thinking by working alongside the design agency on several projects. The Ministry has hitherto not hired designers to carry out design tasks during the Design Thinking process, for example to do prototyping of digital mock-ups.

As described above, the Ministry's internal building of capabilities through training measures and selected project support has not resulted in a high level of adoption of Design Thinking. The upgrading of skills and continuous practice of the methodology remain a main challenge. Most Design Thinking

facilitators and training participants have not received any additional training and many have not been able to put their theoretical knowledge into practice. Some training participants do not feel supported in using Design Thinking after the training for various reasons, such as that there are no others in their teams who are familiar with the approach and willing to use it, or that they have difficulty translating it back to their daily work environment and tasks. The CPD has therefore targeted middle management for Design Thinking training sessions, hoping that its members can use the leverage they have in their divisions as superiors to encourage others to use Design Thinking.

Apart from an absence of designers during the implementation phase, the translation of Design Thinking also reveals that it is mostly detached from design skills.

DESIGN THINKING IS DETACHED FROM DESIGN SKILLS

The way Design Thinking has been applied in most parts of the Ministry, it appears to be fairly disconnected from design skills. Design elements and skills, such as sketching, crafting and prototyping, seem to only play a minor role in the translation of the methodology. In the Ministry, Design Thinking is applied by non-designers with no prior professional training or work experience in the field of design. The one-off training sessions seem to have failed to equip people with the design skill set necessary to perform each of the Design Thinking process steps.

As a consequence, the Ministry has to depend on external providers to bring in design expertise, e.g. for prototyping. For example, SDD A contracted the design agency a second time to carry out specific tasks for its IT systems re-design, such as ethnographic research, synthesis and user testing. In another SDD A project that focused on re-designing web interfaces, an external vendor built a digital mock-up of a website that ended up as a sophisticated high-resolution prototype, which is generally less likely to encourage feedback.[34] Procurement procedures do not make the collaboration with external providers easier, because tender requests need to specify beforehand what is going to be delivered. This does not seem to fit an iterative process like Design Thinking.

The dependency on external expertise, especially during implementation, has led to a limited use of the Design Thinking process, with employees, for example, concentrating on its frontstages which seem to require fewer practical design skills. This dependency may also result in a narrow use of tools during any of the process steps, with practitioners, for example, conducting interviews instead of immersive ethnographic research.

In sum, this chapter has presented the main findings divided into four thematic clusters, detailing the translation of the Design Thinking process and elements, the context-specific translation of Design Thinking, the construction of fit as part of the translation process and the characteristics of the adoption process. For the sake of completeness,Table 14 below provides an overview of the translation activities that occurred in the different divisions, including the Service Delivery Department A, the Corporate Planning Department, the service delivery and customer service divisions and the policy divisions. It is a compilation of the tables presented in the four case studies.

---

[34] In the early prototyping stages, one starts with rough, dirty-looking, low-resolution prototypes. On the one hand, this helps the team members to visualise ideas that are not yet fully defined, something that acts as an artefact to start a conversation. On the other hand, rough prototypes also invite more feedback because people feel like they can change something about them. High-resolution prototypes are usually produced after a few rounds of iterations and testing and are more refined. (d.school bootcamp bootleg, 2010, p. 4, p. 34)

Table 14: : Translation of Design Thinking across divisions

TRANSLATION ACTIVITY	SERVICE DELIVERY DEPARTMENT A	CORPORATE PLANNING DEPARTMENT	SERVICE DELIVERY AND CUSTOMER SERVICE DIVISIONS	POLICY DIVISIONS
(1) Filtering				
(1b) Filtering by emphasis — Emphasis or highlighting of specific elements that could be perceived as 'congruent' with the new context.	Comprehensive definition of Design Thinking Emphasis on user research and empathy phase Emphasis on principle of user-centredness Emphasis on prototyping and testing Emphasis on the principle of iteration Emphasis on other Design Thinking elements: synthesis, ideation, visual thinking, storytelling Design Thinking as a culture of innovation Collaboration with design agency linked to 'copying'	Comprehensive definition of Design Thinking Primary emphasis on user research and the empathy phase User research means qualitative interviews Emphasis on the principle of user-centredness Use of other Design Thinking elements Secondary emphasis on prototyping and testing Initial emphasis on physical prototypes and operational use of Design Thinking Emphasis on a collaborative approach Emphasis on a culture of innovation Emphasis on a creative workspace and visualisation tools	Emphasis on the empathy and user research part Emphasis on synthesis tools Emphasis on the principle of user-centredness Improving the user-friendliness of processes Secondary emphasis on other elements of Design Thinking: ideation, prototyping and testing, principle of iteration, collaborative approach Design Thinking as a tool for innovation	Emphasis on the empathy part Design Thinking's qualitative user research goes beyond statistics User research focuses on qualitative interviews Emphasis on understanding the problem before searching for a solution Emphasis on customer and stakeholder engagement Emphasis on the principle of user-centredness Personas as a tool for user-centred policymaking Secondary emphasis on other Design Thinking elements Ideation Prototyping, testing and the iterative process
(1a) Filtering by removal — Removal or downplaying of elements that could be perceived as 'incongruent' with the new context.	Emphasis on modular use of the Design Thinking process and elements Lack of design skills and experience hampers use of Design Thinking Partial de-emphasis of the principle of user-centredness Limitation of prototyping and testing De-emphasis of principle of iteration Implementation difficulties impede full use of Design Thinking	Emphasis on the modular use of the Design Thinking process and elements Limitation of principle of user-centredness Restricted co-creation and stakeholder engagement Limited use of prototyping and testing Adaptations to local Asian context A narrow understanding of Design Thinking because of lack of training	Emphasis on the modular use of the Design Thinking process and elements Limitation of user research to qualitative interviews Limitations because of lack of experience Limitation of the principle of user-centredness Restricted version of user research and stakeholder engagement Limitations because of local Asian culture	Emphasis on the modular use of the Design Thinking process and elements De-emphasis of stakeholder engagement, co-design and the principle of user-centredness Downplay of prototyping, testing and the role of physical prototypes

Category				
(2) Reframing Discursive alignment with local myths, past history, social movements or current trends; and/or change of use/ area of application in order to enhance perceived usefulness/ acceptability in the new context.	Alignment with SDD A's business problems Alignment with task relevance Alignment with existing customer orientation Service-driven application of Design Thinking Service centre as a frame for subsequent translations Perceived suitability and non-suitability of Design Thinking Design Thinking used for high-impact, not day-to-day, projects Alignment with political situation in Singapore Alignment with civil service notion of service for others Reframing as a way to enable innovation in civil service Reframing as a foreign concept Abandonment of Design Thinking label	Alignment with existing customer service orientation and aiming to innovate the service experience Alignment with task relevance for policy implementation and frontline services Perceived suitability and unsuitability of Design Thinking Alignment with existing organisational values of people-centredness and innovation culture Alignment with organisational development portfolio Alignment with existing methodologies and practices New areas of application Perceived suitability and unsuitability of Design Thinking Abandonment of the term 'Design Thinking' Alignment with political situation in Singapore	Alignment with service delivery and customer service tasks Repurposing of Design Thinking for internal processes Perceived suitability and unsuitability of Design Thinking Alignment with existing practices Abandoning the label of Design Thinking Alignment with political situation in Singapore	Policymaking as a new area of application Alignment with policymaking practices Alignment with the notion of citizen-centricity Perceived suitability and unsuitability of Design Thinking for policymaking Perceived lack of relevance for policy work because of (initial) operational, service-delivery focus Alignment with the organisational development portfolio of adopting new methodologies Personal skill development through Design Thinking
(3) Bricolage Integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalized construct in this context.	Integration of prototyping with existing notion of piloting Integration with agile software development methodology	Integration of prototyping with the existing notion of piloting Integration with Behavioural Insights methodology	Necessity of combining Design Thinking with other tools	Integration with the existing policymaking process Integration with the existing public engagement and consultation practices

5 DISCUSSION

This study set out to understand the process of innovation adoption in public administrations from a translation theory perspective. Empirically, it explored how Design Thinking as a new problem-solving approach was translated to the local context of a federal Ministry in Singapore. From a theoretical point of view, it posed the question of what can be learned from translation theory about innovation adoption processes.

This chapter discusses the theoretical findings regarding the translation of Design Thinking in the Singaporean Ministry. To achieve this, the empirical findings are put in relation with translation theory, providing possible explanations for the observed intra-organisational variance. Furthermore, the chapter includes suggestions to refine the translation model by Boxenbaum and Gond (2014) and discusses what we can learn from translation theory about innovation adoption processes. Finally, I derive implications from the case-specific findings for a general application of Design Thinking in the public administration context.

5.1 Theoretical findings regarding the translation of Design Thinking

This section presents the findings regarding translation from a theoretical perspective. It explores possible explanations of the variation in translations highlighted by the case studies. Hence, it discusses the potential influencing factors identified. Following a theory-generating research design, this chapter makes propositions for future research derived from the case studies.

Translation theory according to Czarniawska and Joerges (1996) supposes a transformation of the travelling idea or practice which will result in an idiosyncratic variant of the idea or practice in the receiving context. The assumption is that we would observe adaptation of the 'original' idea. Furthermore, the adopting organisation plays an active part, given that adopters in the new local context actively shape the process. Contextualisation work represents an important step during the translation process and describes the 'the kind of institutional work that supports the construction of relationships between a foreign business practice and the institutional contexts of its import and export settings' (Gond & Boxenbaum, 2013: 709). The typology of contextualisation strategies proposed by Boxenbaum and Gond (2014), sheds light on the activities adopters in the implementing organisation employ to embed a new practice. This framework served as an analytical lens to observe the translation process in the studied case, including discursive and material adaptations.

In line with Czarniawska and Joerges' (1996) assumption, the findings in this study show that there is variation in translation among organisational sub-units. By applying a translation theory perspective, this study challenges the notion of diffusion theory, dominant in innovation adoption research. Moreover, this research shifts the focus from the inter-organisational level and opens the black box of intra-organisational translation and innovation adoption. Several explaining factors for the variance in intra-organisational translation have been identified. The differences in translation between service delivery and policy divisions vary according to task types. Differences in translation between the first adopter sub-unit and the other divisions can be explained by different modes of adoption (applied vs training-based) and different types of expertise (experience-based vs academic) linked to two types of Design Thinking templates (implementation vs methodological focus). Surprisingly, the empirical data also showed similarities in discursive and material translations among divisions, such as the reframing in terms of political context, the emphasis on user-centredness and the empathy part of the Design Thinking process. Additionally, the sequence of adoption seems to have influenced the translation process of Design Thinking. Finally, the empirical data suggests that coupling with similar practices reinforced Design Thinking.

EMPIRICAL EVIDENCE OF INTRA-ORGANISATIONAL VARIATION IN TRANSLATION OF DESIGN THINKING

The case study directs the attention to the empirical evidence of the intra-organisational translation of Design Thinking in a public sector organisation. The study suggests variation in translations within the same organisation and broadens the empirical evidence base on intra-organisational practice adoption,

previously neglected in adoption studies. Differences in translation and adaptations can be observed between service-delivery and policy divisions. Additionally, the first adopter division indicates a different pattern of translation of Design Thinking than the rest of the organisation.

INTRA–ORGANISATIONAL SIMILARITIES IN TRANSLATION DESPITE EXPECTED VARIATION

The data analysis identified several similarities regarding the translation of Design Thinking in the different parts of the organisation. The filtering by emphasis includes the principle of user-centredness and the empathy part of Design Thinking, as well as a service-oriented translation of Design Thinking. In terms of reframing, some similarities are apparent. These concern the way Design Thinking is linked to the strong customer (service) orientation of the Ministry, as well as the omnipresent reference to the political context in Singapore.

The Ministry-wide rhetorical alignment with the political situation can be understood as part of a bigger national frame. In the general elections of 2011 the ruling People's Action Party lost a significant number of votes by Singaporean standards. The following year, the former Prime Minister announced a year-long public engagement initiative by the Singapore Government, the so-called 'Our Singapore Conversation' (OSC). The focus of the OSC was to re-build trust with an increasingly dissatisfied and vocal citizenry. A similar motivation was given for the introduction of Design Thinking. Hence, the efforts of sustaining Design Thinking in the Ministry can be interpreted in light of the larger political picture. What is more, Our Singapore Conversation has been interpreted as a way to satisfy a confident middle class' desire for political participation, a 'state-led public ritual' as well as a 'spectacle of nationhood and active citizenship' to distract from the perceived political and economic crisis (Tan, 2013: 3). The 2012 initiative was not new, but followed a tradition of similar public engagement exercises at the national-level dating back to the 1980s. These were similar in form and preceded or followed critical general elections, as well times of economic or political unrest (Tan, 2013: 3). Design Thinking's reframing by Ministry members in terms of re-building trust between the government and its citizen connected it to the current political discourse and reinstated its perceived relevance for the Ministry.

Translation theory assumes that any translation produces a different outcome and is therefore unique. However, the empirical data of this study showed similarities in terms of filtering by emphasis and reframing in the intra-organisational translation of Design Thinking. In light of the basic assumption of translation theory, at least in the tradition of Czarniawska and Joerges (1996), such similarities are a surprising finding. What could explain these similar outcomes in translation? They might be related to the greater normative pressures within a single organisation compared to an organisational field. Therefore, we need to further specify what distinguishes intra- from inter-organisational translation.

At first, this study provided empirical evidence of variation in the intra-organisational translation of Design Thinking. Despite this dominant translation pattern, the study also identified similarities in the translation of Design Thinking relating to both material and discursive aspects. Then, the empirical case studies allowed us to identify the factors influencing the translation of Design Thinking. Figure 42: Influencing factors of translation of Design Thinking (own depiction)illustrates the five identified influencing factors of the translation of Design Thinking.
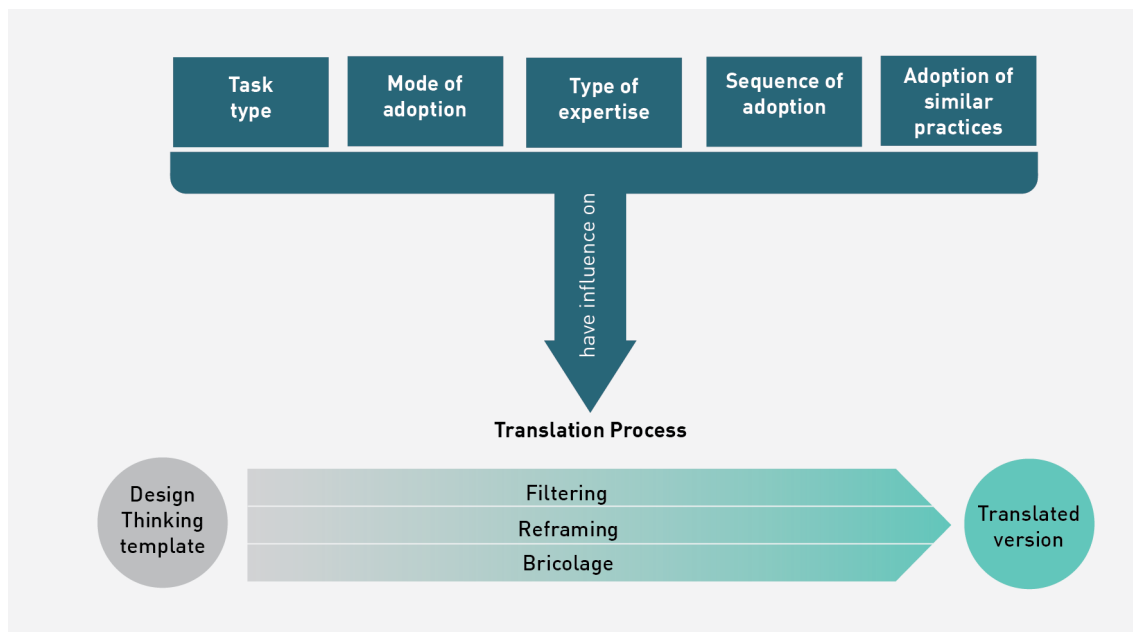
Figure 42: Influencing factors of translation of Design Thinking (own depiction)

THE INFLUENCE OF TASK TYPE ON INTRA-ORGANISATIONAL VARIATION IN TRANSLATION

Differences in translation can be observed between service delivery and policy divisions as detailed in the empirical findings section. Such variation can be attributed to specific task requirements of service delivery and policy formulation. Moreover, the perceived fit between the translated practice and the adopting context might partially account for the variation in the translation of Design Thinking between service delivery and policy divisions. The technical fit, namely the compatibility of Design Thinking's features with the technologies in use by the organisation, seems to have been less relevant than cultural and political fit (Ansari et al., 2010: 75).

In service delivery and customer service divisions, including Service Delivery Department A, Design Thinking was perceived as a fit with service-driven work. Especially Design Thinking's emphasis on user-centredness was interpreted in terms of improving the customer experience of existing processes. Moreover, examples and references to the service-related application of Design Thinking provided by the d.school and the design agency during the trainings, the study visit and the tender process seemed familiar to the service delivery and customer service divisions. The initial adoption of Design Thinking in SDD A became a success story throughout the organisation, which seems to have reinforced the perceived fit of Design Thinking for service delivery and customer service tasks.

Instead, policy divisions found it more difficult to relate Design Thinking to their own work environment. The strong focus on end users in the Design Thinking approach did not find an equivalent in the more abstract context of policymaking involving multiple stakeholders. Moreover, members of policy divisions especially emphasised the thorough problem-understanding aspect of the Design Thinking process. This nuanced translation of problem-understanding might be connected to the nature of policy work itself, mainly research-driven, where problem-definition plays a major role in the policy cycle.[35]

---

[35] For an overview: Howlett and Ramesh (2003).

The political fit, characterised by the compatibility of the normative features of a practice with the interests and agendas of potential adopters (Ansari et al., 2010: 80), was decisive in the case of SDD A, which was actively looking for a new way of enhancing customer satisfaction beyond efficiency. A pleasant customer experience presented a new dimension for customer satisfaction and created a new key performance indicator (KPI) with huge improvement potential. Design Thinking was adopted by SDD A because it was perceived as a fit to address this issue.
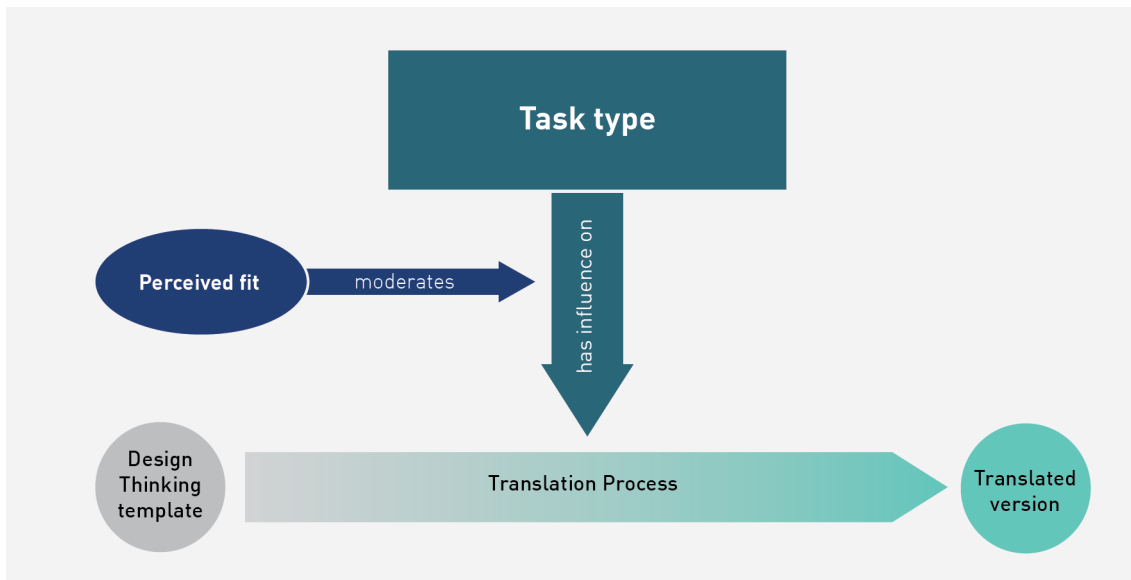
Figure 43: Hypothesised relationship between task type and translation of DT, moderated by perceived fit

In sum, one could argue that the variation in translation of Design Thinking can be linked to the different tasks of service delivery and policy work performed by the different divisions. In turn, these differences seem to be influenced by the perceived fit of Design Thinking with the respective task domain. Figure 43 illustrates the hypothesised relationship between task type and the translation of Design Thinking, moderated by the perceived fit. Service delivery and customer service appear to be more receptive of Design Thinking than policy work. The greater perceived misfit of Design Thinking with policy-related tasks seems to produce more filtering by removal and hence adaptations of the approach. Furthermore, lower levels of fidelity can be observed in policy divisions, rather than in service-related divisions. Here, level of fidelity refers to the degree of similarity between the adopted practice and the previous version of it and which concerns the practice's scope and meaning (Ansari et al., 2014: 1316).

Beyond the distinction between service delivery and policymaking task types, differences in translation could be further influenced by the level of complexity of a specific task type. This ranges from artefact and experience to systems and complex large-scale systems (Di Russo, 2016). The Ministry's overall use of Design Thinking could be interpreted as covering the medium-levels of complexity in Di Russo's model of the stratification of Design Thinking (see Figure 1). In the Ministry, Design Thinking has been applied with regard to objects and services; however, it hardly affected the design of systems associated with policy design and public services in the model. An example of object design is the re-designing of the letters in SDD A. Service design was addressed, for example, in re-designing the two service centres, as well as in a project that switched from on-site to online delivery. Furthermore, the legislative changes resulting from a Design Thinking project involving stakeholder engagement workshops are a rare policy design example. is. However, such projects seem to be the exception.

Another aspect which might influence the translation of Design Thinking, although left out by this study, regards the output orientation of a specific task type. For example, the translation of Design Thinking might differ when applied to process design (including internal work organisation), or externally to (market-)oriented product, service or policy design.

THE INFLUENCE OF MODE OF ADOPTION, MODERATED BY TIME OF EXPOSURE, ON INTRA-ORGANISATIONAL TRANSLATION AND LEVEL OF ADOPTION

Differences in translation can also be observed between the first-adopter Service Delivery Department A and the other divisions. The mode of adoption seems to have played a major role in accounting for these differences. Figure 44 below illustrates the hypothesised relationship between the mode of adoption and the translation of Design Thinking.
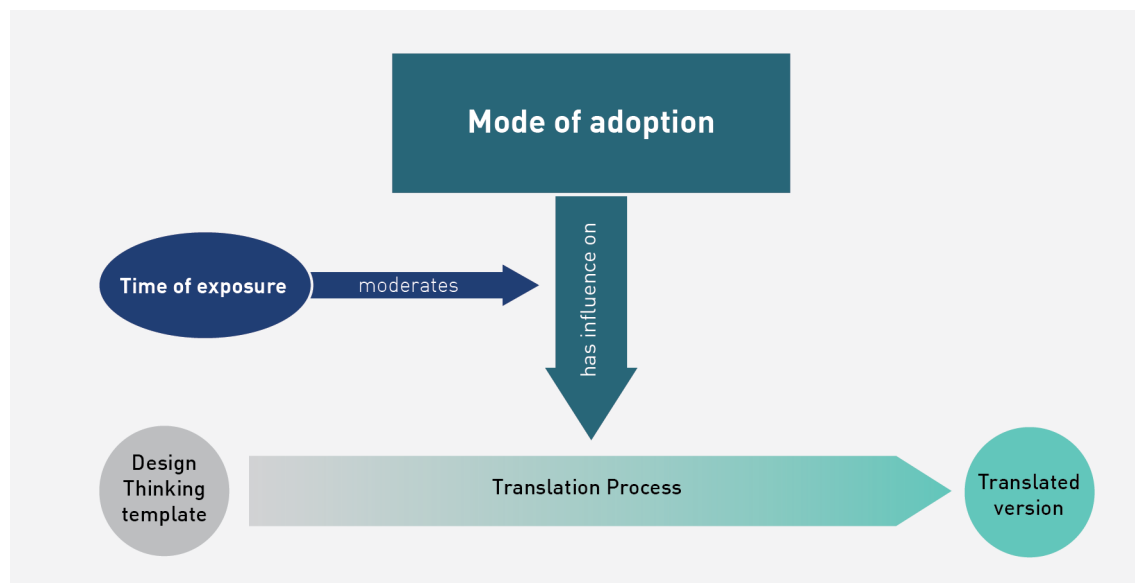
Figure 44: Hypothesised relationship between mode of adoption and translation of DT, moderated by time of exposure

The mode of adoption also seems to have influenced the level of adoption of Design Thinking. SDD A has often been referred to by interviewees as the pioneer of Design Thinking in the Ministry. Not only did they adopt Design Thinking earlier than other divisions, SDD A also experienced Design Thinking through learning by doing. Over a period of three years, members of the Service Delivery Department A worked closely with the design agency that first introduced them to Design Thinking. All other divisions in the Ministry became acquainted with Design Thinking through the training programme set up by the Corporate Planning Department. The Corporate Planning Department also promoted the use of Design Thinking through the establishment of a team of Design Thinking facilitators, who support divisions by carrying out Design Thinking projects. The learning-by-doing mode of adoption meant that the SDD A team responsible for the change project worked alongside the design agency in co-staffed teams. It also involved working on real issues which were identified as part of the change cluster. The five-week re-designing of one of the service centres provided an initial proof of concept, which convinced SDD A of the value added by Design Thinking. The close collaboration with the design agency allowed for an on-the-job training and provided guidance by experts. Design Thinking was described by one of the interviewees as an approach that one can only understand by experiencing it: 'I guess you need to be a practitioner to appreciate the uniqueness of DT' (#24, P344).

SDD A seemed to have mastered such a practical learning approach with the support of external experts. The mode of adoption for the other divisions can be characterised by an educational off-the-job training approach. During the one-off trainings, participants go through a number of practical exercises to learn about the Design Thinking methodology. The illustrative challenges used during these trainings often do not relate to the work of the participants, who find it difficult to then translate the contents of the training back to their jobs. The Design Thinking projects supported by the group of facilitators promote an applied learning experience, similar to the on-the-job training in SDD A. The facilitators guide project teams from the sponsoring division through the steps of the Design Thinking process. The main difficulty with this approach is linked to the limited experience and know-how of the facilitators themselves.

All in all, an applied, on-the-job mode of adoption of Design Thinking with the goal of solving business problems by using a Design Thinking mindset seems to have led to a higher level of adoption in the first-adopter division of SDD A. A training-based, off-the-job mode of adoption of Design Thinking with the main objective of spreading the Design Thinking approach and a methodological focus seems to have resulted in lower levels of adoption in all other divisions.

A high level of adoption presents the following aspects: 1) Design Thinking is used in all projects; 2) all stages of the process are applied; 3) Design Thinking permeated the work place culture, for example in terms of mindset shifts towards adopting a human-centred perspective and/or culture of experimentation; and 4) a certain confidence with the tools of Design Thinking. On the contrary, a low level of adoption is characterised by the limited use of Design Thinking as follows: 1) the use of Design Thinking in some projects; 2) limited application of the Design Thinking process stages; 3) no or limited influence on workplace culture; and 4) lack of confidence. Table 15 summarises the characteristics of high-level and low-level of adoption of Design Thinking.

Table 15: Definition of level of adoption of Design Thinking

	HIGH-LEVEL OF ADOPTION	LOW-LEVEL OF ADOPTION
Application of Design Thinking	Used in all or a wide range of projects	Use of Design Thinking in some projects
Use of Design Thinking process	All stages of Design Thinking process applied	Limited application of Design Thinking process stages
Work place culture	Permeates workplace culture, initiated mind-set shift, e.g. user-centred perspective, culture of experimentation	No or limited influence on workplace culture, no mindset shift with regard to Design Thinking principles
Use of Design Thinking tools	Confidence in using wide range of Design Thinking tools	Lack of confidence and thus limited use of Design Thinking tools
Organisational embeddedness of Design Thinking according to Junginger (2009)	Central or integral	Separate or peripheral

In order to arrive at a better understanding of the level of adoption of Design Thinking in the organisation and to allow comparisons with other empirical studies, Sabine Junginger's model (2009: 26) on the organisational embeddedness of Design Thinking provides further insights. Junginger's model describes the relationship between the design function and the larger organisation supporting it, in

which she distinguishes four types: 1) separate, 2) peripheral, 3) central and 4) integrated (see Figure 45).
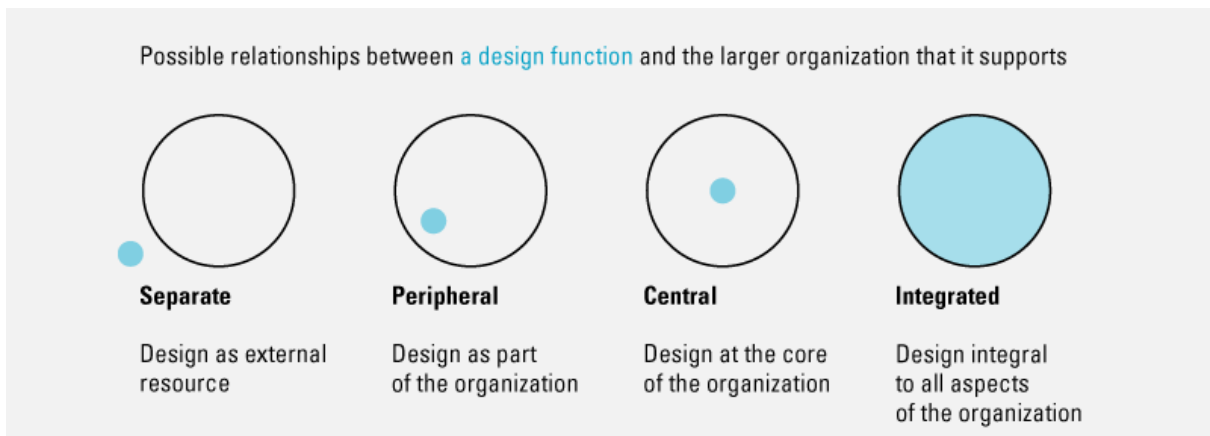
Figure 45: Junginger's (2009: 26) model of the relationship between design function and organisation

The design function is separate when design is an external resource, meaning Design Thinking and methods have no continuous presence in the organisation. In this case, design is limited to traditional problems of form, communication or function. In the second 'peripheral' type, design is part of the organisation, meaning Design Thinking and methods are practiced somewhere in the organisation and applied to specific products or services. A central relationship signifies that design is at the core of the organisation, meaning Design Thinking and methods are highly visible, they take a central position and combine products and services across the organisation. Moreover, Design Thinking is applied to corporate design and brand strategy in such 'central' relationship. The fourth type of an integrated relationship makes design integral to all organisational aspects. Design Thinking and methods are being used by top management as a problem-solving approach to find integrated solutions to a multitude of organisational challenges.

The role of design needs to be differentiated within the Singaporean Ministry. Whereas in some divisions it can be described as peripheral, in others it seems to be more central. In the sense of a peripheral design function, Design Thinking is applied in some parts of the organisation and to specific services and tasks in most divisions. In the first-adopter division of SDD A, one can speak of a central relationship in which Design Thinking is used to unify services across the division. By establishing a dedicated Design Thinking unit in CPD the methodology has become highly visible, a characteristic of a central relationship. However, this central function has not led to a comprehensive strategy to unify products and services across the organisation. In the case of the Singaporean Ministry, the design function has not been integrated in all aspects of the organisation and used for strategic purposes. So far, the top management has not applied Design Thinking as an integrated problem-solving approach to the most pressing organisational issues.

With regard to the translation and level of adoption, the time of exposure to Design Thinking during the innovation adoption process has been a significant differentiator between SDD A and the other divisions. The time of exposure seems to moderate the relationship between the mode of adoption and the translation as well as the level of adoption of Design Thinking. In other words, a longer time of exposure to Design Thinking increases the level of adoption. In the case of SDD A, an applied, on-the-job mode of adoption combined with a longer time of exposure resulted in higher levels of adoption.

SDD A collaborated with the design agency over a period of three years (2009-2012), closely working with them during the first year. In 2014, they renovated their contract with the design agency to complete one of the project clusters identified during the first round of collaboration, namely IT systems re-designing. In that way, SDD A was exposed to the agency's external expertise in Design Thinking through a long-term partnership. SDD A gained first-hand experience by working with the design agency. The CPD and the first batch of Design Thinking facilitators were also directly exposed to external expertise in Design Thinking by the d.school Stanford. Other divisions and subsequently trained employees only had second-hand exposure through the Design Thinking facilitators' group. Compared to SDD A, people from the other divisions, including the CPD, had short-term exposure to external expertise in the form of trainings. These mainly consisted of one-off sessions which usually last one day or a few days. Additionally, the group of trained facilitators offered project support which exposed members of the sponsoring division to the methodology. These projects usually span a few weeks, a longer period of exposure compared to the trainings.

In sum, the mode of adoption made a huge difference in terms of the intra-organisational translation and the level of adoption. SDD A's on-the-job, project-based approach enabled applied learning, whereas the other divisions adopted Design Thinking mainly through an off-the-job, training-based approach. Furthermore, the relationship between the mode of adoption and the translation as well as the level of adoption of Design Thinking was moderated by the time of exposure. However, further research will be necessary to investigate this relationship. For example, the focus could be set on determining whether repeated training modules over a longer period of time, hence longer-term exposure to Design Thinking, would increase the level of adoption. Following this interpretation, one could also investigate other modes of adoption that combine characteristics from both observed modes of adoption, such as the mentioned repeated training modules.

THE INFLUENCE OF TYPE OF EXPERTISE ON INTRA-ORGANISATIONAL VARIATION IN TRANSLATION

The type of expertise varied between the first-adopter division of SDD A and the rest of the organisation. During the adoption process SDD A was accompanied by external experts of the design agency. For the establishment of the in-house training programme, the CPD also enlisted external expertise and brought the d.school Stanford on board to conduct the train-the-trainers workshops with the initial group of facilitators. As a global consultancy, the design agency could draw on their experience of working with a diverse group of clients across different industries. During the study trip to the United States the Ministry delegation was invited to meet with clients of the design agency. On the other hand, the d.school provides an academic setting for teaching Design Thinking on a project-basis. For these projects the d.school often collaborates with companies or other organisations to work on real challenges. However, the main objective remains educational. Therefore, the type of expertise brought to the Ministry's sub-organisational units during the adoption process differed. Whereas the d.school provided academic knowledge with a strong focus on methods to the selected group of Ministry employees, the design agency shared experienced-based knowledge with SDD A.

The type of expertise is closely linked to the type of Design Thinking template adopted in SDD A and the other divisions. The templates can be understood as codified manifestations of the Design Thinking versions promoted by the design agency and the d.school (see also Chapter 4.1.2). At first glance, the Design Thinking templates of the d.school and the design agency appear to be very similar. Due to the great overlap of Design Thinking process, principles and tools, one could expect these two templates to have similar outcomes of translation. Despite the striking similarity of the Design Thinking templates,

the design agency's version of Design Thinking places greater emphasis on implementation, than the version promoted by the d.school Stanford. The design agency explicitly refers to the implementation phase in their process model and mentions tools for implementation in their Design Kit (2015). In combination with the design agency's guidance, this might have facilitated the adoption of Design Thinking in SDD A. In line with translation theory's assumption of unique, idiosyncratic translations (Czarniawska & Joerges, 1996), the findings pointed out that the different types of expertise combined with the respective type of template led to different translations in SDD A and other divisions of the Ministry.
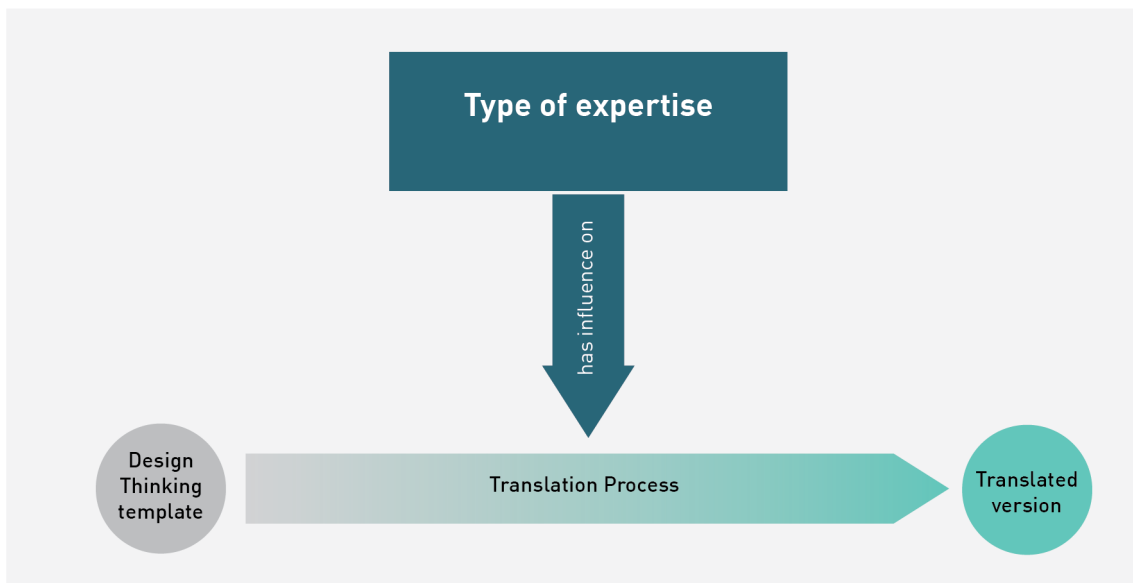
Figure 46: Hypothesised relationship between type of expertise and translation of DT

Figure 46 illustrates the relationship between the type of expertise and the translation of Design Thinking. In sum, the different focus areas of the types of expertise influenced the translation of Design Thinking in the different divisions. Whereas the d.school's primary focus rests on how to master the approach of Design Thinking (mindset, process, tools), the design agency focuses on how to solve a given problem together with its clients (Figure 47). Accordingly, the CPD's goal of adoption was to create awareness for Design Thinking in the ministry and train ministry employees in the approach. Instead, SDD A set out to solve a specific problem and chose Design Thinking as the appropriate methodology.
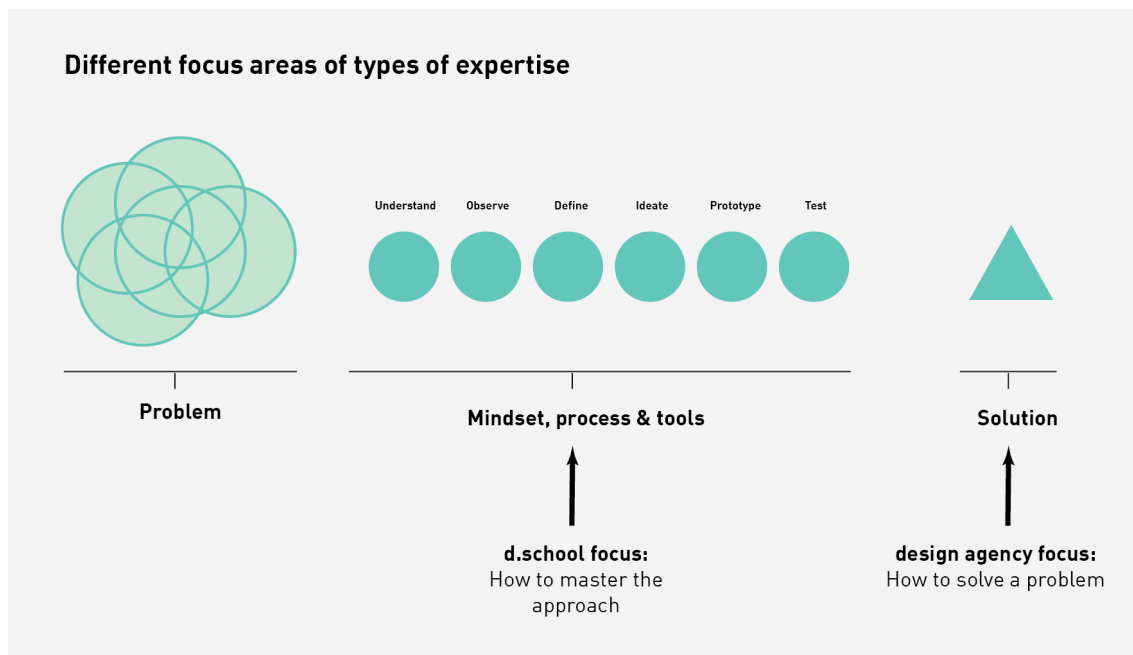
Figure 47: Different focus areas of types of expertise

THE INFLUENCE OF SEQUENCE OF INNOVATION ADOPTION PROCESS AND FIRST-ADOPTER TRANSLATION ON SUBSEQUENT TRANSLATIONS

Intra-organisational translation is influenced by the sequence of the adoption process. In the case of the Singaporean Ministry the first-adopter division's translation of Design Thinking seems to have shaped subsequent translations of other divisions in the Ministry. SDD A's pilot project of the service centre re-design was perceived as a success and became a hallmark of Design Thinking. This shaped the interpretation of Design Thinking among subsequent adopters within the Ministry. Whereas other service delivery divisions could relate to the process improvements, for example in cutting waiting times and easing the customer experience to make it more user-friendly, members of the policy divisions had difficulty to translate Design Thinking back to their sphere of work. Policy officers rather highlighted the empathy part to understand policy users. Apart from the first-adopter of SDD A, the Corporate Planning Department together with the initial group of Design Thinking facilitators played a central role in further spreading Design Thinking within the Ministry, through the training programme and project support. The CPD relied on the Design Thinking template from the d.school and the educational material, including methodological input slide decks and worksheets, was used without many changes. Therefore, the CPD and the Design Thinking facilitators shaped how and what other Ministry members learn about Design Thinking.

The sequence of innovation adoption helps us to better understand the translation process within organisations. Additionally, the first-adopter translation seems to play a critical role for the translation of subsequent intra-organisational adopters. More research is needed to explore the relationship between the sequence of adoption and the translation of the adopted practice. Especially, more research is needed on the intermediary role of central organisational units, such as CPD, which are often in charge of scaling adoption in large organisations. Figure 48 visualises the hypothesised relationship between the sequence of adoption and the translation of Design Thinking, moderated by the first adopter translation.
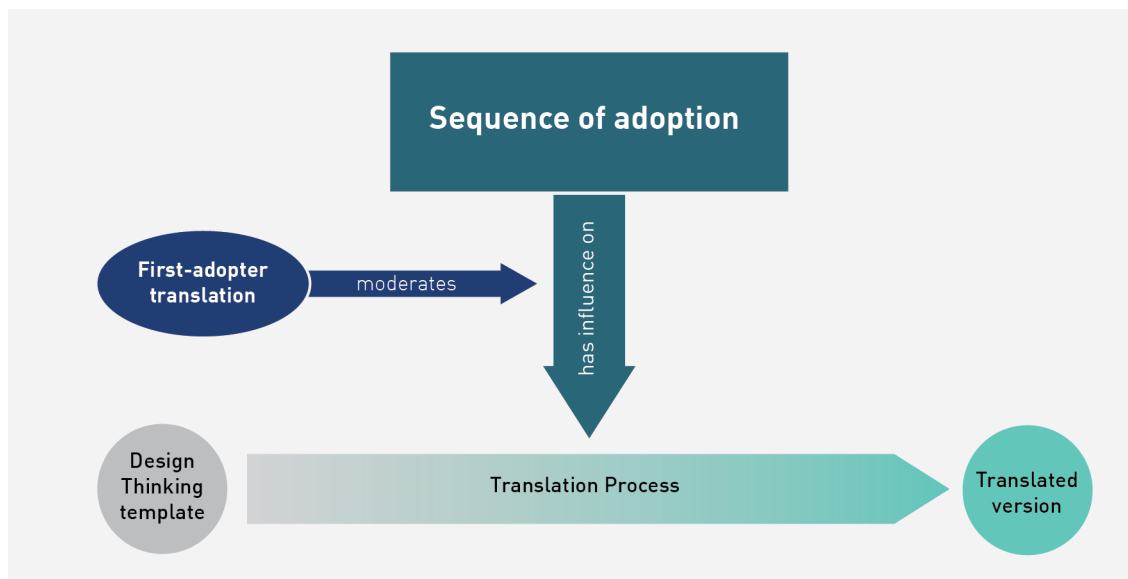
Figure 48: Hypothesised relationship between sequence of adoption and translation of DT, moderated by first adopter translation.

THE INFLUENCE OF ADOPTION OF SIMILAR PRACTICES ON TRANSLATION OF DESIGN THINKING

Other practices with similar values, adopted by the organisation after Design Thinking, reinforced the methodology's perceived relevance. In different divisions, organisational members combined Design Thinking with other methodologies, which are interpreted as complementary and similar. In the case of SDD A Design Thinking was combined with agile software development, whereas the CPD experimented with merging Design Thinking and Behavioural Insights. This can be understood as a type of bricolage in terms of translation activities. However, unlike Boxenbaum and Gond's (2014) definition of bricolage, this does not mean that new practices are primarily integrated with existing practices. This study shows that Design Thinking has been merged with similarly new approaches adopted by the organisation. Moreover, the empirical data suggests that the micro-strategy of bricolage might be more relevant at later stages of adoption when the approach is more widely used and incorporated, like in the case of SDD A and the CPD. Figure 49 illustrates the hypothesised relationship between adoption of similar practices and the translation of Design Thinking.
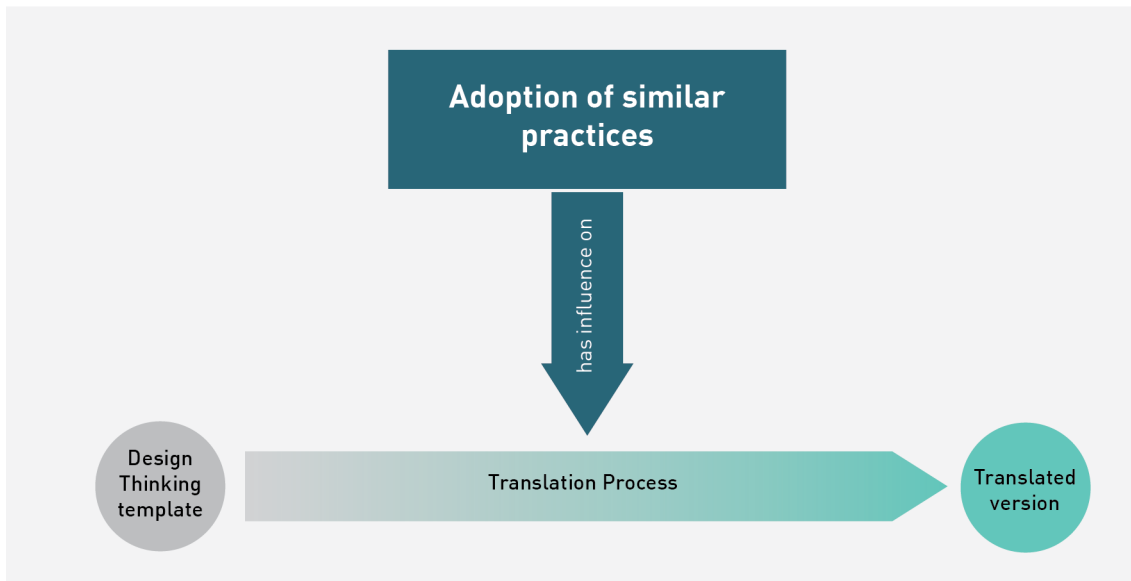
Figure 49: Hypothesised relationship between adoption of similar practices and translation of DT

In sum, this study points to the potential multiplication effects of management practices which have been adopted by the same organisation. The Ministry has gone through multiple cycles of management fashions, including six sigma, systems thinking and business process re-engineering, to name a few. Therefore, the adoption of Behavioural Insights and agile software management by the Ministry could be seen as an indication of new management fashions on the rise. However, this does not mean that Design Thinking will be abandoned. Design Thinking has been continued despite the adoption of new methodologies. The relevance of Design Thinking seems to have been reinforced by linking it to new concepts. One clue might lie in the fact that these new methodologies share similar principles with Design Thinking, such as focusing on user behaviour and the iterative process.

5.2 Refining the Translation Model

Based on the findings of this study, I will propose a refinement and expansion of the model of micro-strategies of contextualisation developed by Boxenbaum and Gond (2014). This provides an analytical framework for further empirical studies on translation.
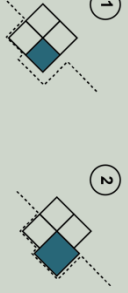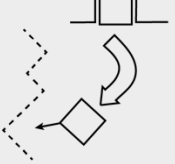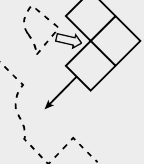
First, this study identified and added a new filtering sub-category to Boxenbaum and Gond's (2014) typology. Boxenbaum and Gond define the filtering category as the removal or downplaying of elements in the globalised construct that could be perceived as 'incongruent' with the new context. My empirical data shows that despite removing certain elements, other aspects are highlighted during the process of translation. For example, different aspects of the same process are made evident by downplaying and emphasising. This perspective adds an important nuance to the category of filtering. During the process of translation, elements relevant to the new context are not only de-emphasised, but accentuated. Therefore, I propose a refinement of the filtering category, distinguishing filtering by removal and filtering by emphasis. Although it is not included in their conceptualisation of filtering, Gond and Boxenbaum refer to the possibility of filtering by emphasis in a given local context (Gond & Boxenbaum, 2013: 717). This means that not only does filtering eliminate elements, it can also be that special features are highlighted during contextualisation.

Second, this study provides empirical evidence of how contextualisation strategies are used to achieve technical, cultural, or political fit between the imported practice and the new local context (Gond & Boxenbaum, 2013: 708). Additionally, the perceived fit between the adopted management practice and the local context seems to influence the use of the micro-strategy of filtering itself. As a non-technological management practice, Design Thinking's technical fit with the Ministry did not play a role. However, its political fit with interests and agendas of potential adopters, as well as its cultural fit with values, beliefs and practices of potential adopters, were more decisive during the translation process (Ansari et al., 2010: 78). Design Thinking was first adopted by service-delivery departments and 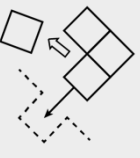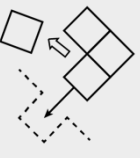only later by policy departments, which found it more difficult to contextualise this approach into their area of work. The data suggests a greater fit between Design Thinking and the service-related context in SDD A and other operational units because the template versions of the d.school and the design consultancy emphasised product development and service experience, to which Design Thinking was applied. Hence, the need for adaptation was greater in the policy divisions than in the service delivery divisions. This might also explain the extensive use of filtering as removal to eliminate elements of Design Thinking, which were perceived as incongruent with the policy-related context. Contrary to this extensive filtering as removal in policy divisions, the same micro-strategy of contextualization was less used in Service Delivery Department A, as well as other service delivery and customer service divisions. In the Corporate Planning Department there appears to be a moderate use of filtering as removal. This could be linked to their central role in overseeing the introduction of Design Thinking and its further spreading to the rest of the Ministry, through trainings and facilitated projects. The Corporate Planning Department might have anticipated the difficulties departments could face during the introduction: therefore, they employed filtering to translate Design Thinking to the respective work areas. The relationship suggests that the closer the perceived fit between the global construct and the adopting context is, the less elements are removed from the original template and vice-versa. Thus, this study specifies the relationships between contextualisation work and practice adaptation (Ansari et al., 2010).

Third, this research expands the micro-contextualisation strategy of bricolage. Boxenbaum and Gond (2014) define bricolage as the integration of a widely accepted practice or object from the new context with the globalized construct; instead, the empirical analysis showed that Design Thinking has been combined both with already widely accepted practices and with other new practices. In line with Boxenbaum and Gond's (2014) definition of bricolage, Design Thinking is combined with existing policy review and public consultation practices in the policy divisions. However, staff members of the Corporate Planning Department explored the possibility to merge Design Thinking with Behavioural Insights, an approach based on behavioural economics. In the Service Delivery Department A staff members combined Design Thinking and agile software development methodology for the re-organisation of the IT system. Both Behavioural Insights and agile software development methodologies were only introduced to the organisation several years after Design Thinking's first adoption around 2009. Moreover, Behavioural Insights and agile software development methodology share similar principles with Design Thinking, such as the focus on user behaviour and the principle of iteration respectively. Hence, this case study indicates that the translation strategy of bricolage is employed during later phases of innovation adoption. Furthermore, the use of bricolage is not limited to the integration with existing practices or objects, but extends to the coupling with other new practices during translation which share similar principles. This study suggests that the combination with other recently adopted practices is employed to sustain relevance in later phases of adoption.

In sum, the refinement and expansion of the model of micro-strategies of contextualisation developed by Boxenbaum and Gond (2014) concerns three aspects. First, I added a new distinction of the filtering category by expanding the definition of filtering beyond the removal to the emphasis of elements of the global concept. Second, I was able to specify the link between contextualisation and practice adaption with this empirical study, thereby contributing to bridging these two scholarly debates. Third, I refined the micro-contextualisation strategy of bricolage, by expanding, adding and providing a specification regarding its temporal use during the innovation adoption process.

Table 16: Refined typology of micro-strategies of contextualization

LABEL	FOCUS	IMAGE CAPTURING THE MOVEMENT OF THE CONTEXTUALISATION WORK	DEFINITION	ADDITIONS TO THE INITIAL FRAMEWORK
(1) Filtering			Refers to the material/practice-related elements in the globalised construct/imported practice that are adapted to the new context.	
(1a) Filtering by removal	Removal of practice-related/ material elements	(Gond/Boxenbaum 2013: 713)	Removal or downplaying of elements in the globalised construct/imported practice that could be perceived as 'incongruent' with the new context. (Boxenbaum & Gond, 2014: 316; Gond & Boxenbaum, 2013: 713)	
(1b) Filtering by emphasis	**Emphasis of practice-related/ material elements**	(Gond/Boxenbaum 2013: 713)	**Emphasis or highlighting of specific elements in the globalised construct/imported practice that could be perceived as 'congruent' with the new context.** (adapted from Boxenbaum & Gond, 2014)	New subcategory: Filter by emphasis
(2) Reframing	Addition/removal of discursive/ symbolic elements and/or change of use/area of application	(Gond/Boxenbaum 2013: 713)	Discursive alignment with local myths, past history, social movements, or current trends and/or change of use/ area of application in order to make the globalised concept/imported practice more acceptable in the new context. (Boxenbaum & Gond, 2014: 316; Gond & Boxenbaum, 2013: 713)	
(3) Bricolage	Addition of new practice-related/ material elements	(Gond/Boxenbaum 2013: 713)	Integration of a widely accepted practice or object from the new context **and/or combination with other new practices or objects** in order to increase the perceived usefulness and/or acceptability of the globalised construct/imported practice in this context (Boxenbaum & Gond, 2014: 316; Gond & Boxenbaum, 2013: 713). **Bricolage with other new practices might occur in later phases of innovation adoption.**	Expanded definition of bricolage: • combination with other new practices or objects • Bricolage with other new practices might occur in later phases of innovation adoption.

Own refinements and adaptions are marked in bold on darker background. This table is adapted from Boxenbaum and Gond (2014: 316) as well as Gond and Boxenbaum (2013: 713).

5.3 What can we learn from translation theory about innovation adoption?

The translation theory perspective sharpens the understanding of the innovation adoption process, by looking at how it occurs and by shedding light on the aftermath of the adoption decision within the organisation. Furthermore, translation theory directs attention to practice adaptation during innovation adoption. This study combined insights from translation research with research on practice adaptation (Ansari et al., 2010, 2014). Selecting Boxenbaum and Gond's (2014) micro-contextualisation typology as an analytical framework to study translation allowed me to empirically observe and analyse filtering, reframing and combinations of new management practices during the adoption process.

This study provides empirical evidence of the intra-organisational variation of translation during innovation adoption. In addition, I identified several factors that influenced the translation of the adopted innovation. These include the task type, mode of adoption, type of expertise, sequence of adoption, as well as the combination with similar practices. First of all, the differences regarding task types in service delivery and policy work result in distinctive translations of Design Thinking. Second, the empirical data suggests that the mode of adoption, identified as an on-the-job, applied versus an off-the-job training-based approach, affected the translation of the adopted innovation. Additionally, the time of exposure to Design Thinking moderated this relationship. Third, the analysis of the adoption of Design Thinking suggests that the use of an applied approach led to higher levels of fidelity with the adopted template, as well as to a more integrated role of Design Thinking in the sub-organisational context (Junginger, 2009). Fourth, the type of expertise used during innovation adoption influenced this process: experience-based expertise facilitated it more than the academic, methodologically-focused type. The type of expertise concerning the adopted innovation is also closely related to the type of template, as it represents a codified type of knowledge. Fifth, the sequence of adoption influenced the intra-organisational translation of Design Thinking: The first-adopter translation shaped the translation of subsequent adopters. Finally, the combination with similar practices had a reinforcing effect on the translation of Design Thinking.

The theoretical findings of this study could not be tested in this single case study, although they have been discussed as recommendations for theory-building. The identified explanatory factors need further study and provide avenues for future research.

Additionally, the findings align with Røvik's (2011) virus-inspired theory of idea-handling processes, in particular the depiction of the mutation process that provides more nuanced understanding. The introduction of Design Thinking in the Singaporean Ministry illustrates the complex nature of the relationships among idea-handling processes. On the one hand, it shows the inherent tensions between entrenchment and maturation; on the other, isolation and expiry. Therefore, it contradicts management fashion theory's suggested dichotomy of adoption and rejection.

5.4 What can we learn from the case-specific translation of Design Thinking about its use in public administration settings?

In the following, I will elaborate on the implications derived from the case-specific findings, regarding the adoption of Design Thinking in the Singaporean Ministry. Then, I will discuss how Design Thinking could be generally applied in the public administration context.

FOSTERING MODULAR APPLICATION OF DESIGN THINKING AND HUMAN-CENTRED MINDSET

Across all divisions, there is a clear tendency towards the flexible application of the Design Thinking process and elements. This entails concentrating on distinct process phases, such as the front-end empathy part or user testing, or simply incorporating single elements, such as working with visual tools like post-its. Consequently, Design Thinking is adapted to the respective context: according to most respondents, the process does not have to be followed through from the beginning to the end. In line with such modular interpretation of Design Thinking, there seems to be a bias towards emphasising user-centred mind-set over strict adherence to the Design Thinking process. Across all divisions, the empathy process phase and the principle of user-centredness were emphasised over other Design Thinking (process) elements. Design Thinking has been primarily translated to better understanding the customer base of the Ministry, in order to come up with better services and policies for them. This focus on the empathy part can also be linked to an increasing and diverse customer base and the rising number of complaints received by the Ministry. Additionally, Design Thinking has been interpreted in light of the ongoing perceived political crisis characterised by a lack of trust between the government and its citizens. Design Thinking was construed as a possible solution to re-building trust with citizens, which reinforced the perceived relevance of Design Thinking for the Ministry.

The modular application of the Design Thinking process and elements allows for context-specific adaptations. The focus on the empathy part of the process, as well as on the principle of user-centredness, points to how Design Thinking can help to understand customers better through user research. Bason (2010) emphasised the role of design methods to develop 'professional empathy'. This helps organisational members put themselves in other people's shoes and learn about their users' experience with their organisation. In that regard, Design Thinking can support the shift from a government-centred to a people-centred perspective. In the Singaporean Ministry this went beyond external relationships. Design Thinking also had an impact on the internal relationships by fostering empathy building among staff members.

ADAPTATION IN PROTOTYPING POLICY WORK

Although members of the Ministry mitigate the relevance of prototyping for policymaking, the question is rather about adapting it to the policymaking context, in light of the unique circumstantial conditions. Some members of the Ministry expressed concern about the need for policies to ensure equal

treatment of citizens over a certain period of time. This poses the question of how testing of ideas with prototypes can be organised for policymaking. Moreover, members of the policy divisions found it difficult to apply physical prototypes to their context of policy work. Further research needs to focus on the following questions highlighting the challenges of prototyping policy contents: How to prototype abstract matters like policy changes? How can regulatory content items that are fixed, such as cut-off dates for legal retirement age, be tested with prototypes?

EMBEDDING DESIGN THINKING'S ELEMENTS OF USER AND STAKEHOLDER ENGAGEMENT

Another aspect concerns how Design Thinking's user and stakeholder engagement elements relate to service delivery and policymaking. For example, how are user and stakeholder interviews, as well as user testing, processed by the organisation compared to formal feedback channels? Another aspect regards the selection criteria for involving users during qualitative interviews, group discussions, co-creation workshops or user testing as part of the Design Thinking process. Members of the Singaporean Ministry seemed cautious to involve users to avoid overpromising changes. Governance scholars raised similar questions when discussing stakeholder and citizen participation. Some of these concern the choice of process, timeliness, equality and representation, as well as the impact of such participation (Bingham, Nabatchi, & O'Leary, 2005: 554–555).

THE NECESSITY TO BUILD IN-HOUSE DESIGN CAPABILITIES TO SUSTAIN DESIGN THINKING IN THE ORGANISATION

Except for the Service Delivery Department A, Design Thinking was adopted in the Ministry mainly via a train-the-trainers approach. The Ministry had neither prior expertise, nor staff with a professional background in Design Thinking. The introduction of Design Thinking meant starting from scratch. The short-term exposure during the one- or two-day training workshops and the lack of practical application following these training measures implied that most participants' Design Thinking skills remained limited. Some respondents shared that they felt uncomfortable with their skill level of Design Thinking, especially those who conducted training workshops for other staff members in their role as Design Thinking facilitators. Moreover, previously trained staff members did not receive any additional training in Design Thinking, meaning that Design Thinking skills could not be upgraded. Many participants did not apply Design Thinking in their work. The Service Delivery Department A tells a different story. Working alongside Design Thinking experts on business-related projects allowed them to gain practical experience, through learning by doing. Members of SDD A were also aware of the skill set needed for executing the single phases of the Design Thinking process, such as ethnographic research, synthesis of research data and prototyping. The Ministry primarily relied on external providers to take over design work, rather than in-house designers. There are several options to foster Design Thinking in an organisation and to deepen the trained employees' skills. First, subsequent training measures are necessary to advance and expand the skill set of employees. Although organisations attempt to scale training initiatives for staff, it still takes time to gain practical experience and confidence. The second option proposed relates to the challenge of linking the training to daily practice. The Corporate Planning Department established the Design Thinking projects as a way of raising awareness and an opportunity to gain practical experience with Design Thinking. The CPD has sourced current challenges from divisions and provided facilitation support to scope and conduct these projects using Design Thinking. However, some issues occurred because some submitted project proposals were not always salient business challenges, resulting in the lack of ownership on the division part. Moreover, over the four years since Design Thinking's Stanford training programme, there have been approximately ten CPD-supported Design Thinking projects. Such a limited number of projects suggests that not all trained employees

practiced Design Thinking. Besides the official Design Thinking projects, some formerly trained staff members did incorporate Design Thinking into their daily work.

LIMITATIONS OF THE VOLUNTARY FACILITATOR MODEL IN SCALING IN-HOUSE TRAININGS AND PROJECT SUPPORT

The Design Thinking training model builds on the voluntary participation of Design Thinking facilitators. The first batch agreed to continue to work as Design Thinking facilitators for two years, as part of their training at the d.school Stanford. Most of these people had been chosen to spread Design Thinking to their immediate work environments because of their position as team leaders or managers. However, they have been advancing in their careers and were ever less able to invest time in Design Thinking facilitation. The lack of incentives, including a five per cent contribution to their annual performance reports, means it is hard to commit them to their role as Design Thinking facilitators beyond individual passion. Although CPD attempted to keep Design Thinking facilitators engaged as a 'community of practice' enabling peer-to-peer learning, the energy level has been reportedly decreasing over the years. Members of this group initially built on the shared experience of participating in the Stanford training and appreciated the personal bonds forged during this time. There were no further investments in expanding the skills of the Design Thinking facilitators, although this might have had a further impact on their motivation. Compared to the voluntary model of Design Thinking facilitators, the team in the Service Delivery Department A was composed of two staff members who worked full-time on the Design Thinking projects alongside the design agency and enjoyed the support of part-time co-workers. This meant their main work was directly related to Design Thinking, whereas the facilitators had to spare time from their current jobs to work on Design Thinking projects.
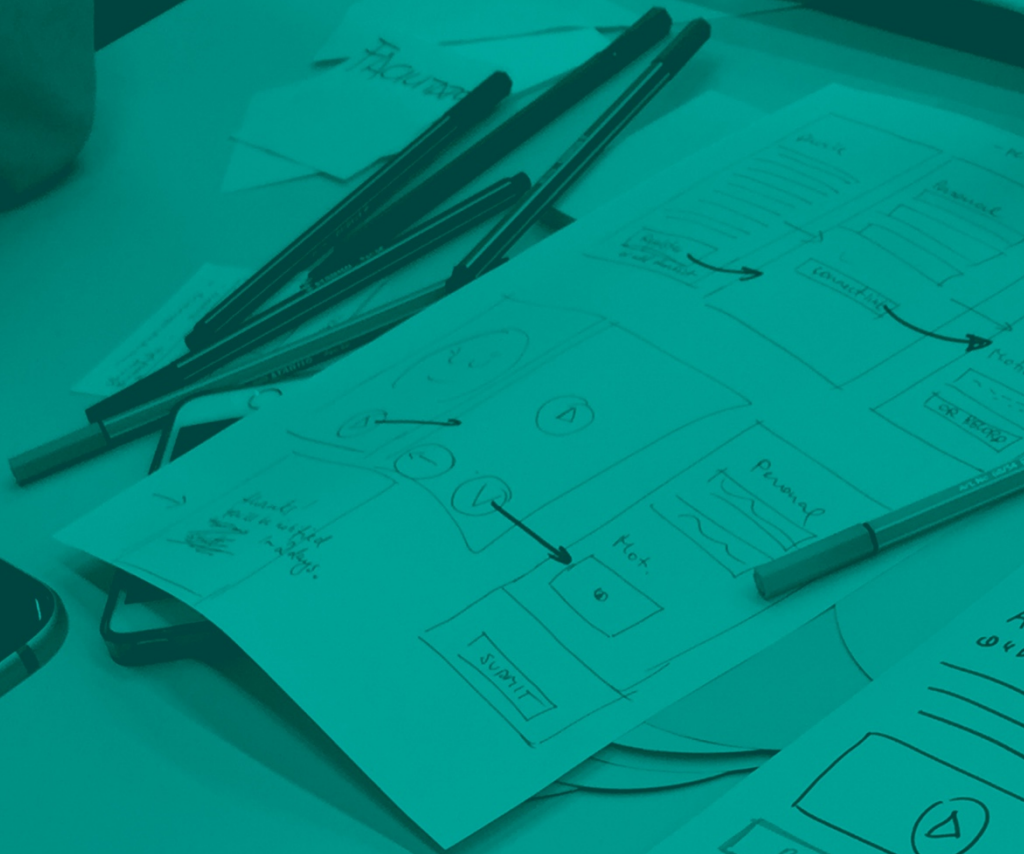
6 CONCLUSION

Diffusion theory tells us how innovations diffuse with a focus on individuals and how the characteristics of the innovation shape this process (Rogers, 2003). However, not all empirical observations of the innovation adoption process can be explained by this theoretical framework. This includes the transformation of the travelling object, as well as the active role of adopters in the implementing organisation. Unlike diffusion theory, neo-institutional approaches contest the mere transfer of innovations as such and emphasise de-coupling, as well as ceremonial adoption of new ideas based on a logic of appropriateness. A neo-institutionalist argument based on a logic of appropriateness and organisational legitimacy can partially explain why the Ministry chose to adopt Design Thinking as a new management fashion in response to normative expectations from its institutional environment (DiMaggio & Powell, 1983; Scott, 2013; Suchman, 1995). On the one hand, the empirical data indicates that Design Thinking was adopted to position the Ministry as an innovative organisation in Singapore's civil service (#15, P101; #21, P13; #25, P250). Members of the Ministry frequently mentioned that the Ministry became the poster child for Design Thinking in the public sector in Singapore (#15, P97, P101). The design agency shared the same perception, also implying that other Ministries in Singapore look up to this Ministry as they try various experiments (#27, P45). Moreover, a continuous investment in Design Thinking could also demonstrate government action to re-gain legitimacy in the public eye against the backdrop of the political crisis. However, this explanation neglects functionalist arguments about the adoption of specific innovations. In the case of the Singaporean Ministry, especially with regard to the first-adopter division, the adoption decision for Design Thinking seems to have been 'successful' because of the combination of two approaches: one is the management fashion argument in favour of adopting a fashionable approach; the other is the functionalist argument in favour of catering to the division's objective to be more service-oriented. Referring to Mamman's terminology (2002), the first-adopter division of the Service Delivery Department A followed a proactive approach: searching for management ideas to solve organisational problems. Therefore, the neo-institutional argument alone does not take into account that adopted innovations may lead to real organisational change. A combination of neo-institutionalist and functionalist explanations might be necessary to get a comprehensive understanding of innovation adoption in public sector organisations (Christensen et al., 2007). Other beneficial factors for the adoption of Design Thinking in the Singaporean Ministry included open leadership and external support. The first-adopter division's management and the responsible operating team were described as open and willing to try new things, like Design Thinking (#5, P23, P25; #25, P148); however, this could be interpreted in a neo-institutionalist way as the adherence to institutional demands of being innovative. Additionally, the design agency promised to involve the Ministry staff and to foster learning in co-staffed teams. Their method made Design Thinking more attractive than the usual consultancy approach, which includes working remotely and involving clients only in certain project milestones (#15, P41).

A better understanding of what happens in an organisation after a practice is adopted is still lacking in the scholarly debate regarding innovation adoption, which has mostly focused on the adoption decision itself. Translation theory offers an alternative framework which accommodates neo-institutional and functionalist perspectives, allowing to open the black-box of the innovation adoption process.

Moreover, this theory directs our attention to after the aftermath of the innovation adoption decision and it provides explanations for context-specific adaptations. This study made use of translation theory to explore the innovation adoption of Design Thinking in a Singaporean Ministry. Specifically, it employed an analytical framework of micro-strategies of contextualisation, in order to distinguish between discursive and material aspects of the translation process. The contributions to theory and to the empirical phenomenon, as well as the implications for public administration practice are outlined below.

6.1 Theoretical contribution

This study contributes to the scholarly debates on innovation adoption, practice adaptation and translation. Following a theory-generating case study approach (Eisenhardt, 1989; Eisenhardt & Graebner, 2007), I was able to refine the existing typology of micro-contextualisation strategies, as well as to provide explanations for the observed intra-organisational variance in translation.

First, the thesis contributes to the study of innovation adoption by applying a translation theory perspective. Whereas the dominant perspective has been diffusion (which merely assumes transfer), translation theory addresses the multi-dimensionality of such processes. Translation theory supposes that the travelling object is transformed and that the adopters are active agents in this process. Therefore, this study enhances the understanding of innovation adoption processes by bringing in a neo-institutionalist perspective.

Second, this study sheds light on the intra-organisational level with regard to practice adaptation and translation. Previous research has primarily focused on the inter-organisational transfer of practices and hitherto has neglected the intra-organisational level. This thesis addresses the research gap by focusing on the sub-organisational level.

Third, by focusing on the travelling object (the adopted innovation), the results provide insights regarding the transformative nature of the adoption process. The analytical framework of contextualisation activities adapted from Boxenbaum and Gond (2014), allowed to identify the different dimensions of the translation process. The activities of filtering, reframing and bricolage enabled to observe material and discursive adaptations of the template version.

Fourth, this study enhances the existing micro-contextualisation framework of Boxenbaum and Gond (2014) by specifying the filtering category. The conceptualisation of filtering as removing elements from the 'original' concept did not capture all observations in the empirical case. Instead, elements of the 'original' concept were particularly emphasised in the adopting context. Hence, I suggest to add the sub-category of filtering by emphasis to differentiate the existing category of filtering. This specification can be useful for future empirical research.

Fifth, innovation adoption theory has been broadened to include explanatory factors for variance in the intra-organisational translation process. The influencing factors identified in the translation of Design Thinking are: task type, mode of adoption, type of expertise, sequence of adoption and interdependencies between similar adopted management practices in the same organisation.

6.2 Empirical contribution

The case study explored how Design Thinking has been adopted in a Federal Ministry in Singapore. It thereby broadens the empirical evidence on Design Thinking's application in the public sector.

First, the case study sheds light on the adoption of Design Thinking within a large bureaucratic public sector organisation. While previous research on Design Thinking is primarily focused on the private sector, the few existing empirical studies on the public sector mainly come from the field of design research (Di Russo, 2016; Terrey, 2012). Instead, this study explored Design Thinking's adoption from the perspective of management and organisation studies.

Second, the study contributes to a better understanding of how Design Thinking is used in the context of service delivery and policymaking. Scholars have only recently started to explore the role of Design Thinking for policymaking (Bason, 2014; Junginger, 2014), while this study was able to empirically specify its application. It implies a different use of Design Thinking during different phases of the policy cycle. For example, user research methods can help to identify current pain points in policy reviews, whereas participative forms of stakeholder engagement based on Design Thinking are more relevant during policy consultations.

Third, the selection of a Singaporean Federal Ministry can be considered a relevant case for studying the translation of Design Thinking, as it highlights the application of Design Thinking in a non-Western setting. Hence, the study of Design Thinking in Singapore emphasises that the cultural context matters. This finding is in line with a strand of public administration research highlighting the importance of context-specific theories (Pollitt, 2013).

6.3 Implications for Public Administration Practice

Beyond its scholarly contributions, the study has several implications for public administration practice. Public administrations today are facing a myriad of complex challenges, often referred to as wicked policy problems, which require them to look beyond traditional problem-solving approaches. The user-centred, collaborative and iterative approach of Design Thinking offers a new way to engage recipients and other stakeholders of public services, as well as to re-think the policy design process.

The thesis strengthens our understanding of Design Thinking as applied in a public sector organisation. While proponents of Design Thinking claim it is universally applicable, this study provides examples of its organisational employment in service delivery and policymaking contexts. These examples can inform future cases of Design Thinking application. Furthermore, the research highlights that adaptation regarding prototyping for policymaking is necessary. In fact, the types of prototypes for policies might be changed for example by de-emphasising physical prototypes in favour of more conversational ones like sounding out aspects of policy ideas or changes with selected user groups. The aspects of

prototyping for policies need to be the object of future investigations. Moreover, service delivery and policymaking should not be considered as separate spheres as many government agencies do, including the Singaporean Ministry. Policy design provides the framework for service design that will eventually be implemented in service delivery. Both policy design and service design affect the user's experience. A collaborative approach like Design Thinking can help bridge organisational silos of policy and service delivery by focusing on the user's journey. For example, street-level bureaucrats in service delivery have first-hand knowledge about user behaviour and feedback: a valuable input for policy designers who are often removed from direct user contact.

Second, besides looking at the implications of Design Thinking in the public sector, the study offers insights into the innovation adoption process. Since innovation in the public sector is often driven by the adoption of external innovations, this knowledge is critical for public managers facing the challenge of implementing new approaches in their organisations. The observations pointed to the necessity of adaptation to embed practices into the local context. This, is in line with studies underlining organisations' purposeful influence on the adaptation process to make practices fit into their respective context (Ansari et al., 2014). Public managers should consciously consider how to appropriate a new practice as part of its adoption.

The adoption of Design Thinking in the Singaporean Ministry showed that the mode of adoption had an impact on the level of adoption. An on-the-job, applied way of learning approach proved to be more fruitful in transferring knowledge and building in-house capabilities in Design Thinking than a one-off, off-the job training mode. In order to address the challenge of acquiring and exploiting new knowledge, public managers need to think about an appropriate mode of adoption to bridge the gap between training and practice. What is more, as part of their in-house capability-building measures, the Singaporean Ministry chose a train-the-trainers approach and installed a group of Design Thinking facilitators. However, the voluntary model of Design Thinking facilitators makes it difficult to support trainings and projects without adequate incentives for those involved. Therefore, it is important for public sector organisations which plan to build in-house capabilities to create appropriate incentive models, in the case of voluntary facilitator models, or to devise sufficient resources to fully take on the task, such as full- or part-time head-counts. For example, in the case of the first-adopter division, a full- and part-time team was in charge of the Design Thinking projects; instead, the Design Thinking facilitators had to negotiate with their superiors how much time they could dedicate to trainings and to project support, which was not even accounted for in their individual performance review.

6.4 Implications and Avenues for future research

This thesis is based on an inductive qualitative, explorative case study with the aim of generating new insights about Design Thinking's adoption and application in a public sector organisation. Following a theory-generating approach (Eisenhardt, 1989; Eisenhardt & Graebner, 2007), the thesis brought a different theoretical perspective to the study of innovation adoption, proposing possible explanations for the intra-organisational variance observed in the case.

Nevertheless, confirmatory research is necessary to test the propositions regarding explanatory factors, such as the task type, mode of adoption, type of expertise, sequence of adoption and adoption of similar practices. Additionally, future studies could explore in more detail the moderating conditions, as well as the dynamics between explanatory factors. For example, the role of the time of exposure on the relationship between mode of adoption and level of adoption needs to be further specified, along with the role of adoption sequence for translation. The study suggested that the sequence of adoption influences the translation of Design Thinking, where the first-adopter translation was particularly critical. Additionally, it would be interesting to explore how subsequent translations not only relate to the first-adopter translation, but also to each other. For example, the Corporate Planning Department's translation as a second adopter seems to have influenced the translation of subsequent adopting divisions via trainings and project support, due to its leverage.

This study expanded the scholarly knowledge on intra-organisational translation processes. However, more attention needs to be directed towards the possible differences between inter- and intra-organisational translation processes. While the empirical data suggested intra-organisational variance of translation, it also pointed to some similarities. The implications of these similarities need to be further investigated, as they clash against the dominant view in translation theory that every translation is necessarily different and unique.

Moreover, this study proposed that translation might differ during different phases of the innovation adoption process. The empirical data suggested that combinations with existing local or other adopted practices might only occur in later phases of the adoption process. Longitudinal research could shed light on translation during different phases of the innovation adoption process, to specify the use over time of translation strategies, such as bricolage.

Exploring Design Thinking in a Singaporean Ministry pointed to cultural idiosyncrasies of translation. Translation theory acknowledges that any translation is context-specific. However, in order to acquire knowledge on Design Thinking adoption and application in the public sector relatable to public administration practice, we need to expand the investigation beyond this single case study of a Singaporean government agency. Singapore represents a small, high-income country in Asia, which made it a valuable case-study to expand the focus of investigation from Western to non-Western countries. It is up to future research to add further contrasting perspectives, for example, by including developing countries. Recently, the United Nations Development Programme's Global Centre for Public Service Excellence (UNDP GCPSE) explored how Design Thinking could be employed in developing countries (Allio, 2013).

Nevertheless, it is still necessary to study other cases of public sector organisations that go beyond cultural and developmental differences. A comparison across governmental levels might generate new insights about the application of Design Thinking in those local government areas which are closer to the public, than the federal level. Moreover, differentiating between Federal Ministries, often concerned with policy matters, and implementing subsidiary government agencies might yield further insights about Design Thinking for different task types and environments. While this study provided examples of the application of Design Thinking in policymaking, further research is needed to explore this in more detail. Possible fields of investigation may regard different policy types (regulative, distributive...) or different policy domains.

7 REFERENCES

Abrahamson, E. 1991. Managerial Fads and Fashions: the Diffusion and Refection of Innovations. *Academy of Management Review*, 16(3): 586–612.

Abrahamson, E. 1996. Management fashion. *Academy of Management Review*, 21(1): 254–285.

Allio, L. 2013. *Design Thinking for Public Service Excellence*. Singapore.

Andersen, H., & Røvik, K. A. 2015. Lost in translation: a case-study of the travel of lean thinking in a hospital. *BMC Health Services Research*, 15(1): 1–9.

Ansari, S. M., Fiss, P. C., & Zajac, Z. J. 2010. Made to fit: How practices vary as they diffuse. *Academy of Management Review*, 35(1): 67–92.

Ansari, S., Reinecke, J., & Spaan, A. 2014. How are Practices Made to Vary? Managing Practice Adaptation in a Multinational Corporation. *Organization Studies*, 35(9): 1313–1341.

Bason, C. 2010. *Leading public sector innovation*. Bristol: Policy Press.

Bason, C. 2011. Public Design: How do public managers use design thinking? *Work in Progress (WIP) Seminar*, 1–21.

Bason, C. 2013. Design-Led Innovation in Government. *Stanford Social Innovation Review*, 11(2): 15–17.

Bason, C. (Ed.). 2014. *Design for Policy*. Farnham: Gower Publishing Ltd.

Bate, P. 2007. Bringing the Design Sciences to Organization Development and Change Management: Introduction to the Special Issue. *Journal of Applied Behavioral Science*, 43(1): 8–11.

Bellows, T. J. 2009. Meritocracy and the Singapore Political System. *Asian Journal of Political Science*, 17(May 2014): 24–44.

Bingham, L. B., Nabatchi, T., & O'Leary, R. 2005. The new governance: Practices and processes for stakeholder and citizen participation in the work of government. *Public Administration Review*, 65(5): 547–558.

Birkinshaw, J. M., Hamel, G., & Mol, M. J. 2008. Management innovation. *Academy of Management Review*, 33(4): 825–845.

Blumer, H. 1969. *Symbolic Interactionism*. Englewood Cliffs, NJ: Prentice Hall.

Boland, R. J., & Collopy, F. 2004. Design matters for management. In R. J. Boland & F. Collopy (Eds.), *Managing as Designing*: 3–18. Stanford, CA: Stanford University Press.

Boxenbaum, E. 2006. Lost in Translation: The Making of Danish Diversity Management. *American Behavioral Scientist*, 49(7): 939–948.

Boxenbaum, E., & Gond, J.-P. 2006. Micro-strategies of Contextualization: Cross-national Transfer of Socially Responsible Investment. *DRUID Working Paper*. no. No. 06-24. https://doi.org/87-7873-216-6.

Boxenbaum, E., & Gond, J.-P. 2014. Micro-Strategies of Contextualization: Glocalizing Responsible Investment in France and Quebec. In G. S. Drori, M. A. Höllerer, & P. Walgenbach (Eds.), *Global Themes and Local Variations in Organization and Management*: 311–324. New York: Routledge.

Boxenbaum, E., & Jonsson, S. 2008. Isomorphism, Diffusion and Decoupling. In R. Greenwood, C. Oliver, R. Suddaby, & K. Sahlin-Andersson (Eds.), *The Sage Handbook of Organizational Institutionalism*: 78–99. Los Angeles, London, New Delhi, Singapore: SAGE Publications Ltd.

Boxenbaum, E., & Strandgaard Pedersen, J. 2009. Scandinavian institutionalism – a case of institutional work. In T. B. Lawrence, R. Suddaby, & B. Leca (Eds.), *Institutional Work: Actors and Agency in Institutional Studies of Organizations*: 178–204. Cambridge: Cambridge University Press.

Boyne, G. A., Gould-Williams, J. S., Law, J., & Walker, R. M. 2005. Explaining the adoption of innovation: an empirical analysis of public management reform. *Environment and Planning C: Government and Policy*, 23(3): 419–435.

Brown, T. 2008. Design thinking. *Harvard Business Review*, 86(6): 84–92.

Brown, T. 2009. *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*. New York: HarperCollins.

Brunsson, N. 2003a. Organized Hypocrisy. In B. Czarniawska & G. Sevón (Eds.), *The Northern Lights: Organization Theory in Scandinavia*: 201–222. Trelleborg: Liber, Abstrakt, Copenhagen Business School Press.

Brunsson, N. 2003b. Introduction to the second edition. *The Organization of Hypocrisy: Talk, Decisions, and Actions in Organizations* (2nd ed.): xi–xvii. Copenhagen: Copenhagen Business School Press.

Bryman, A. 2003. Research Methods and Organization Studies. *Contemporary Social Research*. London, New York: Routledge.

Buchanan, R. 1992. Wicked Problems in Design Thinking. *Design Issues*, 8(2): 5–21.

Callon, M. 1986. Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. In J. Law (Ed.), *Power, action and belief: a new sociology of knowledge?* 196–229. London, Boston: Routledge, Kegan Paul.

Campbell, J. L. 2004. *Institutional change and globalization*. Princeton [u.a.]: Princeton University Press.

Carlgren, L., Elmquist, M., & Rauth, I. 2014. Exploring the use of design thinking in large organizations: Towards a research agenda. *Swedish Design Research Journal*, 23–32.

Carlgren, L., Elmquist, M., & Rauth, I. 2016. The Challenges of Using Design Thinking in Industry - Experiences from Five Large Firms. *Creativity and Innovation Management*, 25(3): 344–362.

Carlgren, L., Rauth, I., & Elmquist, M. 2016. Framing Design Thinking: The Concept in Idea and Enactment. *Creativity and Innovation Management*, 25(1): 38–57.

Christensen, T., Lægreid, P., Roness, P. G., & Røvik, K. A. 2007. *Organization theory and the public sector: Instrument, culture and myth*. (T. Christensen, P. Lægreid, P. G. Roness, & K. A. Røvik, Eds.). London, New York: Routledge. https://doi.org/10.4324/9780203929216.

Coffey, A., & Atkinson, P. 1996. *Making Sense of Qualitative Data*. Thousand Oaks, CA: Sage.

Cooper, R., Junginger, S., & Lockwood, T. 2009. Design Thinking and Design Management: A Research and Practice Perspective. *Design Management Review*, 20(2): 46–55.

Corbin, J., & Strauss, A. 2008. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). Thousand Oaks, CA; London: SAGE.

Cutcliffe, J. R. 2000. Methodological issues in grounded theory. *Journal of Advanced Nursing*, 31(6): 1476–1484.

Czarniawska, B., & Joerges, B. 1996. Travels of ideas. In B. Czarniawska & G. Sevón (Eds.), *Translating organizational change*: 13–48. Berlin: de Gruyter.

Czarniawska, B., & Sevón, G. (Eds.). 1996a. *Translating organizational change*. Berlin: de Gruyter.

Czarniawska, B., & Sevón, G. 1996b. Introduction. In B. Czarniawska & G. Sevón (Eds.), *Translating organizational change*: 1–12. Berlin: de Gruyter.

Czarniawska, B., & Sevón, G. 2005a. Translation Is a Vehicle, Imitation its Motor, and Fashion Sits at the Wheel. In B. Czarniawska & G. Sevón (Eds.), *Global Ideas: How Ideas, Objects and Practices Travel in the Global Economy*: 7–12. Malmö: Liber, Copenhagen Business School Press.

Czarniawska, B., & Sevón, G. (Eds.). 2005b. *Global Ideas: How Ideas, Objects and Practices Travel in the Global Economy*. Malmö: Liber, Copenhagen Business School Press.

Damanpour, F. 1991. Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators. *Academy of Management Journal*, 34(3): 555–590.

Danken, T., Dribbisch, K., & Lange, A. 2016. Studying Wicked Problems Forty Years On: Towards a Synthesis of a Fragmented Debate. *Dms - Der Moderne Staat - Zeitschrift Für Public Policy, Recht Und Management*, 9(1/2016): 15–33.

Di Russo, S. 2016. *Understanding the behaviour of design thinking in complex environments*. Swineburne University of Technology.

DiMaggio, P. J., & Powell, W. W. 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organization Fields. *American Sociological Review*, 48(2): 147–160.

Dunne, C. 2011. The place of the literature review in grounded theory research. *International Journal of Social Research Methodology*, 14(2): 111–124.

Eisenhardt, K. M. 1989. Building theories from case study research. *Academy of Management Review*, 14(4): 532–550.

Eisenhardt, K. M. 2002. Building Theories From Case Study Research. In A. M. Huberman & M. B. Miles (Eds.), *The qualitative researcher's companion*: 5–36. Thousand Oaks, CA: Sage Publications.

Eisenhardt, K. M., & Graebner, M. E. 2007. Theory Building from Cases: Opportunities and Challenges. *The Academy of Management Journal*, 50(1): 25–32.

Flyvbjerg, B. 2006. Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12(2): 219–245.

Gentles, S. J., Charles, C., Ploeg, J., & Mckibbon, K. A. 2015. Sampling in Qualitative Research: Insights from an Overview of the Methods Literature. *The Qualitative Report*, 20(4): 1772–1789.

Gerring, J. 2007. Case Study Research: Principles and Practices. *Social Science*, vol. 1. Cambridge University Press. https://doi.org/10.1017/S0022381607080243.

Glaser, B. G., & Strauss, A. L. 1967. *The discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine Publishing Company.

Gond, J.-P. P., & Boxenbaum, E. 2013. The Glocalization of Responsible Investment: Contextualization Work in France and Québec. *Journal of Business Ethics*, 115(4): 707–721.

Gondo, M. B., & Amis, J. M. 2013. Variations in Practice Adoption: The Roles of Conscious Reflection and Discourse. *Academy of Management Review*, 38(2): 229–247.

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. 2004. Diffusion of innovations in service organizations: systematic review and recommendations. *Milbank Q*, 82(4): 581–629.

Haynes, L., Service, O., Goldacre, B., & Torgerson, D. 2012. *Test, Learn, Adapt: Developing Public Policy with Randomised Controlled Trials*.

Head, B. W. 2008. Wicked Problems in Public Policy. *Public Policy*, 3(2): 101–118.

Hobday, M., Boddington, A., & Grantham, A. 2012. An Innovation Perspective on Design: Part 2. *Design Issues*, 28(1): 18–29.

Howlett, M., & Ramesh, M. 2003. *Studying Public Policy: Policy cycles and policy subsystems*. Oxford, New York: Oxford University Press.

Jelinek, M., Romme, a. G. L., & Boland, R. J. 2008. Introduction to the Special Issue: Organization Studies as a Science for Design: Creating Collaborative Artifacts and Research. *Organization Studies*, 29(3): 317–329.

Johansson-Sköldberg, U., Woodilla, J., & Çetinkaya, M. 2013. Design Thinking: Past, Present and Possible Futures. *Creativity and Innovation Management*, 22(2): 121–146.

Junginger, S. 2009. Design in the Organization: Parts and Wholes. *SVID: Design Research Journal*, (2): 22–29.

Junginger, S. 2014. Towards Policymaking as Designing: Policymaking Beyond Problem-solving and Decision-making. In C. Bason (Ed.), *Design for Policy*: 57–69. Farnham: Gower Publishing Ltd.

Kimbell, L. 2011. Rethinking Design Thinking: Part 1. *Design and Culture*, 3(3): 285–306.

Latour, B. 1986. The Powers of Association. In J. Law (Ed.), *Power, Action and Belief: A New Sociology of Knowledge?* 264–280. London, Boston: Routledge, Kegan Paul.

Latour, B. 1987. *Science in Action: How to Follow Scientists and Engineers Through Society*. Cambridge, MA: Harvard University Press.

Lillrank, P. 1995. The transfer of management innovations from Japan. *Organization Studies*, 16(6): 971–989.

Mamman, A. 2002. The adoption and modification of management ideas in organizations: towards an analytical framework. *Strategic Change*, 11(7): 379–389.

March, J. G. 1994. *A Primer on Decision Making: How Decisions Happen*. New York: The Free Press.

McGhee, G., Marland, G. R., & Atkinson, J. 2007. Grounded theory research: literature reviewing and reflexivity. *Journal of Advanced Nursing*, 60(3): 334–342.

Meyer, J. W., & Rowan, B. 1977. Institutionalized Organizations: Formal Structure as Myth and Ceremony. *The American Journal of Sociology*, 83(2): 340–363.

Miles, M. B., & Huberman, A. M. 1994. *Qualitative data analysis: an expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Moore, M. H. 1995. *Creating Public Value: Strategic Management in Government*. Cambridge, MA: Harvard University Press.

Mulgan, G. 2007. *Ready or Not? Taking Innovation in the Public Sector Seriously*. (NESTA, Ed.). London.

Örtenblad, A. 2015. Establishing the art of contextualizing management ideas and panaceas as a research field. *Handbook of Research on Management Ideas and Panaceas: Adaptation and Context*: 3–24.

Peng Er, L. 1999. Singapore: The Anomaly of a Rich State and Illiberal Regime. In J. W. Morley (Ed.), *Driven by Growth: Political Change in the Asia-Pacific Region* (2nd ed.): 255–274. Routledge.

Piening, E. P. 2011. Insights into the Process Dynamics of Innovation Implementation. *Public Management Review*, 13(1): 127–157.

Pieterse, J. N. 1994. Globalization as hybridization. *International Sociology*, 9(2): 161–184.

Pollitt, C. (Ed.). 2013. *Context in Public Policy and Management: The Missing Link?* Cheltenham: Edward Elgar Publishing.

Preston, A. 2004. Designing the Australian Tax System. In R. Boland & F. Collopy (Eds.), *Managing as Designing*: 208–213. Stanfard, CA: Stanford University Press.

Quah, J. S. T. 2010. *Public administration Singapore-style*. (J. S. T. Quah, Ed.). Emerald Group Publishing Limited.

Reckwitz, A. 2002. Toward a Theory of Social Practices: A Development in Culturalist Theorizing. *European Journal of Social Theory*, 5(2): 243–263.

Ritchie, J., Lewis, J., Elam, G., Tennant, R., & Rahim, N. 2014. Designing and Selecting Samples. In J. Ritchie, J. Lewis, C. McNaughton Nicholls, & R. Ormston (Eds.), *Qualitative Research Practice: A Guide for Social Science Students & Researchers*: 111–145. Los Angeles, Calif. [u.a.]: SAGE.

Rittel, H. W. J., & Webber, M. M. 1973. Dilemmas in a general theory of planning. *Policy Sciences*, 4(2): 155–169.

Rogers, E. M. 1962. *Diffusion of Innovations*. New York: The Free Press.

Rogers, E. M. 1995. *Diffusion of Innovations* (4th ed.). New York: The Free Press.

Rogers, E. M. 2003. *Diffusion of Innovations* (5th ed.). New York: The Free Press.

Røvik, K. A. 2007. *Trender og translasjoner. Ideer som former det 21. århundrets organisasjoner*. Oslo: Universitetsforlaget.

Røvik, K. A. 2011. From Fashion to Virus: An Alternative Theory of Organizations' Handling of Management Ideas. *Organization Studies*, 32(5): 631–653.

Sahlin-Andersson, K. 1996. Imitating by Editing Success: The Construction of Organizational Fields. *Translating Organizational Change*: 69–92.

Sahlin-Andersson, K., & Wedlin, L. 2008. Circulating Ideas: Imitation, Translation and Editing. In R. Greenwood, C. Oliver, K. Sahlin, & R. Suddaby (Eds.), *The SAGE Handbook of Organizational Institutionalism* (1. publ.): 218–242. Los Angeles, Calif. [u.a.]: SAGE Publications Ltd.

Schmiedgen, J., Rhinow, H., Köppen, E., & Meinel, C. 2015. *Parts without a whole? The Current State of Design Thinking Practice in Organizations*.

Scott, W. R. 2013. *Institutions and Organizations: Ideas, Interests, and Identities*. Thousand Oaks, CA: SAGE.

Seidel, V. P., & Fixson, S. K. 2013. Adopting design thinking in novice multidisciplinary teams: The application and limits of design methods and reflexive practices. *Journal of Product Innovation Management*, 30(SUPPL 1): 19–33.

Sevón, G. 1996. Organizational Imitation in Identity Transformation. In B. Czarniawska & G. Sevón (Eds.), *Translating Organizational Change*: 49–67. Berlin, New York: de Gruyter.

Slappendel, C. 1996. Perspectives on Innovation in Organizations. *Organization Studies*, 17(1): 107–129.

Strang, D., & Meyer, J. W. 1993. Institutional conditions for diffusion. *Theory and Society*, 22(4): 487–511.

Strauss, A., & Corbin, J. 1990. *Basics of qualitative research*. Newbury Park: Sage. http://www.li.suu.edu/library/circulation/Stein/Comm.

Suchman, M. C. 1995. Managing Legitimacy: Strategic and Institutional Approaches. *The Academy of Management Review*, 20(3): 571–610.

Suddaby, R. 2006. From the Editors: What Grounded Theory Is Not. *Academy of Management Journal*, 49(4): 633–642.

Tan, K. P. 2008. Meritocracy and Elitism in a Global City: Ideological Shifts in Singapore. *International Political Science Review*, 29(1): 7–27.

Tan, K. P. 2013. Our Singapore Conversation: Telling National Stories. *Global-Is-Asian*, (19): 1–3.

Terrey, N. 2012. *Managing By Design – a Case Study of the Australian Taxation Office*, (June).

Tischler, L. 2010. The idea lab: a look at Stanford's d.school. *Fast Company Magazine*, (146, June 2010). http://www.fastcompany.com/magazine/146/the-idea-lab.html.

Turner, M. 2002. Choosing Items from the Menu: New Public Management in Southeast Asia. *International Journal of Public Administration*, 25(12): 1493–1512.

Van De Ven, A. H., Polley, D. E., Garud, R., & Venkataraman, S. 1999. The innovation journey. *Administrative Science Quarterly*, vol. 46. https://doi.org/10.2307/3094882.

Värlander, S., Hinds, P., Thomason, B., Pearce, B. M., & Altman, H. 2016. Enacting a Constellation of Logics: How Transferred Practices Are Recontextualized in a Global Organization. *Academy of Management Discoveries*, 2(1): 79–107.

Volberda, H. W., Van Den Bosch, F. A. J., & Mihalache, O. R. 2014. Advancing Management Innovation: Synthesizing Processes, Levels of Analysis, and Change Agents. *Organization Studies*, 35(9): 1245–1264.

Wæraas, A., & Nielsen, J. A. 2015. *Translation Theory 'Translated': Three Perspectives on Translation in Organizational*. no. 16 / 2015.

Wæraas, A., & Sataøen, H. L. 2014. Trapped in conformity? Translating reputation management into practice. *Scandinavian Journal of Management*, 30(2): 242–253.

Weick, K. E. 1995. *Sensemaking in Organizations*. London: SAGE.

Westney, D. E. 1987. *Imitation and Innovation: The Transfer of Western Organizational Patterns to Meiji*

Japan. Cambridge, MA: Harvard University Press.

Wolfe, R. A. 1994. Organizational Innovation: Review, Critique and Suggested Research Directions. *Journal of Management Studies*, 31(3): 405–431.

Wong, B., & Huang, X. 2010. Political legitimacy in Singapore. *Politics and Policy*, 38(3): 523–543.

Yin, R. K. 2009. Case Study Research: Design and Methods. *Essential guide to qualitative methods in organizational research*, vol. 5. https://doi.org/10.1097/FCH.0b013e31822dda9e.

Yin, R. K. 2011. *Qualitative research from start to finish*. New York: Guilford Press.

Yin, R. K. 2012. *Applications of Case Study Research*. Thousand Oaks, CA: Sage Publications, Inc.

Zaltman, G., Duncan, R. E., & Holbek, J. 1973. *Innovations and organizations*. New York [u.a.].

Zeitz, G., Mittal, V., & McAulay, B. 1999. Distinguishing Adoption and Entrenchment of Management Practices: A Framework for Analysis. *Organization Studies*, 20(5): 741–776.

Picture credits

8 APPENDIX

The Appendix includes the following documents: the interview guide; the list of interviewees; the list of primary documents; and the coding scheme. Additionally, all transcripts can be found on a CD attached to this printed version.

8.1 Interview guide

This semi-structured interview guide was used for data collection to learn about the adoption and application of Design Thinking in the organisation.

At the beginning of each interview I introduced myself and my research project. I also informed my interview partners about data protection measures. I assured them that any information obtained from the individual, division, or organisation will be kept confidential and treated anonymously. I also provided information about the length and structure of the interview. The interviewees did not receive the interview guide prior to the interviews.

INTERVIEW QUESTIONS
INTRODUCTORY PROBE
To start the interview off, I would like you to introduce yourself, say for how long you have worked with the Ministry and how your current role relates to Design Thinking.
ASPECT 1: INITIAL ADOPTION & UNDERSTANDING OF DESIGN THINKING
Why was design thinking introduced in your organisation in the first place?
What was the main purpose?
How was Design Thinking introduced? Could you describe the chain of events.
Can you tell me about the first Design Thinking project in the Ministry? What events and experiences stand out to you?
What was the outcome of the project?
What were your expectations regarding Design Thinking?
Would you say your expectations were met? Could you explain how?
In your own words, what is Design Thinking?

How does Design Thinking relate to the core values of the Ministry: People Centredness, Professionalism, Teamwork and Passion for Progress?	
Has this changed over time?	

ASPECT 2: ADOPTION PROCESS & CHANGES
What happened after the initial introduction of Design Thinking?
What did change after Design Thinking was introduced in your organisation?
Was there anything in particular that was surprising/new/different to you?
How did the implementation process go along?
Were there any difficulties?
If yes, what were the main barriers to implementation?

ASPECT 3: CURRENT USE OF DESIGN THINKING
How is Design Thinking currently used in your organisation?
What are the main areas of application? Which departments are using it and for which purpose/projects?
What would you say is different to your work before the introduction of Design Thinking?
Could you describe a typical working day?
How has your work changed using design thinking?
What are you doing differently? Can you give an example?

ASPECT 4: ORGANIZATIONAL DIFFUSION OF DESIGN THINKING
Is Design Thinking used throughout the whole organisation?
If not, how does its use differ?
Is Design Thinking part of your organisation's strategy (mission statement, core values)?
Could you explain what this means for the operational activities in your organisation?

ASPECT 5: OUTLOOK
How do you think will Design Thinking be used in your organisation in the future?
How can it be useful for your organisation?

OTHER ASPECTS
How is Design Thinking measured? (innovation output)

8.2 List of interviewees

The figure below illustrates the interviewees within the organisation structure (own depiction). Additionally, Table 17 lists all interviewees, including their departmental affiliation, role and Design Thinking experience. It also includes interview data about the duration and documentation of each interview.

Table 17: List of interviewees

	Department (Dept)	Dept function	Role	DT experience	Date	Duration (h:min)	Documentation
#1	CPD / Design Thinking Unit (DTU)	Corporate services	DT Programme Manager	DT facilitator (first batch)	3 Jan 2014	1:28	Audio recorded, full transcript
#2	CPD	Corporate services	Manager, Organisational Excellence	DT facilitator (first batch)	6 Jan 2014	1:17	Audio recorded, full transcript
#3	CPD / DTU	Corporate services	Senior Manager	not trained in DT; in charge of Behavioural Insights portfolio; works with DT programme manager	6 Jan 2014	0:33 (full interview approx. 60 min)	half of interview audio recorded and transcribed due to recording error
#4-1	CPD / DTU	Corporate services	DT Programme Manager	DT facilitator (first batch)	6 Jan 2014	1:02	Audio recorded, full transcript
#4-2	CPD / DTU	Corporate services	DT Programme Manager	See above	2 May 2014	0:20	Audio recorded, full transcript
#5	CPD/ DTU Previously SDD A	Corporate services	Manager	not trained in DT, worked in SDD A's change team with design agency, seconded to CPD for 1 year (2014)	7 Jan 2014	1:09	Audio recorded, full transcript
#6	CPD	Corporate services	Director	oversees CPD, which includes Organisational Excellence, DTU, etc.	7 Jan 2014	1:21	Audio recorded, full transcript
#7	CPD	Corporate services	Head of Organisational Excellence (OE)	not trained in DT, oversees DT activities as part of OE portfolio, driving innovation and cultural change in the Ministry	9 Jan 2014	1:06	Audio recorded, full transcript
#8	Human Resources (HR) Department	HR	Manager	recently trained in DT (2013) at a DT workshop, organised by Public Service Division's Human Experience Lab	9 Jan 2014	1:02	Audio recorded, full transcript
#9	Policy Department A	Policy	Policy officer	DT facilitator (not first batch), joined DT facilitators group	9 Jan 2014	1:08	Audio recorded, full transcript
#11	Service Delivery Department B (SDD B)	Service delivery/ operations		DT facilitator (not first batch), joined DT facilitators group and plays an active role in driving DT within own department, was part of DT project team in one of the policy divisions	10 Jan 2014	1:34	Audio recorded, full transcript

#12	SDD B	Service delivery/ operations		DT facilitator (first batch), has helped to drive a number of DT projects within own department	10 Jan 2014	1:10	Audio recorded, full transcript
#13	Service Delivery Department D (SDD D)	Law enforcement / operations	Senior officer	DT facilitator (first batch), besides helping to facilitate at DT workshops, was part of DT project team; recently, attended a course on ethnography.	10 Jan 2014	1:12	Audio recorded, full transcript
#14	Service Delivery Department C (SDD C)	Service delivery	Customer management	DT trained (not first batch)	10 Jan 2014	1:13	Audio recorded, full transcript
#15	SDD A	Service delivery	Senior manager	Together with #5 & #16, formed change team who drove SDD A's efforts in business process redesign using Design Thinking	13 Jan 2014	1:38	Audio recorded, full transcript
#16-1	SDD A	Service delivery	Senior manager	Together with #5 & #15, formed change team who drove SDD A's efforts in business process redesign using Design Thinking	13 Jan 2014	1:01	Audio recorded, full transcript
#16-2	See above	See above	See above	See above	17 Jan 2014	1:10	Audio recorded, full transcript
#17	CSD	Customer service	Senior manager	DT facilitator (first batch), besides helping to facilitate at DT workshops, together with #18 was part of DT project team	15 Jan 2014	1:07	Audio recorded, full transcript
#18	CSD	Customer service	Senior manager	DT facilitator; besides helping to facilitate at DT workshops, together with #17 was part of DT project team, also part of the project team that designed space (using DT) at service centre	15 Jan 2014	1:21	Audio recorded, full transcript
#19	SDD B	Service delivery/ operations	Senior policy analyst (team leader)	DT trained (not first batch); one of the DT facilitators in SDD B; encourages staff members to use DT	15 Jan 2014	1:10	Audio recorded, full transcript
#20	Policy Division B	Policy	Senior policy officer	DT trained (not first batch); recently applied DT for policy review, to better understand the problems of the target group	22 Jan 2014	0:59	Audio recorded, full transcript
#21	SDD A	Service delivery	Divisional Director	Initiated collaboration with design agency and oversaw SDD A's DT projects; former Director of the Customer Service Department	22 Jan 2014	0:50	Audio recorded, full transcript
#22-1	CPD	Corporate services	Deputy Director	Not trained in DT; oversees DT unit as part of Organisational Excellence (OE)	27 Jan 2014	0:44	Audio recorded, full transcript
#22-2	CPD	See above	See above	See above	3 Feb 2014	0:59	Audio recorded, full transcript

#23	SDD B	Service delivery/ operations	Senior officer	DT facilitator (first batch), worked in innovation team in CPD until end of 2012, in charge of DT activities	10 Feb 2014	1:13	Audio recorded, full transcript
#24	SDD D Previously CPD	Policy & service delivery	Senior officer	DT facilitator (first batch), worked in innovation team in CPD, introduced DT into CPD/Ministry; facilitates at DT workshops, volunteered for DT projects	10 Feb 2014	1:12	Audio recorded, full transcript
#25	SDD A	Service Delivery	Director	former Director of CPD from 2009-2011	11 Feb 2014	1:23	Audio recorded, full transcript
#27	Design agency		Managing Director	Worked closely with SDD A between 2009-2012 and again in 2014	4 Feb 2014	1:06	Audio recorded, full transcript

Interview #10 was not recorded and is not included. Interview #26 was conducted with another government agency and is not included here.

8.3 List of primary documents

The following list comprises all primary documents cited in this study: internal documents of the Ministry, as well as documents published by the design agency and the d.school.

Table 18: List of primary documents

INTERNAL DOCUMENTS OF THE MINISTRY
Singapore Quality Award (SQA) Winner Executive Summary Report 2010
Email correspondence regarding the Design Thinking training programme, September 2010
Design Thinking training slide decks by CPD, 2013
DOCUMENTS BY THE DESIGN AGENCY
Design Kit: The Field Guide to Human-Centered Design, 2015
Design Thinking for Educators Toolkit, 2011
DOCUMENTS BY THE D.SCHOOL
d.school bootcamp bootleg, 2010

8.4 Coding scheme

The following overview comprises the codes and code descriptions that were used to analyse the interview transcripts.

Table 19: Code system

Code System	Code System	Code descriptions	#
Context factors		Code if context factors influencing the translation (process) are mentioned. This could be, for example, the case if external expertise is involved (What was the source of DT template? Why did CPD choose Stanford d.school?).	6035
Alternative explanations		Code if alternative explanations are named, if it doesn't fit translation model.	63
	Alternative explanation: fads & fashion	Code if management fashion or fads are discussed in relation to DT. This could be an alternative explanation for DT adoption/rejection.	80
Bricolage		Code if addition of new practice-related/ material elements is mentioned. This refers to the integration of a widely accepted practice or object from the new context in order to increase the perceived usefulness and/or acceptability of the globalized construct in this context.	85
Reframing		Code if adding or removal of discursive/Symbolic elements is mentioned. It refers to the discursive alignment with local myths, past history, social movements, or current trends and/or change of use/area of application in order to make the globalized concept more acceptable in the new context. Code if interviewee describes discursively describes area of application and there is not a removal of material elements involved. This code refers to reframing, a micro-strategy of contextualisation, identified in Boxenbaum/Gond's model of translation.	440
Filtering		Code if removal or downplaying of elements in the globalized construct that could be perceived as 'incongruent' with the new context is mentioned. This code refers to filtering, a micro-strategy of contextualisation, identified in Boxenbaum/Gond's model of translation.	0
	Filtering by emphasis	Code if filtering as emphasis applies as a translation strategy. All instances in which elements from the original template are highlighted or emphasised.	500
	Filtering by removal	Code if filtering by removal applies as a translation strategy. All instances in which elements from the original template are removed or downplayed.	237
Use of DT		Code if use/application of DT is mentioned. Include examples. Parent code "Use of DT" should refer to general comments and only used if special use for policy work or in service delivery is not mentioned, as other examples of how DT is used in the organisation.	55
Use of DT elements		Code if the actual use of specific elements/steps of DT process are mentioned, such as user research/empathy, synthesis, prototyping, testing. Include only general remarks about DT elements in this parent code and more specific ones in the subcodes. Which DT elements are mentioned to be used in the organisation is also an indicator for the organisation-specific/context-specific adaptation of the methodology, e.g. strong focus on empathy tools.	10
	Use of teamwork & collaborative approach	Code if teamwork or collaborative approach of DT are mentioned. Include use of co-creation, where customers/ stakeholders are involved in crafting solutions.	37
	Use of user research & empathy	Code if use of user research and empathy, including interviews and observation techniques, are mentioned.	117

Code	Description	Count
Use of synthesis	Code if synthesis techniques for making sense of (user) research are mentioned. Include examples.	21
Use of ideation & concept creation	Code if ideation and concept creation are mentioned. Include examples.	28
Use of prototyping and testing	Code if prototyping, experimenting, trial-and-error, user testing are mentioned. Include examples.	113
Personal level of expertise, experience and usage of DT	Code if interviewee mentions own level of expertise, experience and usage of DT. This code could show how confident interviewees feel about their DT skills indicating also how familiar they are with the approach.	26
Diffusion/ spread of DT in the organisation	Code if it is mentioned, how DT spread or is used differently in the organisation. This code describes more generally how DT diffused within the organisation, whereas the codes "Use of DT in policy work" & "Use of DT in service delivery" cover more specific uses of DT in the respective departments.	98
Reasons/motivation for introducing and using DT	Code if reasons/ motivation for introducing and using DT are mentioned. This code might reveal how DT was adapted by the organisation according to its needs.	118
DT as a magic bullet	Code if DT is mentioned as a fad, hype or fashion.	30
DT adaptation	Code if adaptation of approach is mentioned, including which aspects are emphasised, what is specific about the organisation's use of DT. This code is linked to code "Reasons/motivation for introducing/using DT"	77
Use of DT in service delivery	Code if use/application of DT in service delivery, operational work is mentioned. Include examples.	83
Changes & DT projects in SDD A	Code if changes in SDD A resulting from the introduction of DT are mentioned.	27
Use of DT in policy work	Code if use/application of DT in policy work is mentioned, including examples. This code also includes comments about difficulty of applying DT to policy work.	161
Definition of DT	Code if definition of DT is mentioned, including different aspects. The code represents the individual understanding of DT and gives an idea about what is important for the interviewee/organisation, what is emphasised and what is left out.	47
DT as a structured innovation process	Code if DT is described as a structured innovation process.	15
Teamwork & collaborative approach	Code if teamwork or collaborative approach are mentioned as part of DT.	6
DT does not equip you with specific design skills	Code if DT is mentioned in relation to design (skills etc.).	4
DT and creativity	Code if DT is mentioned with regard to creativity, e.g. building creative confidence, applying creativity tools in a structured way etc.	1
Creating user-centered solutions	Code if user-centered solutions/solutions catered to the people whose needs are to be met are mentioned.	50
Understanding of user needs & empathy	Code if understanding needs of users/people are mentioned. Include synthesis of user research.	86
Understanding & reframing the problem	Code if DT is described as a way of deeply understanding, questioning and reframing problems.	8
Prototyping and user testing	Code if prototyping, experimenting, trying out new ways, testing are mentioned as elements of DT.	31
Iterative process	Code if iterative process/nature of DT process is mentioned.	18
Events/milestones during adoption&implementation (process)	Code if important events/milestones during adoption and implementation are mentioned. What has the organisation done so far?	56
First encounter with DT	Code if interviewee talks about first encounter with Design Thinking (when and how did they first hear about it?). Refers to first/second interview question.	50

Code	Description	Count
Role of SDD A introducing DT in the organisation	Code if SDD A's role of introducing/applying DT is mentioned. This code might overlap with subcode "collaboration with design agency" (check later).	77
Integration of DT	Code if (non-)integration of DT into the organisation is mentioned.	0
Continuous training/skill development	Code if continuous training/skill development regarding DT is mentioned.	36
Link between training and practice	Code if link between training and practice is mentioned. What happens after the internal DT training? Do trained people practice DT in their jobs?	49
Integration of DT into daily work routines	Code if (non-)integration into current workflows is mentioned, including change in work routines, different processes etc. Also code if (non-)application of DT to own work is mentioned.	140
Functional integration of DT into org. structure (outcome)	Code if roles, functions, and departments which are responsible for DT in the organisation are mentioned. Where does DT become institutionalised in the organisation?	1
DT unit in CDP	Code if DT unit in CDP are mentioned, including its role, mandate and activities in the organisation. Also includes strategy and intention of the DT initiative. This code also covers internal capability building.	103
DT in-house training program	Code if DT training program for staff is mentioned, including how it was set up and how it developed over time, e.g. different batches, as well as its activities.	161
DT project support for departments by CPD	Code if DT project support for departments by CPD is mentioned.	139
DT facilitators	Code if DT facilitators are mentioned, including first batch (Initial Ds) and subsequent ones. This code relates closely to the code „DT in-house training program" as the DT facilitators are the core element of the training programme.	255
DT impact (before & after)	Code if changes caused by DT introduction are discussed. Also include contrasting statements referring to before and after introduction of DT.	64
Intraorg. collaboration between departments	Code if (changing) collaboration between departments is mentioned. Refers to before and after introduction of DT.	15
Value of DT	Code if value/contribution of DT is mentioned, including what has improved since the introduction of the methodology. Also include negative perceptions.	55
Why was it valuable for them?	Code if value of DT for interviewee is mentioned.	21
Reframing mindset	Code if mindset change/reframing of minds/new perspective is mentioned. Refers to how DT changed perception of how things have been done in the past.	10
Customer/staff orientation & experience	Code if customer or staff orientation and experience are mentioned, including statements referring to before and after the introduction of Design Thinking. What has changed, even improved?	152
Relationship between government and citizens	Code if (changing) relationship with customers/citizens and other stakeholders is addressed. Also include contrasting statements referring to before and after introduction of DT. Include examples.	58
Public engagement initiatives/ customer service	Code if customer service and public engagement initiatives of the organisation are mentioned. Refers to before and after DT introduction. Include co-creation with the public. Unlike the code "customer/staff orientation & experience", it may only refer to specific activities.	49
Outcome measurements for DT	Code if measurements for DT's performance are mentioned. How is success of the methodology evaluated? How can the success of the methodology be measured?	16
Evidence for success of DT	Code if evidence that DT works are mentioned and if so, how. Flags include small wins, manifestation, proof of concept	73
Implementation difficulties & barriers	Code if obstacles/difficulties encountered during the adoption/implementation process are mentioned. Include comments about DT sceptics.	197
Difficulty of applying DT	Code if difficulties of applying DT are discussed. The subcode should include more specific remarks regarding the methodology itself, whereas the parent code „implementation difficulties" may include codings about general implementation barriers.	132
Creating support for DT introduction	Code if support for DT introduction is mentioned, including activities, who is targeted etc.	122

Category	Code description	Count
Role of leadership and management during adoption and implement	Code if role of leadership and management for the spread of design thinking in the organisation is discussed. What was the role of management to push or impede the adoption and implementation of DT?	141
Role of middle management	Code if middle management's role is discussed with regard to organisational change and more specifically the introduction of DT.	30
Internal perception of the adoption and implementation process	Code if personal perceptions/views/attitudes are expressed about the introduction of design thinking. How do organisational members view the adoption/implementation process?	80
Expectations regarding the future of DT	Code if interviewee describe their expectations regarding the future (in terms of Design Thinking). Refers to last interview question.	32
DT in Sg's public service (outside of the Ministry)	Code if other Singaporean government agencies are cited using DT.	64
Use of external expertise for implementation	Code if expertise and knowhow of the design agency are mentioned. This code refers to the role the design agency played for the adoption of design thinking in the organisation. Also include remarks about d.school Stanford which conducted the initial training of DT facilitators.	17
Design culture in SG	Code if role of design in Sg is mentioned. This code refers to the relationship between design and design thinking. The assumption is that design thinking in other countries is rooted in the field of design.	1
Design skills in organisation	Code if level of design skills in the organisation are mentioned, also a lack thereof.	20
Collaboration with design agency	Code if collaboration with design agency is mentioned. How has the design agency worked together with staff?	80
Use of other methodologies	Code if other methods/methodologies, which have been introduced/used in the organisation, are mentioned, including the characteristics of the methodology, its application and for which purpose they have been employed.	101
Characteristics of the organisation	Code if organisation and its characteristics are described. Code should help to describe organisation.	45
Human resources & training	Code if HR is mentioned, including training and skill development for staff.	54
Innovation process and activities	Code if innovation process and activities are mentioned.	110
Environmental scanning for new trends	Code if organisation's search for new trends and methodologies or benchmarking activities are mentioned, e.g. study trips, learning visits etc.	49
Characteristics of the organisational culture	Code if organisation's culture is mentioned, independent from DT.	12
Org. collaboration between policy and service delivery	Code if the organisational collaboration between policy work and service delivery/ operational departments is mentioned. Code should explain how these areas are linked in the organisation. Code might be interesting to understand special status of the Ministry as a policymaking and service delivery entity.	17
Organisational values	Code if organisational values are mentioned, including people-centeredness, professionalism, teamwork and passion for progress. These values were introduced in the early 2000s.	15
People-centeredness	Code if people-centeredness as one of the four organisational values is mentioned. This includes both an internal (staff) and external (customer) orientation.	15
innovation culture	Code if organisational value "passion for progress" or innovation are mentioned.	78
Work culture	Code if aspects of work culture, e.g. what kind of working is valued in the organisation. Also include relationship with senior management/ superiors. Command-and-control culture.	79
Culture of knowledge and information sharing	Code if knowledge sharing, informal and institutionalised information exchange and learning are mentioned. How is information/knowledge exchanged in the organisation, across divisions?	72
Organisational leadership and management style	Code if organisational leadership/management style are mentioned. What is typical for the organisation's management?	32

Current political context's impact on org's adoption of DT	Code if current political context in Singapore is mentioned, including the last general elections in 2011. This refers to the political situation in Singapore and how it influences the organisation's adoption/implementation of DT.	31
Societal changes impacting public service	Code if new challenges for public service are mentioned, including potential solutions and recommendations how to solve them. Flags: complex, wicked problems	11
Characteristics of Sg public service	Code if characteristics of Singapore's public service are mentioned, including administrative culture, historical development, career pathways etc. What is typical for Singapore's public service?	37
command-and-control culture	Code if administrative culture is described as command-and-control, rather hierarchical.	8
Cross-departmental postings for higher-level bureaucrats	Code if cross-departmental postings for higher-level bureaucrats are mentioned.	4
Promoting public sector innovation	Code if public sector innovation (activities) in Singapore are mentioned.	16
Expert mentality of public servants	Code if interviewees mention public service mentality as that of an expert who knows better than the citizens: Top-down, government-centered thinking, not oriented toward the end user.	10
Little tolerance for failure/ experimentation	Code if (non-)tolerance towards mistakes/failures is mentioned, including willingness to experiment and to change.	9
Sg's public service is efficiency-driven & data-driven	Code if Sg's public service is described as efficiency-driven and relying on statistics and data.	12
Scanning for new methodologies to improve	Code if scanning activities of government organisations in Sg are mentioned, including study trips, learning sessions, conference attendances etc.	15
Frequent evaluations and benchmarking to stay on top	Code if it is mentioned that the Singapore government uses evaluations and benchmarking to making sure it stays on top.	5

EIDESSTATTLICHE ERKLÄRUNG

Ich versichere an Eides statt, dass meine hinsichtlich der früheren Teilnahme an Promotionsverfahren gemachten Angaben richtig sind und, dass die eingereichte Arbeit oder wesentliche Teile derselben in keinem anderen Verfahren zur Erlangung eines akademischen Grades vorgelegt worden sind. Ich versichere darüber hinaus, dass bei der Anfertigung der Dissertation die Grundsätze zur Sicherung guter wissenschaftlicher Praxis der DFG eingehalten wurden, die Dissertation selbständig und ohne fremde Hilfe verfasst wurde, andere als die von mir angegebenen Quellen und Hilfsmittel nicht benutzt worden sind und die den benutzten Werken wörtlich oder sinngemäß entnommenen Stellen als solche kenntlich gemacht wurden. Einer Überprüfung der eingereichten Dissertation mittels einer Plagiatssoftware stimme ich zu.

Berlin, 31. Oktober 2016

Katrin Dribbisch