Ministry of Social Development: Digital Transformation journey

where it's at and where to from here

by the DIA Service Innovation Team

MSD: a digital transformation journey

The DIA Service Innovation Team spoke to the business and technology teams at MSD about their digital transformation journey. We discovered a relevant and important story that would benefit other agencies.

A journey of a thousand miles begins with a single step. For MSD, this first step was to better understand its client base. Without that understanding, MSD was at risk of installing more technology products with little return on investment. Clients were frustrated with their experience of dealing with MSD; a new way of delivering services was required.

MSD supports more than 1.2 million individuals annually, many who are very vulnerable and processes over 10 million transactions per year.

The second step on the journey was transforming how MSD developed services both from a business and technology perspective, through agile and human-centred design methods.

Some of the key things MSD has experienced through this journey include:

- the benefits of **releasing early and often** to gain value faster;
- the ability to have **responsiveness at the front end** without wholesale change in the core systems;
- the value of a **multi-disciplinary team in an external sandpit** to drive a more scientific approach to design and delivery;
- the opportunity to **build confidence across the organisation** through demonstrable benefits; and
- the delivery of **measurably more effective services** for users.

We believe this experience begins to demonstrate the value of modular and human-centred service design whilst also facilitating opportunities for third parties to add value.

"It's a dangerous business, Frodo, going out your door. You step onto the road, and if you don't keep your feet, there's no knowing where you might be swept off to."
— J.R.R. Tolkien, The Lord of the Rings

Digital journey waypoints

Below are the key themes we explored, informed by MSD lessons and insights.

Clients had a big appetite for going digital

At the very start of the journey, four client personas were derived from one-to-one interviews with a diverse range of MSD clients. Their needs were diverse and how they would like to interact with the Ministry were quite different: from digital-savvy online interactions to face-to-face interactions.

Clients shared the barriers they faced to receive services they were often entitled to, how MSD's approach made them feel, and what services and channels would help them most.

For some clients, travelling to an MSD office could cost around 6% of their weekly income. Then they were made to wait while staff typed and retyped information into systems, eventually telling them to come back with more information.

A survey of 20,000 clients found 70% would readily use online services and another 17% would do so if supported. New Zealanders increasingly expect to deal with government digitally. These findings challenged preconceptions about whether clients could or would use online services.

Client insights
28 face-to-face interviews with clients across different assistance types
3 Urban and 2 Rural areas covered
4 client personas

"We live in an online world but MSD is still buried in paper."

MyMSD: making it easier to interact with MSD

myMSD is an online, smartphone-friendly product that allows MSD clients to perform the most common transactions; from viewing payment and debt details to declaring weekly wages to applying for hardship grants.

To deliver MyMSD, MSD started with multi-disciplinary teams using good, agile human-centred design. Having all the skills (security, risk, design, data, business implementation, UI designer, developer, tester, change management) together in a design space, working in an agile manner gave the digital product teams a lot of advantages:

MyMSD was soft-launched in Sep 2015 with a simple 'view' functionality of the most requested information.

Over **369,000 clients** (June 2017) have registered with MyMSD.

Over **6.7 million client logons** since Sep 2015.

Tech alert
MyMSD is deployed out-side MSD network perime-ter in a secure government cloud.

MyMSD calls MSD core systems via JSON-based APIs exposed at the MSD B2B gateway. These APIs provide a convenient method of accessing the core systems and will require more work before they would be considered modern, open-standards that can be consumed by any other front ends.

- Freedom from distraction meant that the designers could focus on client-centred experience
- Freedom to experiment with new ways of delivering a solution (e.g. behaviour-driven development, automation)
- Ability to move at pace, unconstrained by traditional cadence of delivery
- Ability to test and discard what doesn't work

Growing pains are inevitable but can be overcome

With the freedom came some growing pains:

- A usable feature generally requires some sort of integration with a backend system somewhere. How then would the digital product teams work with the core systems teams to deliver a usable feature when teams deliver at different cadences and with different methodologies?
- How do the digital product teams keep the rest of the MSD management engaged with this new way of working – agile and experimental requires low barriers to try things out and prove the value. Experimentation, by its very nature, brings uncertainty and risk with the promise of new value. This is somewhat at odds with the perceived virtues of coherent, predictable, efficient and stable industrialised domain.
- The business-driven features roadmap did not fit in nicely with the technical architecture roadmap. How does the agile, human-centred features design keep apace with technical architecture sustainability? How can the technical architecture roadmap be informed by human-centred design findings?
- How does a management structure accustomed to the waterfall approach handle the governance of agile?

Technical debt is real and if left unchecked, will slow progress in the longer term.

These tensions are real (business vs technical, front end vs back end, cloud vs in-house, agile vs lean vs six sigma vs waterfall, design vs technical architecture, usability vs security, kanban vs scrum), healthy and part-and-parcel of a digital transformational journey for a large organisation. Purist thinking drives the tensions; and finding mutually acceptable compromises and a common vernacular were keys to resolving some of those tensions.
'One size **does not** fit all' and different delivery methods

are more suited depending on whether the domain is uncharted, transitional or industrialised.

MSD needed to re-think its approach to resolving these tensions; and figure out how to align a large IT delivery shop to support a more agile, iterative delivery cadence.

Scaled Agile Framework (SAFe) provided a common vernacular for agile delivery across MSD teams.

Delivery is king - how MSD began to deliver a better client experience

At the heart of a transformational journey, being able to quantify the impact of the digital products on MSD clients gave credibility to the new way of working.

For example, removing the need for MSD clients to come into sites to hand in a paper medical certificate to be rescanned by an MSD staff member has saved time for the medical practitioner, the client and MSD staff. GPs now send the medical certificates electronically via a third-party provided front-end to MSD which are then automatically processed. What used to take hours is now done in seconds!

Fun fact:
MSD now receives and processes a medical certificate before the client even gets home from the doctor visit!

Since September 2015,

- **60% of clients** working part time declare their weekly income through MyMSD (across every day of the week and every hour of the day or night, not just in standard business hours)
- **2.3 million letters viewed** on myMSD
- **220,000 appointments** made or changed on myMSD.
- **40,000 applications** submitted for assistance with one-off costs (hardship assistance).

Fun fact:
11,000 people each week do not have to travel to an MSD service centre or call an MSD contact centre because they can declare their weekly income online.

Clients now say:
"I have a job and three kids, so getting to the service centre every time I had to fill out a form [to declare my weekly income] was a real pain – it's great that I can now do things over the internet."

Fun fact:
80% of MyMSD registered clients prefer using a PIN over RealMe to log in to MyMSD

"I can see all my information and make changes when I need to. It's so much quicker to get answers when I need them – I can check my payments on my phone or through the web."

Uptake of digital products hinges on good marketing to clients and change management. For MSD, the early efforts to bring their staff onboard to promote a digital way of working was signifcant.

A more scientific approach delivers actionable insights

Data points collected to understand where in the user journey through the systems before they 'drop out' to another channel helps MSD target effort to create a better user experience. Good, comprehensive data (such as Client360) has allowed MSD to understand client behaviour and monitor the impact of changes in one channel on another channel. For example, does a new feature released in myMSD resulted in more or less calls to the MSD contact centre?

Data and analytics, from how clients interact across the different channels (online, voice, face-to-face), to marketing campaigns to lift online uptake, to A/B testing to determine the impact of different language styles, to identify where MSD would get the best return on investment for automation, helps MSD understand what works and what doesn't.

Advanced analytics using real time text threat scanning and machine learning to find patterns buried deep in the data allows MSD to identify where to place their human resources to drive effective outcomes.

'Cheap as' data lowers barriers to client participation

Rather than installing free WiFi at sites and requiring clients to come into sites just to get online, MSD partnered with the main telecommunications companies to allow clients on the partner provider networks to use the MSD online services virtually for free. Clients with no data on their device can use the MSD online services for free, a key plank to removing barriers to, and lowering the cost of, client participation.

After the first steps on the digital transformation journey, what next?

If the first steps were important, what then of the next steps in support of a more modern service delivery model?

"Go back?" he thought. "No good at all! Go sideways? Impossible! Go forward? Only thing to do! On we go!" So up he got, and trotted along with his little sword held in front of him and one hand feeling the wall, and his heart all of a patter and a pitter."
— J.R.R. Tolkien, The Hobbit

APIs[1] as a channel broaden opportunities within and outside government

The first step of separating the front end from the core systems shows that it is possible to deliver a good human-centred experience without wholesale change of those core systems.

The next steps point towards a re-crafting of these APIs using modern, open standards; making business rules, data and transactional processing available through these APIs. By designing and building modular services, and understanding that the API consumer is actually the developer, two possibilities arise:

- The job of providing a seamless, human-centred experience wrapped around a client can now be shared by an ecosystem of service providers – within and outside government;
- The private or community sector can experiment across these APIs in previously unimagined ways and build applications that government didn't consider or had no reasons to create.

Smarter sourcing approach leverages access to best practice and emerging technology

The first step of partnering with vendors to develop 'capability as a service' has shown that it is possible to leverage emerging technology and best practice without a large upfront investment in developing these capabilities in house. This approach has allowed MSD access to best practice and technology in business rules and process management, web content management, advanced analytics services and automated testing.

1 Application Programming Interface - An API is a piece of software, which provides a way for other disparate pieces of software (applications, systems) to talk to one another.

By using Wardley mapping to provide situational context of a rapidly evolving digital landscape, MSD is better placed to identify the most relevant solution sourcing options - from a custom-build, to COTS[2] products, to commoditised services such as cloud computing.

The next steps would be to use this situationally relevant approach to deliberately encourage a shift to more commoditised service. At the same time, encourage the local market to provide more of these commoditised services and invest in novel ways of using these services across government. Such an approach bring benefits to government as a whole:

- take advantage of the efficiency gains already realised by the market during the process of shifting a product to commodity (e.g. efficiency gains from using IaaS, PaaS and SaaS[3])
- leverage the results of innovation across the back of these commodity services without having to develop it from scratch.

Continuous delivery drives better and faster delivery

The first step of getting synchronised release schedules across all core systems shows that it is possible to shorten the time between releases. Previously, releases were major events, planned months ahead. Under DevOPs, MSD has moved to 4-weekly technical release trains. This shift was a significant achievement, but also achieved significant value. It allowed the IT teams to drive delivery coordination to a common cadence, enabling faster and better testing and delivery.

The next steps would be to re-think how the funding, security, risk, architectural and change implementation processes are re-aligned to support continuous delivery. By enabling continuous delivery, key benefits emerge:

- Rapid, efficient and reliable service improvements brought to the client
- Lower barriers to experimentation as errors made (and learnings gained) can be rectified quickly
- Cost of change should come down as the delivery mechanism is now designed to support change

2 Commercial-off-the-shelf

3 IaaS - Infrastructure-as-a-Service, PaaS - Platform-as-a-Service, SaaS - Software-as-a-Service

- Technical sustainability is easier to maintain as opportunities to reduce technical debt are more readily available

Experimentation seeds innovation

The first step of seeding innovation through experimentation has shown that it is not only possible to deliver a good product using design thinking in government; it has a better return-on-investment in terms of public value. Smarter sourcing using more cloud-based or 'pay-as-you-go' sourcing models has provided MSD access to a range of technology that previously would have been prohibitively expensive. These are some steps to lowering barrier to experimentation.

The next steps would be to make innovation through experimentation a core part of service design and delivery; recognising that there is a natural evolution from the uncharted to the transitional to the industrialised. Some possible flow on effects arise:

- In a constantly and rapidly evolving digital world where talent (and capital) flows away from the past to new practices, government needs to nurture and retain talent to stay relevant to the people.
- By leveraging that rapidly evolving digital world and the plethora of new tools and processes forged in the commercial or community sectors, government stands a better chance of staying effective and evidence-driven.

MSD comprehensive dataset is digital clay for building an AoG view

"I can't make bricks without clay!" -- Sherlock Holmes

On this journey, MSD has created a comprehensive view of its own service effectiveness. However, there remains a lack of all of government (de-identified) service analytics to tell whether a change in services in one agency creates a whole of system benefit or issue. For instance, reducing contact centre calls in an agency sounds great, but how can we be sure the these calls haven't simply shifted to another agency? There remains a need for an evidence-base of service effectiveness across the government system so we can understand the real user experience across multiple agencies, and better design and deliver services.

MSD journey provides a map to guide others

From a service innovation and integration perspective, we believe the journey, lessons and outcomes from MSD in designing, delivering and now constantly iterating and prototyping new features can inform the path of digital transformation on the back of government as a platform. There is still more to do, but the lessons herein have hopefully been useful to other agencies and those seeking ideas to build genuinely better public services.

"It does not do to leave a live dragon out of your calculations, if you live near him."
— J.R.R. Tolkien, The Hobbit