



Delivering Smarter Taxpayer Services

15 Mar 2022

Inland Revenue Authority of Singapore



INLAND REVENUE
AUTHORITY
OF SINGAPORE

Synopsis

The modern tax administration leads its compliance efforts with taxpayer education. This module discusses how information technology can **support voluntary compliance efforts** by providing the taxpayer:

- (i) Access to his or her own tax information;
- (ii) Responses to common queries through chatbots, online chat services, and service center automation;
- (iii) Access to tax laws, court and administrative rulings, and training materials; as well as
- (iv) Other innovative uses of tax administration resources to support taxpayers.

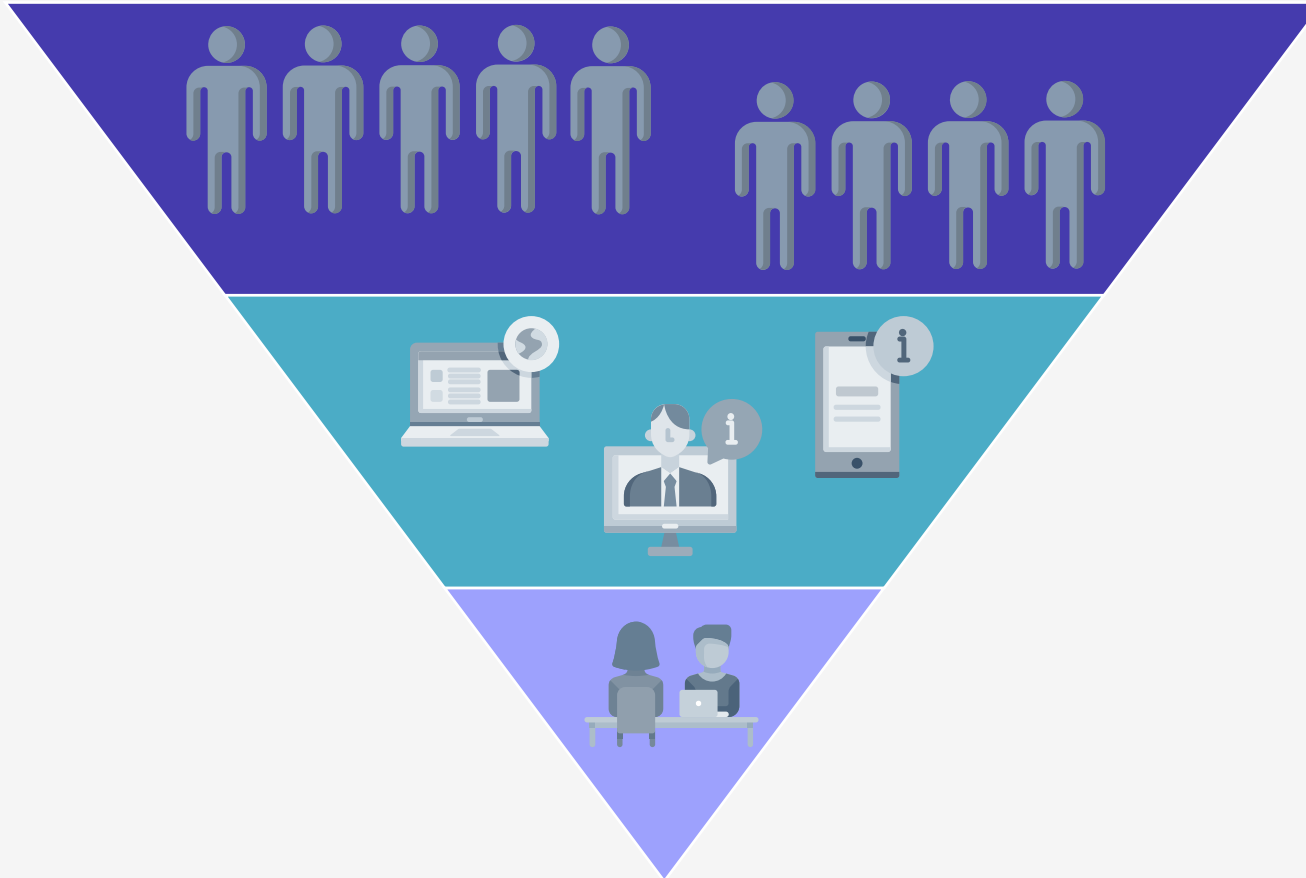
Agenda

- Understanding growing service trends in today's world
- IRAS' imperative to ensure services are easy-to-use, meets needs and seamless
- Benefits of good design of digital services to facilitate voluntary compliance
- Delivering smarter taxpayer services also requires an agile and empowered skilled workforce

Digital adoption has taken a quantum leap

- Today's world is a digital world. We look online for information and products, and to keep in touch with one another.
- New technology is being integrated into all areas of business. There are
 - Fundamental shifts in business operating models
 - Reviews on how value is delivered to customers, and what needs to be done to stay relevant
- Accelerated adoption of digital channels and technology will be for the long haul.

No Need for Service is the Best Service



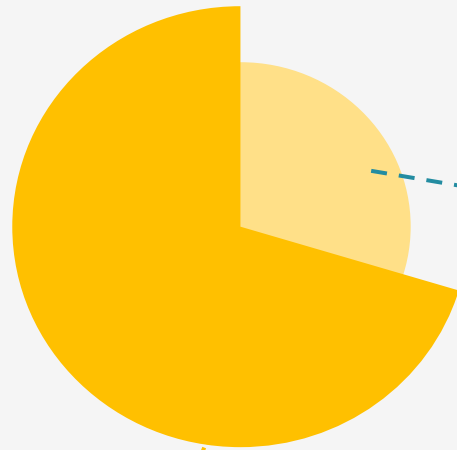
**“No need for Service
is the best service”**

Where service is required, we provide convenient & intuitive digital **self-service channels**

For complex queries, our officers provide service in a consistent and timely manner, **augmented by technology**

No-Filing Service (NFS) and Fuss-Free Taxpaying

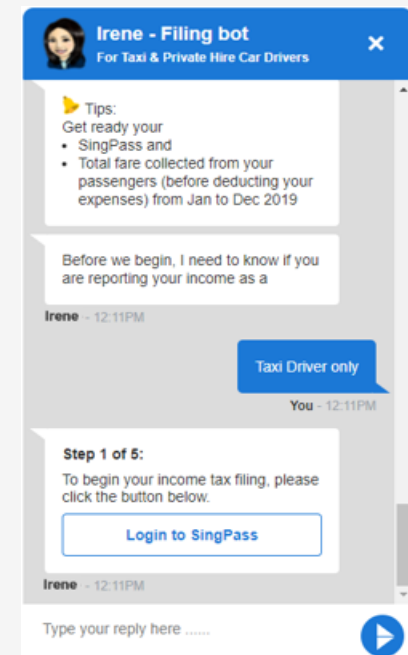
To facilitate voluntary compliance, IRAS has the objective of making tax filing a non-event. Where tax filing is still required, processes are seamless.



~70%

'No Filing Service' i.e. prefill tax returns with data from 3rd parties. The NFS was extended to self-employed taxpayers for the first time in YA 2021, benefiting **15,000** eligible commission agents and private hire car drivers.

Where tax filing is still needed, make it simple and fuss-free



e.g. "Chat Filing" Bot
Conversational style filing for Private Hire Drivers and Taxi Drivers, to be extended to Hawkers

Migrating to Digital Services

Majority of contacts are made through digital self-help channels. For those who require assistance, there is a steady shift from non-digital assistance (e.g. appointments), to sending digital assistances (e.g. Live chats, emails, calls).

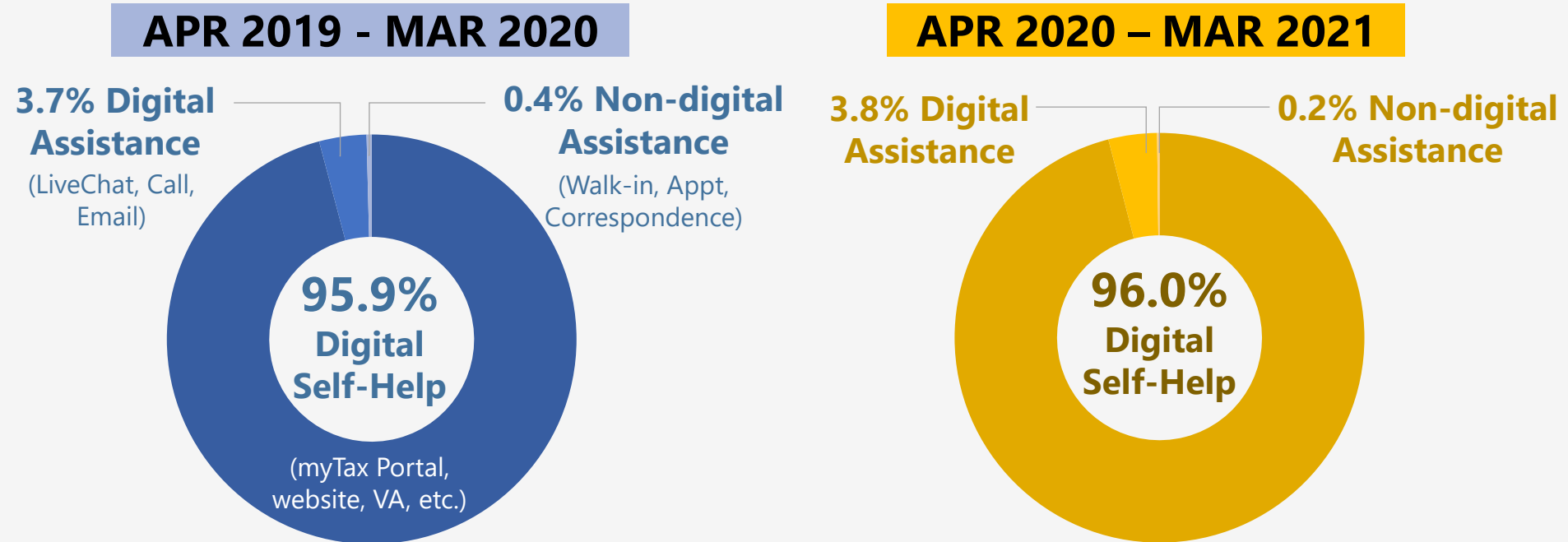
Make a Guess?

In FY 2020, what percentage of taxpayers used digital self-help services (mytax portal, Website, Virtual assistants, etc.)?



Migrating to Digital Services

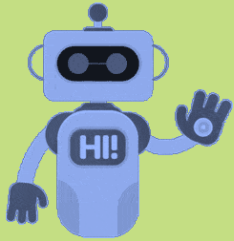
Majority of contacts are made through digital self-help channels. For those who require assistance, there is a steady shift from non-digital assistance (e.g. appointments), to digital assistances (e.g. Live chats, emails, calls).



For those who require assistance, there is a steady shift from non-digital assistance towards digital assistance

Digitalisation must be done “with heart”

IRAS strives to design its digital services with **empathy**.



For those who can self-help with bots...

- Virtual assistants / chatbots **use natural language processing**, advanced **text analytic models** and **conversation design techniques** to humanize bot conversations.



For those who prefer to interact with a human...

- Virtual assistants redirect to a **live chat agent** to complete the interaction.
- **Video conferencing** with an agent from the comfort of their home with effect from Jun 2020.



An Outside-In Approach – IRAS' Efforts on Design of Digital Services

1. Analysing feedback from customers to understand what is the ideal
2. Understanding the journey of the customer to identify pain points / gaps and co-creating with them for solutions
3. Tapping on the potential of newer, "smart" features

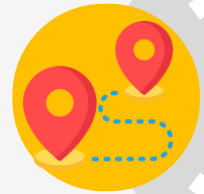


INLAND REVENUE
AUTHORITY
OF SINGAPORE

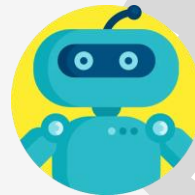
This requires a combination of good design and “smarter” features

Digital Services must be seamless and easy-to-use through...

2. Understanding the journey of the customer to identify pain points / gaps and co-creating with them for solutions



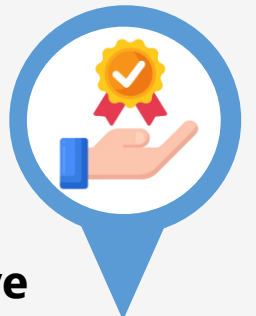
3. Tapping on the potential of newer, “smart” features



1. Analysing feedback from customers to understand what is deemed a good design



... to achieve Taxpayer-centred Experiences



1. Analysing feedback from customers to understand what is the ideal

IRAS conducts surveys, focus group discussions (FGDs), public consultations and leverages web analytics to consolidate results to have a **data-driven understanding** of customers' impression and expectations of current systems / initiatives.

Surveys/ Polls

Conducts surveys / polls to **quantitatively** identify pain points and gaps, study existing data to uncover needs / gaps and design to meet needs and close gaps



FGDs, Public Consultations, Feedback Panels

Conducts in-depth focus group discussions, panels and public consultations to **qualitatively** understand sentiments and beliefs



Whole-of-Government Application Analytics

Leveraging **web analytics dashboards** to understand taxpayers' sentiments of website and digital services.



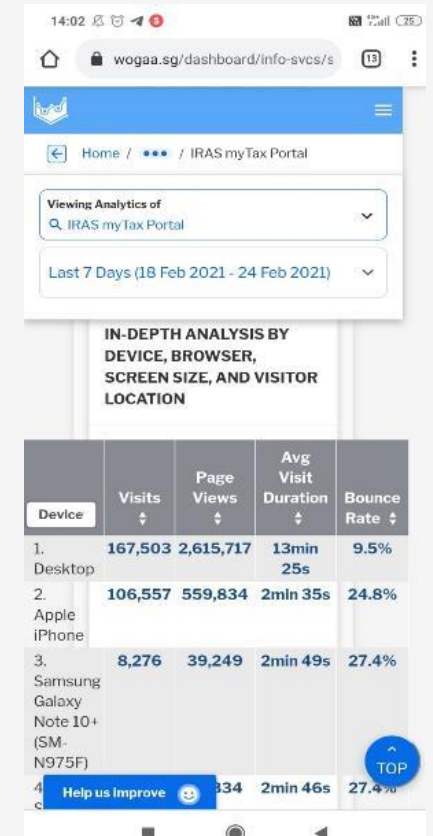
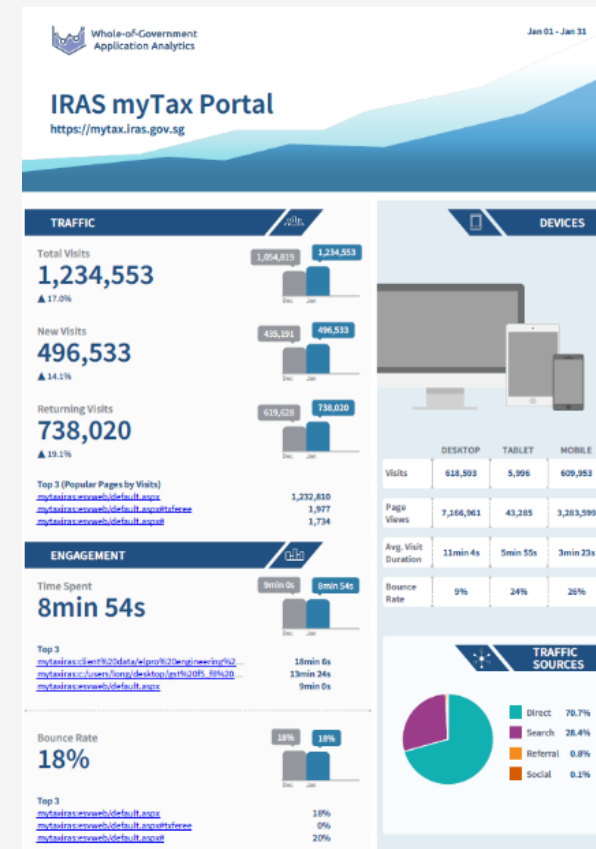
1. Analysing feedback from customers to understand what is the ideal

IRAS utilises the Whole-of-Government Analytics Dashboard (WOGAA) that depicts the sentiments of users, health status of websites and digital services, available on web / mobile.

Whole-of-Government Application Analytics

Benefits of WOGAA:

- Comprehensive overview of web analytics
- Capture user sentiments
- Provide recommendations to improve services' performance, accessibility and user experience
- Measures the availability of service with timely alerts



2. Understanding the journey of the customer to identify pain points / gaps and co-creating with them for solutions

IRAS also conducts **usability tests** and **co-creation workshops** to uncover current needs and pain points, and **customise solutions** with the community. This is where experiences are shared and customer journey maps are crafted, which would translate into **future state journey maps**. These meaningful engagements are studied to ensure that the IRAS propose designs that meet needs and close gaps, and develop services that are well adopted.

True or False?

Usability testing is a design technique used to evaluate a product or service by testing it with the representative users.



2. Understanding the journey of the customer to identify pain points / gaps and co-creating with them for solutions

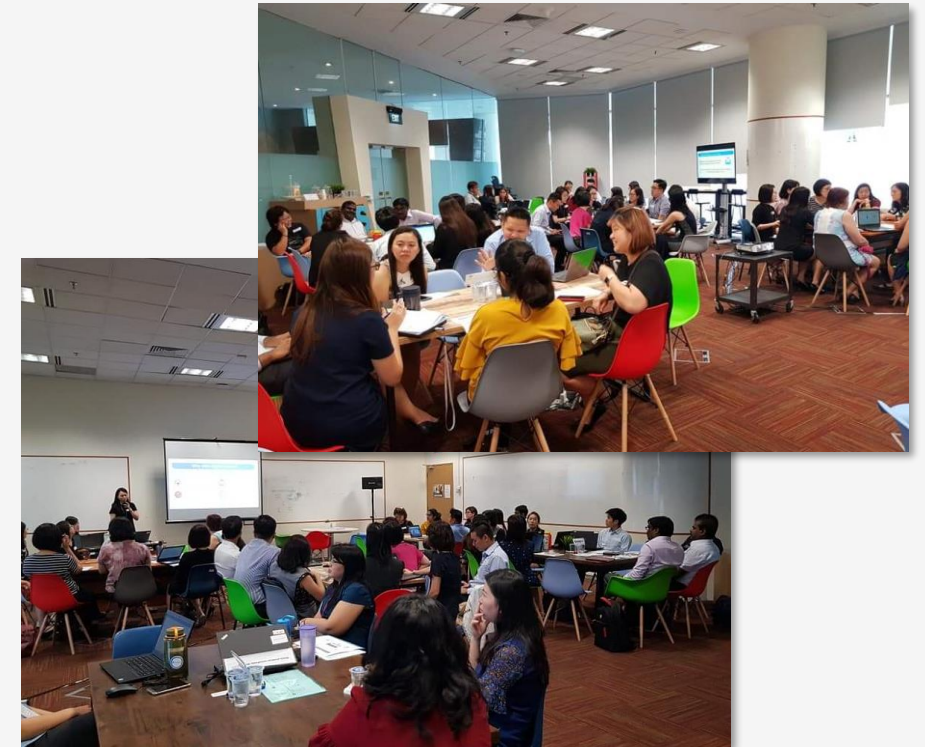


Update Notice Preference (UNP) Digital Service

Digital Communications Project (Annex A)

IRAS co-created with taxpayers and tax agents to facilitate the adoption of digitised notices through **usability tests** and **co-creation workshops**.

- We conducted an **engagement session with more than 30 participants** from companies/ businesses and tax agent firms, to hear views on the proposed e-Service functionalities and to better understand their needs.
- We also invited employees from companies/ businesses and did **three rounds of usability testing** with the new digital service prototype, to ensure that the process of subscribing to email notifications is user-friendly and seamless.
- The **UNP digital service** satisfaction continues to exceed the KPI of 75% since its roll out and achieved a high satisfaction score of 5.01 in 2021.



Co-creation workshops were conducted before Covid-19

3. Tapping on the potential of newer, “smart” features

To keep ourselves abreast with new and smart features, IRAS regularly conducts environmental/external scans to understand **new developments and events and identify opportunities relating to smart features.**



Tapping on End-User Products

- Improves the digital experiences of our taxpayers
- Lessens staff workload and empowers them to work productively, making informed decisions through AI-driven insights.
- Within the span of 7 months, IRAS distilled 33 needs and explored 6 tools.

Using New Automation Tools

- Saves IRAS' cost and time
- For example, RPA Developers completed 11 use cases and yielded positive outcomes – saved 80% of officers' time to complete notice generation for banks.

Using AI-enabled Software

- Quantify the improvements in effectiveness of the refreshed webpages using an automatic attention prediction AI tool

3. Tapping on the potential of newer, “smart” features

IRAS has developed transactional and informational bots, as additional ways to meet taxpayers’ and businesses’ needs and provide seamless, personalised and positive experiences.

Ask Jamie Virtual Assistant

- Handles general enquiries
- Linear conversations
- User experience tend to be robotic



Virtual Intelligent Citizen Assistant (VICA)

- Strong Natural Language Processing (NLP) abilities
- Supports non-linear conversation flows
- Enables provision of anticipatory service



VICA has supported the Bot Development Journey: From Transactional to Information Bots

Chat Filing Bot

- Taxi/PHC drivers & hawkers can **file their taxes via chatbot**

Payment Bot

- Taxpayers can **pay via bot** and receive **instant confirmation**

Informational Bot

- Taxpayers can send in their enquiries and **receive answers 24/7**

Case Example: Redesigning the IRAS Website



IRAS Website – Analysing the Feedback

Quantitative Survey

- Based on IRAS' Biennial Taxpayer Survey results, the **overall satisfaction** with IRAS' website achieved a mean score of 4.86 in 2021.
- There were more taxpayers who felt that **they are able to self-help with minimal contact with IRAS' officers** in 2021 (mean 4.85), which was an improvement since 2019 (mean 4.74).



Focus Group Discussion

Qualitative Survey

- IRAS obtained feedback from participants of the focus group discussion on how the website should be easy and simple to navigate, and proactively suggest alternative touchpoints to resolve issues.

Case Example: Redesigning the IRAS Website



IRAS Website – Understanding the Customer Journey

Usability testing and workshops

- **Workshop:** IRAS conducted **4 workshops with approx. 30 participants** from companies and tax agent firms, to obtain early feedback through internet-accessible prototypes and enhance the proposed design principles and template.
- **Online Tree Testing:** Invited **9 different target groups to test out the Information Architecture (IA)** prototypes, to ensure the organization and labelling of the website content is seamless and user-friendly.
- **Usability Testing:** Conducted **13 rounds of usability testing** on the redesigned website prototype, with small business owners and employees from companies etc., to hear their views on the redesigned website and to better understand their needs.



“Design is more clear and minimalistic”

“Simpler and not so sophisticated, pictures more visual, so better”

“Much neater and clearer, less stress navigating, better organised in a way”

Case Example: Redesigning the IRAS Website



IRAS Website – Tapping on Smarter Features

Automatic attention prediction AI tool

- Through analysis using an automatic attention prediction AI tool, the webpage redesign saw improvements in both **clarity and cognitive demand on the homepage**.



The new homepage was clearer (7%)
and easier to understand (5%)

Current



New



Case Example: Redesigning the IRAS Website



IRAS Website

The Benefits

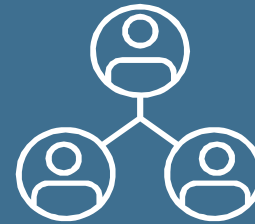
The IRAS website **anticipates taxpayers needs** to continuously deliver a **transformed and personalised** online experience.



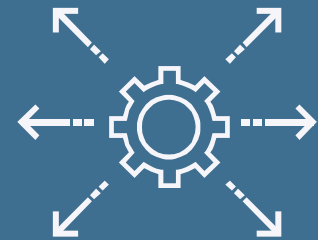
**Good UX Design for
greater ease of
navigation**



**Intelligent Search
for more accurate
search results**



**Practical data-driven
Personalisation for
more relevant
information**



**Multi-Entry points to
address different
preferences
(i.e. tax types/
persona-related links)**



Benefits of good design of digital services to facilitate compliance

Showcasing IRAS' ongoing efforts to utilise good design and smart features

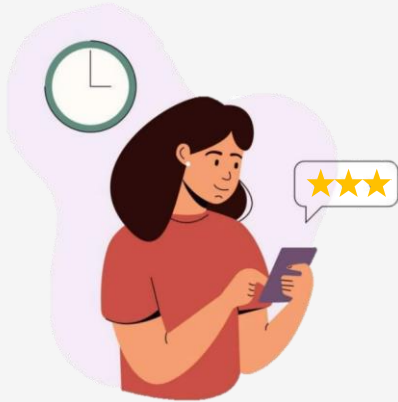


INLAND REVENUE
AUTHORITY
OF SINGAPORE

The Benefits of Utilising Good Design and Smart Features

Better Service Experience, which Facilitates Voluntary Compliance

IRAS has seen much benefit in the combination of good design and smart features. They are:-



High Taxpayer Satisfaction

Taxpayers' overall satisfaction with IRAS is an outcome of our efforts to create taxpayer centred experiences. The KPI is a relevant overall outcome measure of our efforts to provide taxpayer-centred experiences and services. The Taxpayer Survey (TPS) results in 2021 showed that IRAS obtained **high overall taxpayer satisfaction results at 98%**.

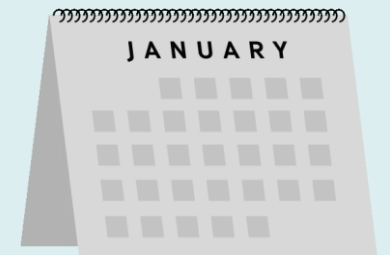
High Filing and Payment Compliance Rates

We have met the KPI of $\geq 95\%$ of returns **filed on time consistently** for FY2021.

For Individual Income Taxpayers,

>97% filed on-time

>92% paid on-time



The Benefits of Utilising Good Design and Smart Features

Better Service Experience, which Facilitates Voluntary Compliance

IRAS has seen much benefit in the combination of good design and smart features. They are:-

High Staff Satisfaction

In the 2021 Employee Engagement Survey, IRAS achieved 89% favourable rating on **customer-centricity**. 84% staff indicated that they felt **engaged** working in IRAS, and 75% felt **satisfied** working in IRAS.





An Inside-Out Approach – IRAS' workforce transformation



INLAND REVENUE
AUTHORITY
OF SINGAPORE

The Agile and Empowered Workforce

Broaden and Deepen Skillsets and Build on a Culture of Innovation and Experimentation

Data Skills

- The proliferation of the use of new data-driven dashboards to better support staff in their functions and enhance productivity

Robotic Process Automation (RPA) Skills

- Strengthened automation capabilities through the Centre of Excellence – Automation comprising cross-division representatives

Design Skills

- Set up a Behavioural Insights and Design team to promote the use of design and deepen the design culture



To imbue **greater agility and resilience**, and instill a **mindset shift to be versatile and broaden and deepen skillsets**, IRAS rolled out a skills development and profiling platform used by all staff.

The Agile and Empowered Workforce

Building an Open and Collaborative Culture

Our interactions with taxpayers are our opportunities for innovation. IRAS cultivates a **design thinking mindset** and empowers **frontline staff to co-create solutions agile frontline discovery sessions** to share pain points, ideas or solutions.



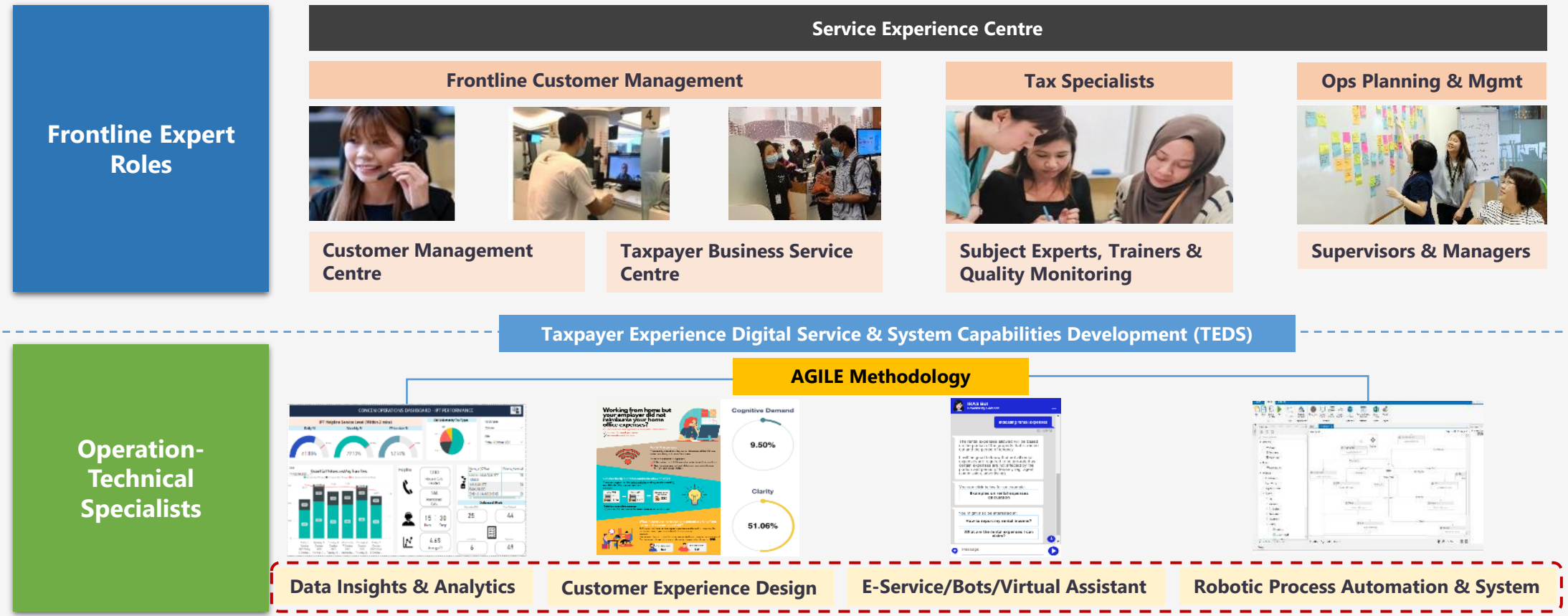
As frontline staff are the voices of our taxpayers, their interactions with taxpayers are our opportunities for innovation.

- Conduct **frontline discovery sessions** to encourage staff to share pain points, ideas or solutions
- Cultivate a **design thinking mindset** and **empower frontline staff to co-create solutions** together in an agile manner

The Agile and Empowered Workforce

Build a Open, Collaborative and Future-Ready Workforce with Ops-Tech and Agile Capabilities

IRAS has also pivoted from a traditional service centre to an innovative opportunity centre that invested in our people who in turn innovated and improved service experience.



Conclusion



Leveraging Analytics, Design & Digitalisation

We will continue to improve taxpayers' experiences through the delivery of smarter taxpayer services to facilitate voluntary compliance.

Desired outcomes:

- Seamless and personalised experiences for taxpayers
- Agile and skilled workforce



Any Questions?

Feel free to post any questions you may have in the chat!