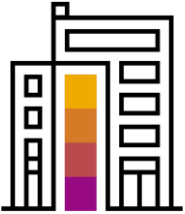




SAP® Innovation Awards 2020 Entry Pitch Deck

Intelligent Insights using Experience Management with Machine Learning
- Understanding **WHY** taxpayers may not pay on time

Queensland Treasury, Office of State Revenue, Australia



Company Information

Headquarters Brisbane, Australia

Industry Public Services

Web site <https://www.treasury.qld.gov.au>

The Queensland Treasury Office of State Revenue (OSR) plays a critical role in delivering simple, efficient and equitable revenue management services for State taxes, mining and petroleum royalty revenue, and revenue from fines and penalties. Revenue of A\$15 billion per annum, administered by OSR, helps fund essential services required by the Queensland community, such as health, education and infrastructure.

In July 2017, OSR commenced an ambitious three-year digital transformation journey to provide next-generation tax and revenue management capabilities that are data-driven, digitally enabled and client-centric to improve services and outcomes for taxpayers, staff, Government and the Queensland community. Fast forward 2.5 years and OSR is well on their way to transforming itself into an **Intelligent Tax Office**, pushing the boundaries of data and innovation to transform the way that they operate and the services they provide.

Data is now orchestrated across their landscape real time, on demand, through SAP Data Hub. Staff have access to a 360-degree view of the taxpayer across every interaction, incorporating SAP Leonardo and SAP Cloud Platform-based machine learning models. Powerful analytics dashboards built in SAP Analytics Cloud are enabling OSR to detect compliance issues and gain new and meaningful insights into the behavior of its taxpayers – the output of which is integrated into SAP Marketing Cloud to deliver proactive and personalized education and nudge campaigns.

The next stage of OSR's journey to the Intelligent Tax Office will focus on the experience of the taxpayer, to understand the "why" behind taxpayers motivations and behaviors and deliver valuable insights that will help OSR enhance a taxpayers experience in every interaction.

Understanding why taxpayers may not pay on time

The Office of State Revenue, Queensland, Australia



“SAP Qualtrics, SAP Data Hub and SAP Leonardo Machine Learning are enabling OSR to seamlessly integrate our transactional data with customer experiences, allowing us to provide improved taxpayer services that are insight-driven, proactive and personalised.”



Simon McKee, Deputy Commissioner, Queensland Treasury, Office of State Revenue

Challenge

Collect the right amount of tax at the right time by better understanding **WHY** taxpayers may not pay their taxes on time.

Solution

Taxpayer experience management combined with transactional data and machine learning taxpayer sentiment analysis, to deliver new insights into **WHY** certain taxpayers may not pay their taxes on time.

Outcome

Understanding what motivates taxpayers to do what they do – to fill in the **WHY** of their behaviour – will provide OSR with the insights required to transform interactions and engagement, take tailored and personalised actions and enhance the taxpayers experience, improving the revenue outcomes for Queensland.

Project insights:

43.7%

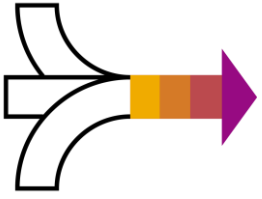
Of debtors indicated an underlying reason for non payment

21.4%

Had communication issues with OSR

17.4%

Had issues making payment or did not receive their notice of assessment sent in the post



Business Challenges and Objectives

- Understand the experience gap for taxpayers when doing business with OSR to gain deeper insights into behaviour, sentiment and WHY taxpayers may not pay on time.
- Enable OSR to design treatment strategies for individuals or cohorts, deliver new and improved service offerings, and treat those in need with empathy.

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- Collect the right amount of tax, at the right time.
 - Foster meaningful relationships with taxpayers based on a deeper understanding and insight of their individual needs and circumstances.
 - Deliver enhanced client-centric service offerings through digital methods; *allow taxpayers to interact with OSR when they want to and how they want to.*



Project or Use Case Details

The objective of the next gen. intelligent tax solution proof of concept (POC) was to leverage Experience Management, combined with transactional data and machine learning, to provide OSR deep insights into the reasons **WHY** some taxpayers pay their tax on time, while others do not.

Two cohorts of taxpayers (one of which paid on time and another that did not) were surveyed to understand the experience gap. The experience (X) data was combined with transactional (O) data from the digital core and speech to text data from call centre recordings.

The experience gap was mapped to the taxpayer journey, which included a machine learning analysis of call centre taxpayer sentiment and machine learning predictions of which taxpayers may or may not pay on time. Insights were delivered through a dashboard, enabling staff to understand and determine appropriate action to be taken.

OSR partnered with SAP to build the POC, powered by **SAP Qualtrics, SAP Digital Core, HANA Enterprise Data Warehouse, SAP Analytics Cloud, SAP Marketing Cloud** and **SAP Cloud Platform** ML foundation. **SAP Data Hub** was used to orchestrate (X+O) data flows between the **SAP Digital Core, SAP Qualtrics**, external data sources and **HANA**.

The POC is being used to **establish new or enhanced models for future revenue service delivery**. Front-line staff are leveraging the solution to provide taxpayer segmentation and initiate earlier intervention into a taxpayer's journey. These capabilities will **transform the interaction and engagement** that taxpayers have with OSR in the future.

The proof of concept project is helping OSR realise its transformation goals to become more client centric, providing enhanced capability to treat taxpayers with empathy based on their individual circumstances, ensure that the taxpayer experience when dealing with OSR can be as good as it can be, and collect the right amount of tax at the right time, leading to **better revenue outcomes** to fund essential services for Queenslanders.



Benefits and Outcomes

Business or Social

- Enhanced taxpayer compliance resulting in improved revenue outcomes for Queensland.
- More timely revenue collection and a reduction in debt.
- Improved taxpayer engagement and advocacy.
- Enhanced trust in the revenue management services that OSR provides.
- Ability to treat taxpayers with empathy based on their individual circumstances.
- Proactively deliver the services that taxpayers not only “want,” but also “need.”

IT

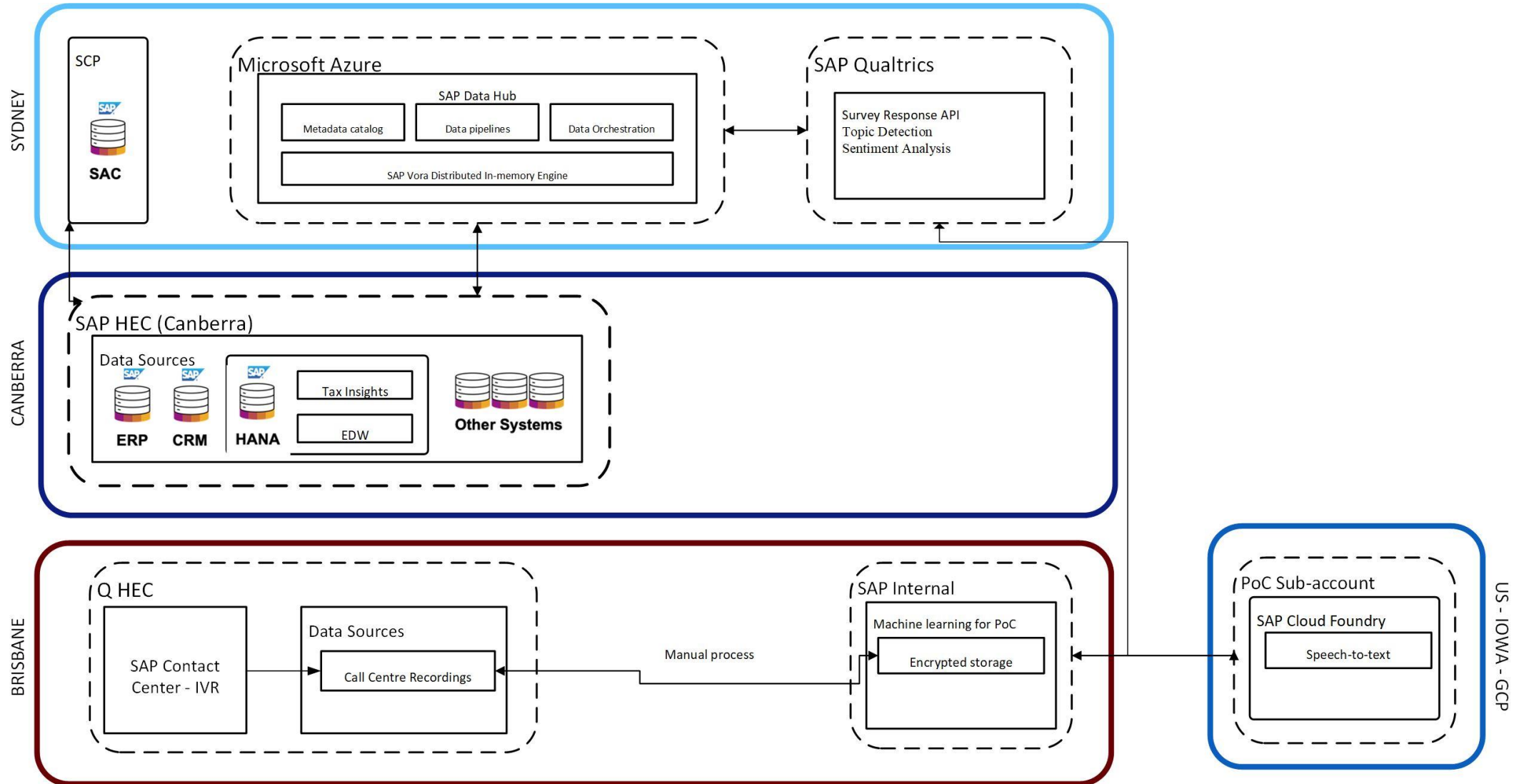
- Allows OSR to leverage and bring together the investment made in each individual data and digital solution to provide a holistic outcome, creating deeper insights and value for OSR.

Human Empowerment

- The solution provides insights to enable our staff to better understand taxpayer sentiments, behaviors and motivations.
- Will allow staff to be engaged in more interesting and value-adding activities, which make a real difference to both taxpayers and revenue outcomes.



Architecture





Deployment

Deployment status POC

Date 25th October 2019

Number of users 500 employees, 90,000 taxpayers

SAP technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP Qualtrics	POC	Measure the taxpayer experience and experience gap., Understand WHY tax payments may be late.
2	SAP Data Hub	Live	Orchestrate data from digital core, SAP Qualtrics and external data sources to HANA EDW.
3	SAP HANA EDW, SAP Cloud Platform ML Foundation	POC	Combine X and O data with machine learning models predicting taxpayer likelihood of paying tax on time. HANA X+O schema. Taxpayer sentiment journey.
4	SAP Analytics Cloud	Live	X+O based analytics for Senior Executives.
5	SAP Marketing Cloud	POC	Digital nudge for taxpayers based on ML and Qualtrics.

If you have used one of the services or support offerings from SAP Digital Business Services during the implementation or deployment phase, please select with ☒ one or more of the following offerings:

☒ SAP MaxAttention™

☐ SAP ActiveAttention™

☐ SAP Advanced Deployment

☐ SAP Value Assurance

☐ SAP Model Company

☐ Others:

☒ SAP Innovation Services

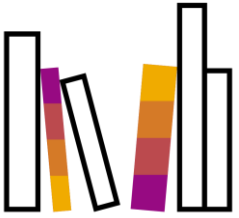
☒ SAP Innovative Business Solutions



Advanced Technologies

The following **advanced technologies** were part of the project.

	Technology or use case	Yes or No	Contribution to project
1	3D printing	No	
2	Blockchain	No	
3	Internet of Things (IoT)	No	
4	Machine learning or AI	Yes	The “engine room,” which ingests the X and O data and makes predictions on taxpayer ability and willingness to pay on time.
5	Conversational AI	No	
6	Robotic process automation	No	
7	Data anonymization	No	
8	Augmented analytics	No	



Additional Information

- Video: [Intelligent Tax Office PoC co-innovation with SAP](#)
- Video: [Intelligent Tax Office Transformation](#)