**Current frictions: what are we solving?**

**Challenge: The Australian Financial Security Authority (AFSA) requires an efficient way to predict if an individual in the personal insolvency system will become non-compliant.**

* Administrative burden of non-compliance
* “Objections to Discharge” means a normal 2-3 year bankruptcy is extended to 5-8 years, resulting in more admin
* Cost of non-compliance
* Bankruptcies are expensive for the government
* Of the bankruptcies finalised in 2016-17 (we're still validating 2017-18) bankrupts owed over $6m. On average, creditors received 1 cent for every dollar they were owed. Creditors only received a dividend (ie a payment) in 10% of cases. Other types of insolvency return more to creditors but bankruptcies are more than half of insolvencies.
* Personal insolvencies are increasing
* Nationally, there were 8,177 personal insolvencies in the June quarter 2018.
* Total personal insolvencies in the June quarter 2018 increased by 7.4% compared to the June quarter 2017. By type of personal insolvency:
  + bankruptcies increased by 13.1%
  + debt agreements increased by 1.5%
  + personal insolvency agreements decreased by 5.2%.

- Total personal insolvencies rose in all states and territories except Victoria, where they fell by 1.0%. They reached record highs in Northern Territory (95 personal insolvencies) and Western Australia (1,046 personal insolvencies). (Source: AFSA)

**Our solution: why is it valuable?**

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There are currently 110,000 individuals in the personal insolvency system in Australia. Finalised bankruptcies for the fiscal year 2016-2017 owed over $6 million in debt.

**Problem: AFSA has no efficient way to predict if an individual in the personal insolvency system will become non-compliant.**

This results in an increased administrative burden and costs.

**Solution: Introducing *Insolved…*** Insolved uses Machine Learning and predictive modeling to estimate if people within the personal insolvency system are at high risk of non-compliance.

*With Insolved AFSA can:*

* Predict non-compliance with X% accuracy to take appropriate measures
* Understand trends in insolvency and non-compliance
* Understand regions of financial stress in Australia and glean insights into root causes so that early intervention or financial education drives can be mobilised
* Understand trends for optimal utilisation of resources for the benefit of trustees and individuals

In the future we envisage this product could extend to individuals outside of the personal insolvency system, to predict whether they are at risk of becoming insolvent. This future product would provide targeted recommendations to prevent this from occurring….

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More related to individuals within the personal insolvency system:

Other than the *<insolvent>* (wording? )individuals and their families, insolvency hits many **innocent** (wording?) parties hard. From unfulfilled wages and superannuation, this poses a major challenge for those who aim to monitor insolvency arrangements and ensure insolvent parties come out of bankruptcy as soon as possible. However, non-compliance to insolvency arrangement terms is a major issue in terms of admin, resulting in extension of bankruptcy from 3 years to 8 years, increase in admin cost and trustee time and effort. Not to mention the significant impact to mental and financial and reputational wellbeing.

Most insolvency decisions are made on a case-by-case basis with mixed result.

If only there was a reliable way of accurate assessment for early intervention…

*Individuals*

* Understand risk exposure to insolvency and recommended steps - Moneysmart links, access to financial counselors etc

**Possible use cases**

* Help people in the insolvency system on top of their compliance obligations making the process transparent and easy to follow for all parties

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# Script:

|  |  |  |
| --- | --- | --- |
| **Voice** | **Script** | **Visual** |
| VO1 | **Every year more than 30,000 Australians become insolvent, owing creditors more than seven billion dollars.**  **The reasons for insolvency are complex and varied, but impact everyone in our community.**  **About 1,000 people per year fail to comply with their insolvency agreements,, causing more distress to creditors and costing AFSA millions of dollars.** | Stock footage: <https://www.gettyimages.com.au/license/727600021>  <https://www.gettyimages.com.au/license/875286372> |
| VO2 | **AFSA set us a challenge: How might we predict which people within the personal insolvency system are likely to fail to meet their obligations?** | Team working shots |
| VO2 | **Introducing INSOLVED.**  **Using advanced machine learning and predictive modeling, INSOLVED predicts if people within the personal insolvency system are at high risk of non-compliance**. | Text: iwww.insolved.co  Visual:  Visual:  Dashboard glimpse |
| VO2 | ***With Insolved AFSA can:***   * **Predict non-compliance with more than 95% accuracy** * **Understand trends in insolvency and non-compliance** * **Understand regions of financial stress** * **Understand how to make better use of resources** | SHOT 1 Input form -> dial  SHOT 2  -> entering their details  -> high risk  -> low riskxx  Visualisation  Map visualisation (tableau mockup)  Dashboard |
|  | **Here’s how it works:**  ***DASHBOARD***   * **An AFSA employee will have a dashboard of all personal insolvency cases. <Pause>** * **Each case shows a risk rating of High Medium or Low, based on our algorithm.  <Pause>** * **The case list can be sorted by Risk Rating, ID number or Year and filters can be applied to highlight different cases <Pause>** * **Alternatively, employees can find a specific case by using the ID search**   *PREDICTION TOOL*   * To predict whether someone within the personal insolvency system is at risk of non-compliance, all you have to do is fill in a few details. <Pause> * Our predictive model will determine whether this person is low, medium or high risk.   *EXPLORE*   * We’ve compared the personal insolvency data to a variety of other datasets looking at health, housing, education and employment across Australia * We’ve found several interesting trends which can be explored within our Tableau model and are visualised in our product * We found that in the top 10 geographical regions with high rates of insolvency:   + Unemployment rates were 12% higher   + Psychological distress rates were 17% higher   + Obesity rates were 20% higher   + House and unit price growth were 74% and 119% higher   + The number of people with a bachelor's degree was 28% lower   When compared to the national average |  |
| VO1 | Our algorithm solves the class imbalanced or needle in haystack problem . We needed to come up with accurate predictions when there was an imbalanced distribution of non-compliance data within a highly skewed dataset. | Talking Head - Lei |
| Lambert | *Our platform surfaces some interesting and unexpected insights, such as a possible relationship between poor health such as diabetes and obesity and insolvency. The big takeaway is that insolvency affects us all: the top ten locations for insolvency account for only 10 percent of all cases.* | Talking head: Lambert |
| VO1 | **INSOLVED has the potential to reduce the administrative cost of non-compliance, and non-compliant debt.** | Team working shots |
| VO1 | **But we can go further: in the future, INSOLVED could used by the public to predict their risk of becoming insolvent and give them advice on reducing financial stress.**  **This information will further enable AFSA to predict trends in insolvency by location, profession, gender and family circumstances, better preparing them to deploy resources and launch education campaigns.** | https://www.gettyimages.com.au/license/875286372 |
| SUMMARY | **Insolved ….**  **Making a big problem into a manageable one.** |  |

Using advanced machine learning and predictive modeling, INSOLVED estimates if people within the personal insolvency system are at high risk of non-compliance.

**Insights about Insolvency - Top 10 Insolvency Areas vs. Australian Average**

* **Poorer health** - Total early deaths were up 17%. Diabetes and rates of obesity were up 29% and 20% respectively. Psychological distress rates in these areas was also 17% above the national average.
* **Fewer employment opportunities** - The unemployment rate was 12% higher in the top 10 than the national average
* **Lower levels of education** - Those with a bachelor's degree was 28% lower than the national average.
* **Face housing affordability challenges**  - House and unit price growth was 74% and 119% above the national average.

**Insights About Insolvent Australians**

* The huge majority of insolvent Australians are hard working members of our community fallen on hard times.
* About 30,000 people become insolvent every year. Personal insolvencies grew 7% in the 2017-18 financial year - over double the growth rate of bankruptcies.
* Total bankruptcy costs the Australian economy 0.5% GDP per annum.

Historical trends:

* Over 75% of insolvencies are a result of poor financial management, unemployment or family breakdown
* Over 75% of those who are insolvent earn an income $50K or less and 98% earn less than 100K
* Of all insolvent individuals, 56% were men and 44% were women with 41% having dependents

Most typical male insolvent:

* Single without dependents
* Works in a trade or manual work role
* Earns under $50K
* Become insolvent because of unemployment
* Is supported by government benefits as he tries to get his life back on track

Most typical female insolvent:

* Single without dependents
* Works in a non-tertiary clerical/administrative role
* Earns under $50K
* Became insolvent because of poor financial management
* Using their wages to pay down their debts