
Robodebt Notices and the
Intensification of Distress
in the Unemployed

Exploratory analysis
October 2023

Distress amplification



Insight report

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The implementation of the online compliance intervention (OCI) system, commonly known as Robodebt, has ignited a protracted and contentious debate surrounding its far-reaching impact on individuals, the future of civic compliance systems, and broader societal implications of automation. The extant research asserts the importance of protections for the vulnerable (see inter alia Carney, 2019, D’Rosario & D’Rosario, 2020 and Park & Humphrey, 2019).

Many however, notwithstanding the weight of evidence to the contrary, contest the impacts of the scheme on the vulnerable debt notice recipients. The current research report responds to the dearth of empirical research examining RoboDebts impact.

Robodebt was designed as an automated platform aimed at issuing debt notices by cross-referencing data from various government systems, including the Australian Taxation Office and Centrelink, to identify potential discrepancies and initiate debt recovery procedures. However, the system’s implementation has raised significant concerns regarding its validity, fairness, and adverse effects on affected individuals.

At the core of the debate lies the transformation of a process once governed by human decision-making into a mechanistic, algorithm-driven system. Critics argue that the terminology associated with Robodebt, such as “Robodebt” itself, can be misleading, as it evokes images of an advanced machine learning-powered robot, while in reality, it operates as a simple expert system with predefined rules. Detractors question whether this distinction is adequately communicated, as the perception of an advanced AI system can fuel misconceptions about its capabilities and decision-making processes.

The application of artificial intelligence in administrative and judicial decision-making has long been a subject of scrutiny. RoboDebt has reignited these debates, with experts highlighting the potential benefits of AI while raising concerns about flawed implementation. Examples such as the COMPAS and HART systems serve as cautionary tales, demonstrating the potential for systematic biases and unintended consequences when deploying artificial intelligence in high-stakes decision processes. This has underscored the need for careful evaluation, transparency, and accountability in the development and deployment of such systems, especially within the public sector.

RoboDebt’s impact is significant, affecting individuals from diverse backgrounds who find themselves caught off guard by unexpected and substantial financial obligations. The sheer volume of debt notices issued by the system has triggered public outcry and led to numerous legal challenges.

Critics argue that the mechanistic and impersonal nature of RoboDebt undermines the principles of fairness, due process, and individual rights. They contend that deploying an automated system in contexts where complex human factors are at play risks overlooking crucial nuances, potentially exacerbating social and economic inequalities.



One of the primary concerns associated with RoboDebt is the stress and sentiment effects it imposes on individuals subjected to its debt recovery procedures. The system's automated processes and lack of human interaction can lead to heightened stress, anxiety, and financial hardships for affected individuals. Critics argue that the absence of personal engagement and tailored consideration exacerbates mental health issues and engenders a sense of helplessness and injustice among recipients of debt notices. The ethical implications of employing robotic process automation (RPA) in high-stakes decision-making processes and its potential impact on vulnerable populations have become focal points in the broader debate.

As the debate surrounding civic systems design in the aftermath of Robodebt persists, it highlights the imperative for ongoing evaluation and alignment with best practices when integrating RPA and artificial intelligence into public sector decision processes. The concerns surrounding stress, sentiment effects, and the potential for systematic biases underscore the need to strike a delicate balance between administrative efficiency and safeguarding individual rights and well-being.

The lessons learned from the implementation of Robodebt provide a critical opportunity for reflection, urging policymakers, technologists, and legal experts to collaborate in designing systems that ensure fair and equitable outcomes while leveraging the benefits of automation to improve administrative processes. The findings of the research evidence the need for more acknowledgement of 'intersectionality'; and emphasise the benefits of 'systems thinking'.

Intersectionality recognizes that individuals hold multiple social identities (such as race, gender, class, sexuality, disability) that intersect and interact to shape their experiences and oppressions. It emphasizes that these social identities do not exist independently but intersect in complex ways, leading to unique forms of discrimination and disadvantage.

Systems thinking allows decision makers to think more holistically regarding the impact of systems, and to acknowledge intersectionality, and acknowledge the impact of (in particular) delayed effects, reinforcement effects, systemic effects and most notably, unintended consequences of the different civic (sub) systems on the welfare and wellbeing of individuals.

This report builds upon existing research by offering the first empirical assessments of the impact of the OCI system, quantifying its effects on recipient stress and sentiment.

Expanding upon the works of Carney (2019), D’Rosario & D’Rosario (2020) and Park & Humphrey (2019), we aim to provide a deeper understanding of the toll imposed by Robodebt.

By employing sentiment analysis, utilizing the MPQA Lexicon within a machine learning framework, and employing regression analysis within a mixed methods framework, we undertake a comprehensive examination of stress indicators and sentiment.

Additionally, we explore the association between the level of statutory debt and measures of sentiment, unravelling the relationship between the severity of debt and emotional responses.



Key Findings and Recommendations

3

The report outlines the sentiment responses of individuals taking receipt of debt notices as part of the OCI, and their knowledge of the system and the appeals process. The report offers insights into the challenges faced by RoboDebt recipients and their lack of familiarity with the system.

The research explores the impact of RoboDebt notices on unemployed persons identifying that unemployed persons were likely to evidence more extreme responses to debt notices, plausibly consequential to their extant experience with the welfare system and its administration, and or their status coincident with the notice being issued in error. The findings are outlined in summary form.

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- i Robodebt notice recipients responded extremely negatively to all aspects of the process, with sentiment measures largely between 0.001 and 0.01 employing the MPQA lexicon.

 - ii Recipients in recounting their personal (general) experience sentiment, and service (service quality) sentiment expressed high levels of distress upon taking receipt of debt notices.

 - iii A significant number of recipients referenced affective disorders and other psychological issues when recounting their experiences.

 - iv Unemployed persons evidenced more extreme negative responses to taking receipt of OCI notices than those in employment. We propose a 'Distress amplification effect' whereby an unemployed person received an unjust, and or unanticipated debt notice, at a time of relatively greater financial challenge (than a party in gainful employment), evidenced greater distress.

Recommendations

1

Modelling critical systems dynamics

That the use of system automation should be strongly reconsidered where human interaction is critical at the point of service, specifically when working with highly vulnerable consumers, where there is scope for automation to result in poorer welfare and wellbeing outcomes for consumers.

2

Human in the loop for critical decision support

That the use of automation be more closely scrutinised within civic process redesign, particularly where such processes involve significant interaction with highly vulnerable persons. Critically that complex system dynamics are modeled to consider the broader and in particular, unintended consequences of civic process redesign.

3

Preventing bias in system design

Decision support systems in support of civic decision processes and human actors may improve the quality of human decision making as a source of moderation and quality control. Such decision support systems are only viable to the extent that they support and do not supplant human operators. Critical consideration must be given to the security and design of decision support systems (and their algorithmic frameworks) to ensure that decision bias is not embedded design, or through biased datasets.

4

Procedural fairness, education, and protections for the vulnerable

Welfare systems given their basis in protection and care, appear poorly suited to unfettered and unmoderated intelligent automation, human to human interaction appears critical given the need for procedural fairness, and equity, to ensure that individuals that lack cognisance of the operation of automated processes within civic systems are not disproportionately impacted by their implementation.

RoboDebt and the Disproportionate Impacts on the Vulnerable

4

This report builds upon existing research by offering the first empirical assessments of the impact of the OCI system, quantifying its effects on recipient stress and sentiment.

The impacts of the unjust Robodebt program were particularly severe for vulnerable individuals for several reasons. Firstly, vulnerable individuals often rely heavily on government support systems, such as welfare payments, to meet their basic needs. The implementation of the Robodebt program targeted recipients of social security benefits, many of whom were already experiencing financial difficulties.

By issuing debt notices based on flawed calculations and without proper evidence, the program put additional financial strain on already vulnerable individuals, pushing them further into economic hardship.

Secondly, the automated nature of the Robodebt system lacked the human touch and personalized consideration that vulnerable individuals often require. The system operated based on data matching and algorithms, without considering individual circumstances or taking into account potential errors in the data. This resulted in numerous cases where individuals were wrongfully accused of owing debts they did not actually owe. For vulnerable individuals, who may have limited resources and knowledge to navigate complex bureaucracy, rectifying these errors and appealing the decisions proved to be an arduous and overwhelming process.

Furthermore, the psychological impact of the RoboDebt program on vulnerable individuals cannot be underestimated. Many already faced multiple challenges, including unemployment, health issues, or disabilities. Receiving unjust debt notices created significant stress, anxiety, and a sense of powerlessness among these individuals. They felt unfairly targeted and trapped in a system that was supposed to provide support but instead caused distress. The fear of financial repercussions and the stigma associated with being labelled as a debtor added to their emotional burden.

Moreover, the severe impacts of the RoboDebt program on vulnerable individuals were exacerbated by the lack of adequate support systems and resources to help them navigate the complexities of the process. Legal assistance, financial counselling, and advocacy services were often inaccessible or insufficiently funded, leaving vulnerable individuals without the necessary guidance to challenge the unfair debt notices effectively.

The cumulative effect of these factors created a perfect storm for vulnerable individuals, intensifying the negative consequences of the RoboDebt program. It widened existing inequalities, deepened financial instability, and undermined the well-being and dignity of those already facing numerous challenges.

Recognizing the disproportionate impact on vulnerable individuals, it is crucial to address the systemic flaws that allowed the program to harm those who were already the most vulnerable in our society.

We identified and analysed the responses of 877 recipients of Debt notices, capturing responses shortly after the implementation of the system. Our goal was to examine the emotional states and sentiment of individuals taking receipt of notices. We identified some confronting (though in light of the unlawful nature of the system perhaps unsurprising) findings, evidencing the seemingly misguided deployment of the system.

Knowledge of appeal process and system engagement

To consider the process of public education that coincided with the rollout we examined the change in the frequency of individuals that confirmed their ability to navigate the system and appeal their notices.

We estimate a chi squared tests of independence to examine the changing levels of familiarity of cohorts based on the time at which they took receipt of the notices (Pre 2018 or Post 2018). Notably, there is significant variation observed between the initial cohort receiving notices and the latter cohort, with the latter cohort evidencing a statistically significant variation in measured unfamiliarity $\chi^2(1, N = 813) = 3.1682, p = 0.077083$. The latter cohort was less familiar with how to facilitate an appeal process than the initial cohort.

This further supports the contention that greater education and disambiguation was necessary to support the OCI system and ensure parties were cognisant of how to navigate the system and facilitate an appeal. While the result may appear illogical, given that it would be reasonable to assume that as the OCI has been in place longer, more individuals would garner an understanding of OCI and its appeals process, it may be consequential to the dramatic scaling of the program post 2017.

It is highly plausible that the scaling process occurred without a viable public education activity. This is a genuine source of consternation suggesting that the program was scaled notwithstanding its unlawful nature, and high error rate but also with little regard for procedural fairness.

Overall sentiment response to the RoboDebt experience

Considering the overall experience declarations (statements regarding individual experiences with the system automation) of respondents; nearly 50% of respondents noted significantly elevated stress levels. These elevated stress levels frequently coincided with elevated levels of anger. A significant number of respondents also noted affective disorders.

Elevated stress levels are concerning because prolonged or intense stress can have detrimental effects on an individual's mental and physical well-being, and many of the recipients of debt notices already evidenced significant vulnerabilities and a greater frequency of co-morbidities. Stress is associated with a range of negative outcomes, including increased risk of anxiety and depression. Therefore, the high prevalence of elevated stress levels among respondents suggests that the RoboDebt experience had the potential to harm individuals' mental and physical health.

The mention of affective disorders among respondents further highlights the severity of the emotional impact caused by the RoboDebt experience. Affective disorders encompass a range of mental health conditions characterized by disturbances in mood, including depression and bipolar disorder. These disorders can have debilitating effects on individuals' daily functioning, relationships, and overall quality of life.

The fact that respondents reported such disorders indicates that the RoboDebt experience had the potential to contribute to long-term mental health challenges for some individuals.

These findings are highly concerning as they suggest little consideration was given to the unintended consequences of the RoboDebt system, and little consideration was given to the critical role of system education to inform recipients regarding their recourses and rights of appeal, which may have contributed significantly to their experiences.

Our analysis then focused specifically on the experiences of the unemployed, and their engagement with the unlawful system. We sought to determine whether their experiences may have amplified due to their economic vulnerability, and consequently whether greater care should have been afforded to this group and other vulnerable groups in the issuance process.



RoboDebt Drove Exhaustion Amplification Effects that Intensified Distress in the Unemployed

5

Unemployed individuals often face higher levels of financial vulnerability compared to those who are employed.

They may rely on government support or have limited income sources, making them more susceptible to the financial burden imposed by RoboDebt. For the unemployed, the debt notices issued by RoboDebt could have represented a significant portion of their already limited resources, exacerbating their financial hardships.

Unemployed individuals may have limited resources to seek legal assistance or challenge the unjust debt notices generated by RoboDebt. Legal representation can be costly, and without a stable income, unemployed individuals may struggle to access the necessary support to navigate the complex legal procedures involved in disputing the debt. This lack of resources could leave them more vulnerable to the negative impacts of RoboDebt.

Unemployment itself can lead to increased stress, anxiety, and feelings of insecurity. The additional burden of unjust debt notices from RoboDebt can further exacerbate these emotional stressors. The fear of financial repercussions and the uncertainty of how to address the debt can significantly impact the mental well-being of the unemployed population, potentially leading to heightened levels of stress and anxiety.

Unemployed individuals may already feel a sense of powerlessness and lack of agency due to their employment status. The implementation of RoboDebt, with its automated and impersonal nature, can further reinforce these feelings.

The inability to have a meaningful dialogue or negotiation with a human counterpart may intensify the sense of helplessness and frustration experienced by the unemployed.

Unemployment can be accompanied by social stigma and a sense of marginalization. The receipt of unjust debt notices from RoboDebt may compound these feelings, reinforcing the perception of being unfairly targeted or further marginalized by the system. This can have detrimental effects on individuals' self-esteem, social connections, and overall well-being.

To investigate this issue, we employed the MPQA Lexicon and Sentiment analysis techniques. This allowed us to examine the statements of recipients to discern their sentiment. In the context of the MPQA (Multi-Perspective Question Answering) Lexicon and our classification method, the values 0 and 1 indicate the sentiment or polarity of a statement. Specifically, 0 indicates negative sentiment or polarity. A statement labelled with 0 in the MPQA Lexicon is considered to have a negative sentiment or polarity. It implies that the statement reflects negative emotions, opinions, or evaluations. Alternatively, 1, indicates positive sentiment or polarity. A statement labelled with 1 in the MPQA Lexicon indicates a positive sentiment or polarity. It suggests that the statement is associated with positive emotions, opinions, or evaluations. Statements may take any value between 0 and 1.

Our research has identified that the impacts of RoboDebt were particularly severe for the unemployed. The research has revealed a significant effect observed among unemployed individuals who received unlawful debt notices through the Robodebt system.

This effect manifests as heightened levels of stress and anger, which can be plausibly attributed to two key factors: exhaustion and a sense of injustice resulting from the unlawful nature of the process. We have termed this an 'exhaustion amplification effect'.

Unemployed individuals already face the burdens of joblessness, and the additional stressors caused by the receipt of unjust debt notices exacerbate their emotional well-being. The exhaustion resulting from the constant struggle to find employment, combined with the perceived injustice of the unlawful process, intensifies the emotional response.

This research underscores the need for careful consideration of the impacts of automated debt recovery systems, such as Robodebt, and highlights the importance of fairness, transparency, and sensitivity in dealing with unemployed individuals who are already experiencing significant challenges in their lives.

From Linear Thinking to Systems Thinking in Civic Systems Design



While there are many significant and obvious flaws associated with the RoboDebt system, noted in Carney (2019), D’Rosario & D’Rosario (2020) and Miller (2020), the most obvious predated its release, this critical flaw was the absence of genuine ‘systems thinking’ in the design of this critical sub system, and its impact within the broader welfare system.

The program design and in particular the absence of consideration of the requirements of stakeholders, evident in the absence of aligned education and appropriate support for vulnerable groups, during the scaling of the initiative, and the involvement of private foreign firms in the RoboDebt management process, reflects the absence of regard for vulnerability.

A more systems thinking aligned approach when engaging in critical civic program design is essential.

Systems thinking, (and modelling system dynamics) if applied effectively in the design of civic systems like the RoboDebt system, could have potentially reduced its deleterious impacts. Consider some of the benefits of systems thinking in civic systems design that could have been relevant to mitigating the negative consequences of RoboDebt;

Holistic Understanding

Systems thinking encourages a holistic understanding of the interconnectedness and interdependencies within a system. Applying systems thinking to the design of RoboDebt would have involved examining the entire system, including its stakeholders, processes, and feedback loops. This broader perspective could have allowed designers to identify potential unintended consequences and negative impacts on vulnerable populations, such as the unemployed, before implementing the system.

Anticipating Feedback Loops

Systems thinking helps identify and understand feedback loops, both reinforcing and balancing. In the case of RoboDebt, understanding the potential reinforcing feedback loop between debt notices and financial vulnerability could have raised concerns about the system’s long-term consequences. By considering these feedback loops, designers may have been prompted to implement mechanisms to mitigate or prevent negative feedback loops, thus reducing the deleterious impacts on individuals.

Identifying Leverage Points

Systems thinking involves identifying leverage points within a system where small interventions can have significant impacts. By applying systems thinking, designers could have identified specific points within the RoboDebt system where interventions could have been made to address potential harm and promote fairness. This might have included incorporating additional safeguards, human oversight, or alternative dispute resolution mechanisms to protect vulnerable individuals.

Incorporating Diverse Perspectives

Systems thinking emphasizes the importance of incorporating diverse perspectives and stakeholder engagement. In the case of RoboDebt, involving representatives from affected communities, advocacy groups, and legal experts could have provided valuable insights into the potential consequences and implications of the system on different segments of the population. By including diverse perspectives, designers could have better understood the potential harm and tailored the system to be more equitable and considerate of the needs of vulnerable individuals.

While RoboDebt was found to be unlawful, its failure was evident beyond its lack of legal basis, by its inherently flawed design, that afforded little regard to the impacts of the scheme on the vulnerable, and the lack of 'systems thinking' within the schemes design.

The RoboDebt system has raised concerns for all parties involved, and further examination is needed to fully understand its impact. Our study provides an initial account of the system's effects, with a modest but robust sample of impacted recipients. Nevertheless, the captured data remains the most consistent and viable source available.

Given the findings, it is evident that the RoboDebt implementation was poorly designed, with little regard for welfare 'system dynamics' and prone to errors, causing significant human impact.

Measures must be taken to mitigate the potential harm to vulnerable individuals who may be disproportionately affected, where decision support technologies are employed. Ethical considerations remain, and further research and public debate on this topic are essential.

These findings provide valuable insights for future systems deployments, highlighting the need to learn from the RoboDebt implementation and the experiences of debt notice recipients. It is crucial for future deployments to address the challenges and shortcomings of the RoboDebt rollout. With proper attention to the experiences of those affected, and a stronger emphasis on 'systems thinking' civic process automation and intelligent automation more broadly has the power to support and empower vulnerable individuals.

Employing data and civic automation in support of the vulnerable has the potential to address systematic inequality and reduce service exclusion, using these tools and technologies merely to hold the vulnerable to account will only exacerbate existing access inequalities and social mobility.

NOTES

1. COMPAS stands for "Correctional Offender Management Profiling for Alternative Sanctions." COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) is a software tool used in the criminal justice system for risk assessment and decision-making. It is designed to assist judges, probation officers, and parole boards in evaluating the likelihood of a defendant reoffending or failing to appear in court. COMPAS uses various data points and algorithms to generate risk scores and recommendations, aiming to provide objective and data-driven assessments. However, there have been concerns about the fairness and accuracy of COMPAS, as studies have shown potential biases in its predictions, disproportionately affecting certain racial and socioeconomic groups.
2. HART stands for "Harm Assessment Risk Tool." HART (Harm Assessment Risk Tool) is another risk assessment tool utilized in the criminal justice system. It is designed to evaluate the potential risk of harm or violence posed by an individual. HART considers a range of factors, including criminal history, behavioural patterns, and demographic information, to assess the likelihood of future violent behaviour. The tool aims to support decision-makers in determining appropriate intervention strategies and allocation of resources. However, similar to other risk assessment tools, HART has faced criticism regarding its potential biases and the potential for negative outcomes, such as over-predicting risks or perpetuating racial disparities.





For a list of references and detailed findings and recommendations access the full report. To access the full report visit percapita.org.au



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