

Cover Page (Individual Submission)

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| INTE2412 Assignment Submission Sheet – Sem 2 2024 |
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| Submission Check | (Tick) |
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| All necessary evidence has been referenced and all citations comply with the preferred style guide. | (✓) |
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Introduction

The ICT report examines at current issues faced by Victorian government information and communication technology (ICT) initiatives. The projects in these are set to enhance digital infrastructure on services such as transportation, water management, education and public safety. However, newer updates uncover considerable problems, including:

- **Cost Overruns:** For example, Greater Western Water's Billing and Collections upgrade came in at \$51.77 million over budget.
- **Project Delays:** It has been more than three years since the replacement of the Asset Management Information System at Goulburn Valley Region Water was delayed.
- **Service Inefficiencies:** Projects are mismanaged and cause significant impact to the delivery of key services across many government entities.

The report is structured as follows: The background (types of cognitive biases which have contributed to Victorian Government ICT project problems) is explored in Section 2. In Section 3 we discuss debiasing techniques and provide strategies to address and mitigate these biases. In section 4 we shall audit the existing governance practices, discussing their efficacy and propose any improvements. Section 5 will close with a list of references to support the analysis and recommendations of the report.

Background

Cognitive bias refers to a systematic error in thinking people make in making decisions and judgment. Emotions, social pressures, personal experiences all influence these biases so that then people stray away from rationality (Gillis, 2023). People will make inaccurate assessments, misinterpret information or make bad decisions because they use mental shortcuts (heuristics), instead of logical analysis.

In the context of report, Cognitive bias causes leaders to rely on mental shortcuts, which leads to misunderstanding, disregarding crucial information, and unsuccessful solutions, especially during crises. Below is a list of issues that the report identifies, all linked to specific cognitive biases contributing to these challenges.

1) Bias: optimism. Bias

Definition: Optimism bias is the tendency of project planners and managers to overestimate project outcomes while underestimating costs, timeframes, and hazards.

Issue: Cost overrun on the Billing and Collection update project for the Greater

Western Water Corporation was \$51.77 million, a blowout (Wilson, 2024).

Explanation: Because of optimism bias, project planners may set unrealistic budgeting and scheduling that assumes that everything will run as planned without considering the wild card. In the case of the update to the Billing and Collection, this bias might have led planners to underestimate the actual costs and in turn, the project exceeded the initial budget by a very wide margin.

2) Bias: Planning Fallacy

Definition: Planning fallacy is when people underestimate how long it takes to do a job even when they have done a similar job before in the past.

Issue: Major disruptions were caused by the three-year delay of the Goulburn Valley Region Water Corporation's Asset Management Information System Replacement Project (Wilson, 2024).

Explanation: The Asset Management Information System Replacement project might have been considered as executable within a certain timeframe by project managers without evaluating past similar projects experiences or task complexity. The underestimation of time requirements resulted in delays due to unexpected challenges, that extended project on time on a schedule that never was predicted.

3) Bias: Anchoring Bias

Definition: An anchored bias is when people use too much reliance on their first information (anchor) and fail to reconfigure their estimates when new data or information is given.

Issue: Projects are mismanaged and cause significant impact to the delivery of key services across many government entities (Wilson, 2024).

Explanation: Project planners analysing a set of data when setting initial budget and timeline for the Courts Case Management System may have anchored their estimates on the first set of data without adequately adjusting to what new insights or risks came to light during project. The result, however, was a very rigid planning and budgeting approach, resulting in cost overruns and inefficiencies.

Debiasing Techniques

1) Bias: Optimism Bias

Debiasing Technique: Contingency Budgeting and scenario Planning

In other words, project planners should use Scenario Planning to generate multiple scenarios (best case, worst case, and most likely), as that will provide multiple views into the potential project reality. They can think through possible different possibilities and potential risks and challenges in given. Further, the inclusion of contingency budgets will help to avoid extra costs that may be unexpected, keeping projects in budget even when things don't go as planned. Helping to mitigate optimism bias is also helping to update plans based on updated progress and new data.

2) Bias: Planning Fallacy

Debiasing Technique: Reference Class Forecasting

The planning fallacy is something that project managers should address with reference class forecasting, i.e. look at similar past projects and compare them with the current project to provide a more realistic creation of the timeline. They use earlier data from previous projects to be able to better estimate how long it will take and anticipate common delays. However, regular progress reviews can also be used to spot and early deal with delays before they get out of hand.

3) Bias: Anchoring Bias

Debiasing Technique: Flexible Planning and Re – evaluation

Consistent with the cognitive reaction to bias such as anchoring, to fight against anchoring bias project teams should adopt a revaluation process where initial assumptions and estimates were revisited and corrected as needed based on new information. Open communication and feedback within the team will attract them to the situation when changes are needed. Flexible planning enables adjustment in the budget and timelines in order to respond to changes in the circumstances and minimize the effects of a reasonably accurate but rigid initial estimate.

Critical Analysis

Artificial Intelligence (AI) integration into IT governance is an emerging trend in the industry, and within Australia. It is no surprise that in almost all sectors, AI is being used to

boost decision-making, optimize processes, and strengthen security. AI has great scope in IT governance since it brings in improved efficiency and risk management and predictive analytics. After all, there's a major challenge with AI deployment, not only in the considerations of ethics, data privacy and in bias (Domin, 2024).

1) Current Scenario of AI in IT Governance

AI technologies are being adopted in IT governance to support areas such as:

- **Automated monitoring and compliance:** With AI tools, IT system compliance with regulations is monitored automatically, and problems are immediately identified that must be rectified (Shaw, M., 2024).
- **Risk assessment and management:** AI can process large amounts of data to signal possible risks and recommend solutions to mitigate them making sure risks are proactively managed (Shaw, M., 2024).
- **Decision-making support:** With this IT leaders can make better decisions based on insights drawn out of patterns and trends in data using AI driven analytics (Shaw, M., 2024).
- **Efficiency and cost savings:** The use of AI for automating routine IT processes can save cost and enhancing operational efficiency (Shaw, M., 2024).

2) Scope of AI in IT Governance

Emerging alliances between IT governance and AI in Australia are increasingly driving the scope of AI in IT governance in Australia, as new technologies in AI advance and the need for sophisticated IT governance mechanisms rise (Domin, 2024). As the complexity of the environment and the rate of change increase, and as compliance requirements become tighter, more and more organizations must adopt AI driven solutions.

Particularly, the use of AI can enable repetitive governance tasks to be automated, and more data driven decision making through insights, and real time monitoring to improve compliance (Shaw, M., 2024).

3) Frameworks for AI IT Governance in Australia

Australia utilizes the ISO/IEC 38507:2022 Information Technology – Governance of IT – Governance Implications of the Use of Artificial Intelligence by Organizations framework, incorporating guidance for organizations to oversee and control the utilization of AI innovations in cases including their consistence with ethical standards and objectives (Government, 2024). This focuses on ensuring that AI technologies are

responsibly, morally and aligned to the organization objectives. As an organization looks to incorporate AI, this framework is important to ensure that the integration can be transparent, accountable, and compliance (Australia, 2022).

Applications

The framework supports AI system deployment organizations in overcoming governance challenges, having alignment with the goals, ethical constraints and legal norms. For this, it takes care that responsible AI is used as it manages the risks, promote transparency and maintain accountability throughout the AI lifecycle (Australia, 2022).

Components

Principles for AI Governance

Provides basic concepts organizations should practice to uninterruptedly use the technology of AI ethically and responsibly. It encompasses fairness, accountability, transparency and privacy. This encourages organizations to draft policies that prescribe how AI ought to be used, and how data is to be managed, and decision making should take place.

Risk Management

Guides how to identify, assess, and resolve risk from AI technologies. It calls for running regular risk assessments to consider risks like the potential for ethical, legal and operational problems arising, for example, through a lack of data privacy or algorithmic biases.

AI System Transparency

It targets the direction of making AI systems more understandable and interpretable to stakeholders. It encourages organizations to better explain AI decisions to users, and for users to understand how AI technologies make and take decisions.

Accountability and Responsibility

In other words, it defines clear roles and responsibilities of AI system development and deployment that are accountable at every stage of developing and deploying these AI systems. Establishes recommendations for oversight mechanisms to monitor the AI projects and advises that they should meet regulations from inside and outside.

Ethical AI Development

The standard provides guidance for the embedding of ethical considerations throughout the AI lifecycle, from its planning at the initial stage to its implementation and maintenance.

It also has provisions to prevent anything to become biased, inclusive and protect user privacy.

Alignment with Business Objectives

Reminds about the strategic alignment between AI initiatives and the company BAU. In a sense, it encourages organisations to appraise the manner in which AI technologies can invest opportunities for accomplishing commercial goals, running operations efficiently and bettering the clients' experiences.

Continuous Monitoring and Evaluation

Tracks the effectiveness and relevance of AI systems, allowing them to be monitored over time to make sure they don't end up out of compliance. It encourages organisations to set up feedback loops to keep their AI systems running and adjust them.

Conclusion

This report highlights the reasons for substantial failure in Victorian Government ICT projects, which are due to cognitive biases, such as optimism bias, planning fallacy, anchoring bias, etc. These biases have resulted in cost overruns, delays, and inefficiencies on a few projects, delaying the delivery of necessary services. These problems need to be addressed by effective debiasing techniques such as contingency planning, reference class forecasting and flexible planning.

In addition, the application of AI to the IT governance has been showcased as a promising chance to boost efficiency, automate processes, and better decision making. However, as AI adoption increases, it is crucial to implement robust governance frameworks, such as ISO/IEC 38507:2022 In order to deploy AI responsibly, ethically, and transparently. When AI initiatives are aligned to the strategic goals by continuous monitoring of their performance, it not only mitigates the risks of digital transformation but also optimizes the benefits of digital transformation for organizations supporting sustainable growth and service delivery.

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