

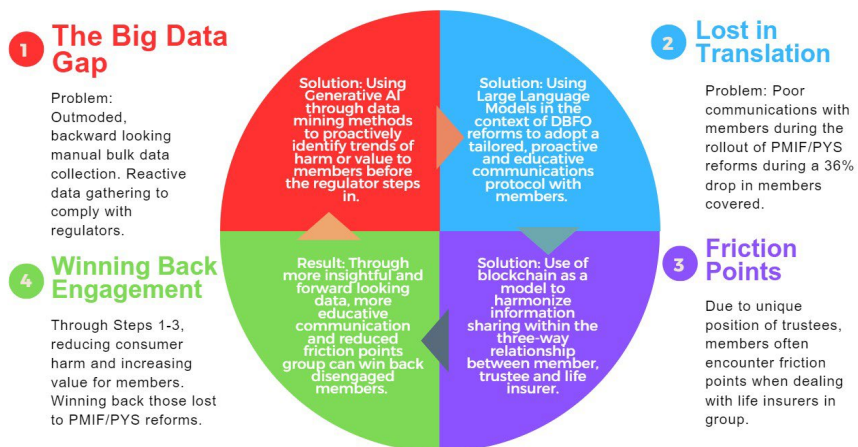
2024 ALUCA Turks Life Insurance Scholarship Winning Paper

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1. Introduction

Most working Australians rely on group insurance to protect their most valuable asset; their lives.¹ With over 63% of life insurance policies, covering 8.5 of Australia’s 14.5 million working population, group insurance remains a foundational pillar of the social safety net.² However, trustees and life insurers cannot take group for granted. Findings by regulators and industry show room for growth through innovation. In fact, innovation is not an option. Not only do trustees (and by extension life insurers) have a duty to act in the best interests of members, but without innovation, they risk those members falling through the gaps.³ This paper raises three (3) core issues and offers three (3) innovations to boot, all leading to one (1) goal – winning members back;

Fig. 1: Core Problems and Solutions
GROUP SUPER



¹ Compare 63% of risk in group super products held within group super to n 3 in KPMG. “Life Insurance Insights 2023”. KPMG Life Insurance Insights Dashboard (9 October 2023)
<https://kpmg.com/au/en/home/insights/2023/10/life-insurance-insights.html>

² See lives insured for Death, TPD and IP as of 2023 in The Association of Superannuation Funds of Australia. *Developments in Insurance Provided through Superannuation*. (Research Paper, Sydney, NSW, 27 February 2024) at Pg. 5-6.

³ Australian Securities and Investment Commission. *Insurance in Superannuation: Industry progress on delivering better outcomes for members* (Report 760, Sydney, NSW, Australia) at Pg. 9.

2. Big Data, Not Bad Data

“Data is like garbage. You’d better know what you are going to do with it before you collect it.”

Mark Twain⁴

At the scale of group, a sense of issues faced by trustees and life insurers only comes from insightful data. In the era of buzzwords like “big data” and “artificial intelligence”, ASIC found several life insurers and trustees unable to provide reliable data regarding their claims handling.⁴ One case involved three (3) life insurers unable to provide reliable data regarding IP offsets reducing benefits payable to members. In another case, several trustees were unable to provide accurate data identifying members funnelled into restrictive TPD definitions.⁵

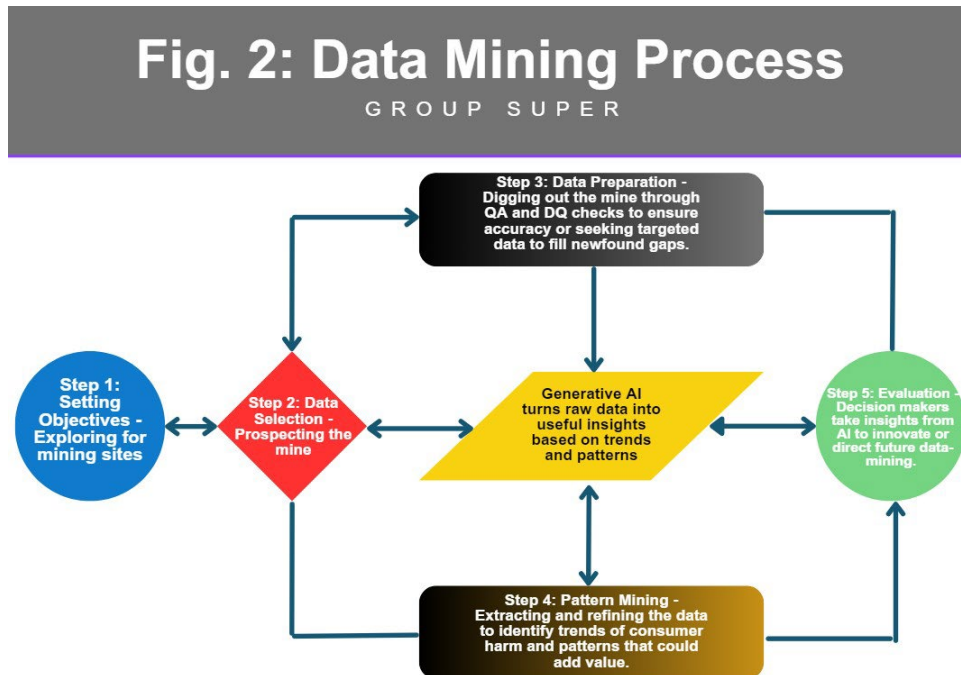
Without accurate and reliable data, it is difficult for life insurers and trustees to demonstrate the existing value of group let alone find added value. This paper recommends filling the big-data gap. Yet, collecting volumes of data is not the issue, given vast amounts of personal information already held.⁶ No, the problem is sifting through the noise, collecting useful data and drawing insightful patterns from it. Presently, trustees and life insurers collect retrospective data to meet regulatory obligations. This paper recommends proactively harnessing the data-mining power of generative AI to draw forward-looking insights.

⁴ Australian Securities and Investment Commission. *Insurance in Superannuation: Industry progress on delivering better outcomes for members* (Report 760, Sydney, NSW, Australia) at Pg. 35.

⁵ Above n 3, at Pg. 30.

⁶ “Insurance in super: Turning data into outcomes”. ASIC (12 March 2021) <https://asic.gov.au/about-asic/news-centre/articles/insurance-in-super-turning-data-into-outcomes/>

Firstly, “data mining” is best explained in gold mining terms. Insightful data is gold, the rest is dirt, and the pan is a system that sifts through dirt to find gold:⁷



The beauty of data mining lies in its open-ended nature, providing constant feedback loops capable of driving more insightful, tailored, and granular data mining in future. Data mining is holistic, examining entire populations based on evolving demands rather than only answering closed-loop questions. Trustees and life insurers still heavily rely on extracting legacy reporting, only providing snapshots of data in time. This wastes time gathering data which is better spent doing what humans still do better than machines – making decisions.⁸

⁷ Holdsworth, Jim. “What is data mining?” IBM (28 June 2024) <https://www.ibm.com/topics/data-mining>

⁸ For example, see a major life insurer in the group insurance space fined \$10 million in 2023 due to consumer harm caused by legacy systems and manual processes in *Australian Securities and Investments Commission v MLC Limited* [2023] FCA 539 at [65].

Secondly, generative AI comes into play. It is commonly understood AI is faster and more accurate at processing data, but AI truly shines in its ability to draw novel insights from data. Using machine learning, AI can be taught to identify patterns based on parameters of consumer harm (bad outcomes) or added value (good outcomes) within any given dataset. AI can evolve, drawing better insights as it is fed more and better directed data – compounding on itself.⁹

ASIC put life insurers and trustees on the spot in Report 760, forcing them to react to adverse historical data showing X number of members experienced Y number of good/bad outcomes.¹⁰ AI can proactively “wargame” millions of hypothetical scenarios at once, calculating probabilities of good or bad outcomes for members before they occur. If AI can simulate “wargames” for the US Navy to predict future threats, it is certainly capable of pre-empting risk of good/bad member outcomes.¹¹ For example, AI could take existing financial (contributions) and occupational status data about different member cohorts, using policy terms as “rules”, to determine the probability of restrictive TPD definitions applying. Affected members could be proactively offered the opportunity to change or cancel TPD cover they would be unlikely able to claim on.¹²

Moreover, AI-run simulations could determine the probability of fully offset IP claims by taking IP benefit formulas, dividing member cohorts based on occupation and income-levels, then apply modifiers based on historical rates of common offsets. AI could identify trends such as low-benefit formulas being more likely fully offset or a class of unemployed members that would be ineligible to claim IP benefits.¹³ Using those insights, life insurers and trustees could focus effort on finding value for money in changes to their insurance design (such as amending offset clauses) or offering to remove default IP cover where appropriate.

⁹ See generally the development of generative AI at generalizing unknown outcomes in Zhang et al. “Understanding deep learning (still) requires rethinking generalization”. *Communications of the ACM*. Vol. 64, Issue No. 3 (2021): 107 at Pg. 8.

¹⁰ Australian Securities and Investment Commission. *Insurance in Superannuation: Industry progress on delivering better outcomes for members* (Report 760, Sydney, NSW, Australia) at Pg. 36 & 37.

¹¹ Lt Cmdr Hyokwon Jung. “A Glimpse into the Future Battlefield with AI-Embedded Wargames”. US Naval Institute (2024) <https://www.usni.org/magazines/proceedings/2024/june/glimpse-future-battlefield-ai-embedded-wargames>

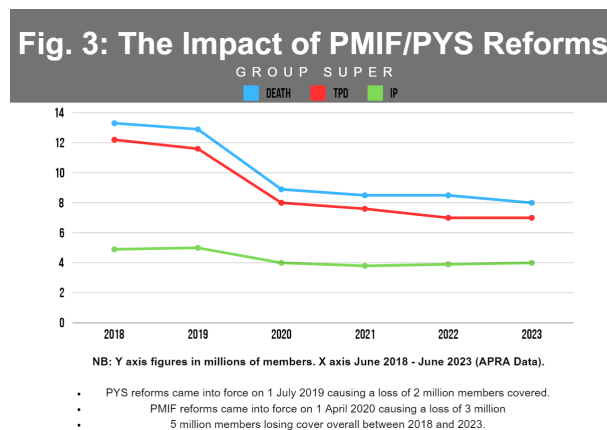
¹² Above n 10 at Pg. 37.

¹³ Above n 10 at Pg. 36.

AI is powerful in both use cases due to its scalability. Millions of data points about an equal number of members needs to be gathered and put through as many simulations – more than human teams could realistically perform. Trustees and life insurers could act proactively to prevent group becoming “junk insurance” members pay for but cannot claim on.¹⁴ AI is already making inroads with use of “Daisee” by insurers to QA phone interactions.¹⁵ Previously, QA teams manually selected random call samples to identify risk, a time-consuming lottery draw. “Daisee” replaced this lottery draw by analysing every phone call, flagging those with negative tones to QA teams, allowing for more efficient resource allocation to capability gaps or development areas before they posed systemic risk. The groundwork is laid; life insurers and trustees must now collaborate in turning AI from a niche selling point into business-as-usual.

3. Lost in Translation: A Communications Transformation

Between 2018 and 2023, ASFA found a 36% decrease in members covered by group insurance, with only 8.5 million of 12 million active members covered. This dramatic decrease coincides with PMIF/PYS reforms, which removed default cover for members under 25, with low-balance accounts or those inactive for over 16-months.¹⁶ Ostensibly introduced to prevent retirement account erosion, the unintended consequence saw 5 million members losing group cover:¹⁷



¹⁴ For context, compare Darcy Song. “Bragg lays out existential threat to ‘junk’ group insurance sector” (26 July 2024) Investment Magazine <https://www.investmentmagazine.com.au/2024/07/bragg-lays-out-existential-threat-to-junk-group-insurance-sector/> to problems with member’s understanding what they are paying for in Susanbell Research. *Consumer Engagement in Insurance in Super* (Final Report for ASIC, 2020) at Pg. 21.

¹⁵ Daisee. “A Complicated Contact Centre Space: daisee brings AI driven growth to DXC Claims Management”. (Daisee White Paper, 2022) at Pg. 3-4.

¹⁶ The Association of Superannuation Funds of Australia. *Developments in Insurance Provided through Superannuation*. (Research Paper, Sydney, NSW, 27 February 2024) at Pg. 5-6.

¹⁷ KPMG. “Life Insurance Insights 2023”. KPMG Life Insurance Insights Dashboard (9 October 2023) <https://kpmg.com/au/en/home/insights/2023/10/life-insurance-insights.html>

Trustees and life insurers are not solely to blame for this gap in the safety net, but the onus rests on them to win it back. One way to do so is by transforming the way they communicate with members. ASIC found communications with members (while improved) remained a core issue between their initial review (2019) and follow-up (2023).¹⁸ Despite tailoring correspondence with members based on market research, trustees and life insurers communications still “inform” rather than “educate”. Using broad-sweeping, generic correspondence such as PDS’s or Annual Statements may meet regulatory obligations, but it does not create engaging member experiences. This paper recommends transforming from an informative to educative communications protocol by leveraging Large Language Model (LLM) chatbots. Life insurers and trustees can close the gap between the cost-effective economies of scale inherent to group and the bespoke but often unaffordable individually advised retail policy.¹⁹

ASIC consumer research found a leading cause of negative member perceptions to be difficulty understanding information overload in trustee communications. But when members had conversations with helpful agents over phone-calls, who could answer questions about group insurance, perceptions became positive.²⁰ Building phone capacity is resource intensive and difficult to scale without inconvenient wait-times. Investing in phone contact remains critical to serve ageing or vulnerable populations but it is no longer the preferred means of interaction for younger working-age populations as the convenience of applications proliferates.²¹ In the context of pending Delivering Better Financial Outcomes (DBFO) reforms, opportunities exist to create more immersive, educative communications with members via LLM chatbots. Through conversation, LLM chatbots keep members engaged where it counts, empowering them to make key decisions which optimize their group cover to provide the most value for money.

¹⁸ Australian Securities and Investment Commission. *Insurance in Superannuation: Industry progress on delivering better outcomes for members* (Report 760, Sydney, NSW, Australia) at Pg. 8 & 28.

¹⁹ Compare the claims ratio between group and retail policies in The Association of Superannuation Funds of Australia. *Developments in Insurance Provided through Superannuation*. (Research Paper, Sydney, NSW, 27 February 2024) Pg. 7.

²⁰ Susanbell Research. *Consumer Engagement in Insurance in Super*. (Final Report for ASIC, 2020) at Pg. 7, 31-32.

²¹ Michelle Bosse, Stegan Sackmann and Garbielle Meyer. “IT Skills of Young and Older People: A Qualitative Study”. *International Journal of Human-Computer Interaction*: 1–11. <https://doi.org/10.1080/10447318.2024.2319916> at Pg. 1 & 4.

Firstly, the first tranche of DBFO reforms accepted recommendations allowing trustees to provide more personalized superannuation advice to members considering their individual circumstances.²² CALI is also working with government on the second tranche to allow life insurers to provide “simple advice” about their products at no cost to members.²³ With such reforms, answers can be provided to members questions rather than turning them away.

Secondly, LLM chat-bots like Open AI’s “ChatGPT” could be integrated into existing applications used by members to manage their group cover.²⁴ LLM’s are built off complex neural networks (inspired by the human brain), trained to produce human-like understanding from large datasets. LLM chat-bots could take questions from members, extrapolate from AI-driven data-mining insights as discussed earlier, and produce answers based on context the member provides in live conversation. LLM chatbots do not replace, but compliment, traditional communication by prompting conversations about that correspondence in a scalable, tailored way.

Both DBFO reforms and LLM chat-bots enable a shift from “informing” members about group through generic correspondence towards “educating” members through dynamic conversations about how group insurance can work for members. Better educated members, who understand how group fits their needs, are significantly less likely to experience adverse outcomes and more likely to stay engaged.²⁵

²² See Recommendation 6 in the Australian Government. *Quality of Advice Review* (Final Report, 2022) at 7.2 and compare to Australian Government. *Delivering Better Financial Outcomes*. (Final Response, 2023) at Pg. 2.

²³ CALI. “Australia’s life insurers welcome passage of first phase of financial advice reforms”. (4 July 2024) <https://cali.org.au/australias-life-insurers-welcome-passage-of-first-phase-of-financial-advice-reforms/>

²⁴ Li et al. “Large Language Models in Finance: A Survey”. *Proceedings of the Fourth ACM International Conference on AI in Finance* (2023); 374-382 at Pg. 1-2.

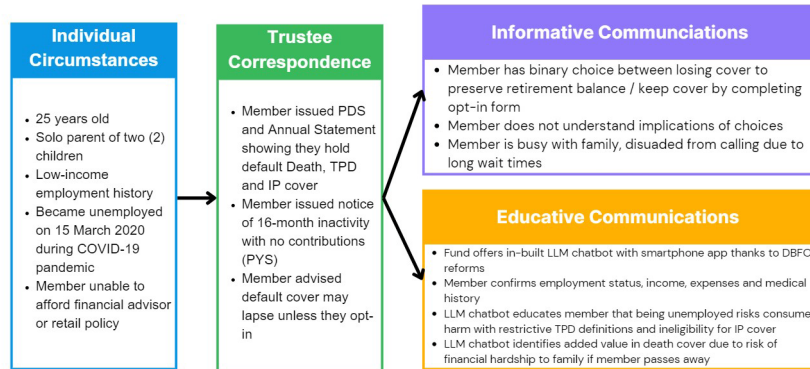
²⁵ Susanbell Research. *Consumer Engagement in Insurance in Super*. (Final Report for ASIC, 2020) at Pg. 30-32.

For example, consider a member (Fig. 4):²⁶

Fig. 4: PMIF/PYS Member Case Study

GROUP SUPER

MEMBER A: THE DIFFERENCE BETWEEN INFORMATIVE AND EDUCATIVE COMMUNICATIONS

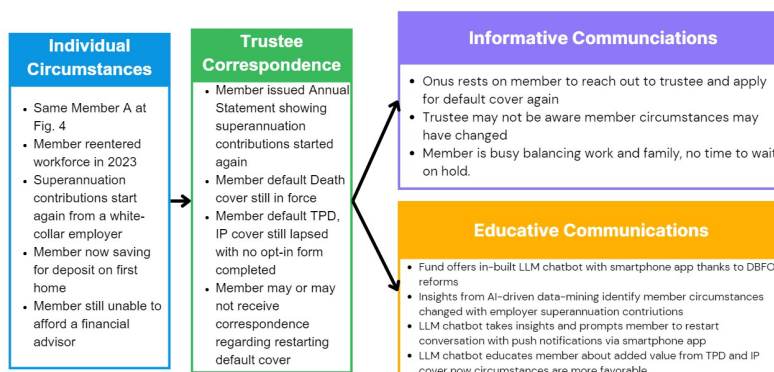


Using AI-driven data-mining insights, LLM chatbots could identify the risk of consumer harm by spotting this member may be subject to restrictive TPD definitions and ineligible for IP cover being unemployed. However, it may find value for them in keeping death cover if their family would experience financial hardship without them. Further, if this member re-enters the workforce and contributions start again (Fig. 5):

Fig. 5: PMIF/PYS Member Case Study

GROUP SUPER

MEMBER A: FILLING THE LOST GAP - RECONNECTING WITH PMIF/PYS THRESHOLD COHORT



²⁶ For an example of LLM chatbots in action in a highly regulated industry look to Australia's largest telecommunications company (Telstra) servicing over 18 million customers in IBM. "Telstra turns AI into digital transformation" (10 July 2020) <https://www.ibm.com/blogs/ibm-anz/telstra-turns-ai-into-digital-transformation/>

AI-driven data-mining could identify triggers (changing employment status) and work in tandem with LLM chat-bots to prompt this member to reopen the conversation through “push notifications”. This member is then empowered to reconsider opting-in to IP and TPD cover now their circumstances are more favourable. Such methods are an effective strategy for reengaging those members lost to PMIF and PYS thresholds.²⁷ Noting each trustee and life insurer has their own risk-appetite, guard-rails should be considered such as building “red-flags” into the LLM model (i.e. complaints/disputes) to direct complex queries to human agents where appropriate.

Broad-sweeping correspondence cannot possibly consider each members individual circumstances, and financial advisors are beyond the reach of this member. With generic correspondence, members would struggle to understand the binary choice between allowing cover to lapse (preserving retirement balance) or keeping cover (completing opt-in forms). LLM chat-bots offer scalable, cost-effective ways of reshaping communications with this member, enabling them to consider tailored options so they can make better educated decisions. A preferable outcome to them simply becoming one of 5 million members who lost cover following PMIF/PYS reforms.²⁸ Whilst existing debate on PMIF/PYS reforms focuses on the gaps left in the safety net, little attention has been paid to the important task of winning members back. LLM chat-bots empower members to make informed decisions and get more value from group, with those decisions feeding into AI-driven data-mining needed by trustees and life insurers to optimize group insurance for members.²⁹

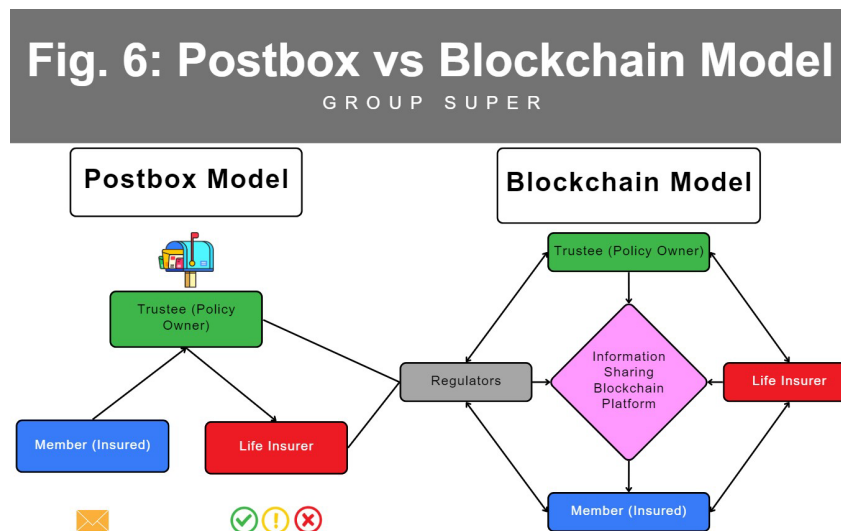
²⁷ The Association of Superannuation Funds of Australia. *Developments in Insurance Provided through Superannuation*. (Research Paper, Sydney, NSW, 27 February 2024) at Pg. 5-6.

²⁸ Above n 27.

²⁹ Andrei Haigu and Julian Wright. “To Get Better Customer Data, Build Feedback Loops into Your Products” (11 July 2023) <https://hbr.org/2023/07/to-get-better-customer-data-build-feedback-loops-into-your-products>

4. A Spring Clean - Decluttering the Friction Points

Friction occurs whenever members experience unnecessary barriers preventing them from engaging with their group insurance. Unlike the binary relationship between insurer and insured in ordinary insurance contracts, there exists a unique friction multiplier in group - the three-way relationship between member, life insurer and trustee. ASIC found a poignant example of friction with an increase of members withdrawing TPD claims from 5% in 2018 to 6.7% in 2022.³⁰ Trustees have made steps in the right direction, offering educational material and digital/tele-intake options, but these do not change the fact trustees still act as better signposted “post-boxes”.³¹ More engaging member experiences require trustees to look to blockchain for inspiration. Not simply an information-sharing tool, blockchain provides both model and tools to build a more collaborative relationship between the parties (Fig. 6):³²



³⁰ Australian Securities and Investment Commission. *Insurance in Superannuation: Industry progress on delivering better outcomes for members* (Report 760, Sydney, NSW, Australia) at Pg. 7 & 24.

³¹ Above n 22 at Pg. 25.

³² For context on how a blockchain network works, see generally Nakamoto, Satoshi. *Bitcoin: A Peer-to-Peer Electronic Cash System* (White Paper, 2008) <https://bitcoin.org/bitcoin.pdf> at Pg. 3.

“Post-box” models have trustees reliant on life insurers to collect information and make accurate decisions. Here, trustees are gatekeepers between members and life insurers. Use of siloed systems also means life insurers and trustees may burden members with duplicate requests or struggle to provide consistent data to regulators. Blockchain, conceptually, involves decentralized networks of autonomous “blocks” of data along a “chain”. Each “block” has a unique “hash”, or key, which users can check to independently verify the outcome reached by all others. Blockchain requires zero-trust between users, who do not rely on one user to be correct but instead must reach consensus for transactions to be recorded on the ledger.

ASIC identified friction in the lack of information sharing SLAs between life insurers and trustees.³³ Few trustees have real-time access to life-insurers systems, but most use siloed systems to manage member data. This paper recommends trustees seize the opportunity to host blockchain platforms as a secure and efficient method of information sharing with life insurers and members. Strong use cases exist to prevent superannuation fraud.³⁴ Here, researchers applied blockchain models to ensure contributions were correctly paid by employers into member’s accounts in a way members, the ATO and trustees can independently verify in real-time.

Like cryptocurrency transactions executed on ledgers, a blockchain platform would enable all parties (including members) to lodge, update and track the progress of claims in real-time. Life insurers can request information, and trustees or members can respond to those requests, with all parties on the same page about where a claim is at due to the need for consensus on blockchain.³⁵ Blockchain platforms offer better security than existing server-based applications given each party holds cryptographically unique keys that ensures data-privacy more efficiently than traditional security checks.

³³ Australian Securities and Investment Commission. *Insurance in Superannuation: Industry progress on delivering better outcomes for members* (Report 760, Sydney, NSW, Australia) at Pg. 32.

³⁴ Chalani Mudiyansele, Pethigamage Perera and Sriamannarayana Grandhi. “A Blockchain-Based Model for the Prevention of Superannuation Fraud: A Study of Australian Super Funds”. *Applied Sciences*. Special Issue, Vol 3 (2023): 9949 at Pg. 24-25.

³⁵ Above n 33 at Pg. 21.

For younger tech-savvy members, they have the confidence of being empowered to track their claims in real-time. For older or vulnerable members, trustees can step-in and use the same real-time visibility to follow up on member's behalf. Blockchain also compliments both AI-driven data-mining by feeding it live metadata it needs to draw insights and LLM chatbots by facilitating conversations with member's who may query the reasons for each step in the process.

ASIC noted that whilst all 15 trustees in Report 760 reviewed claims with adverse outcomes to ensure life insurer's decisions were correct, only nine (9) performed "deep-dives" into samples of all claims for set periods. None had a holistic picture of trends across all claims or friction points that may cause withdrawals.³⁶ Focusing on adverse outcomes or limited samples may target instances of consumer harm after they have occurred but does not holistically identify future risk of friction points nor value adding opportunities.

Combined with AI-driven data-mining discussed above, trustees can use the wealth of data on blockchain platforms to conduct QA-style deep-dives into all aspects of their life insurers claims handling in real-time. Life insurers also benefit from access to member data already held by trustees, reducing delays caused by information requests. Deep-dives will allow trustees to be proactive in the best interests of members before regulators step in, with live visibility across trends of consumer harm and added value. Trustees and life insurers could use data drawn from blockchain to upgrade their communications with members or policy design in evidence-based ways.

5. Conclusion

In summary, group remains a foundational pillar of Australia's safety net. Though gaps have appeared, taking onboard feedback from regulators, trustees and life insurers are well-placed to leverage innovations in data mining, generative AI and blockchain to close those gaps - strengthening the value for money group insurance provides for members. The recommendations in this paper only scratch the surface of ways trustees and life insurers can put those innovations into action.

³⁶ Australian Securities and Investment Commission. *Insurance in Superannuation: Industry progress on delivering better outcomes for members* (Report 760, Sydney, NSW, Australia) at Pg. 25.

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