

Risk Event and Audit Oversight in Motor Claims



Research into Risk Event and Audit oversight dashboard with potential for predicting future areas of weakness and future risk events

Student: Adam Smith 2317631

Industrial Partner: Admiral Group



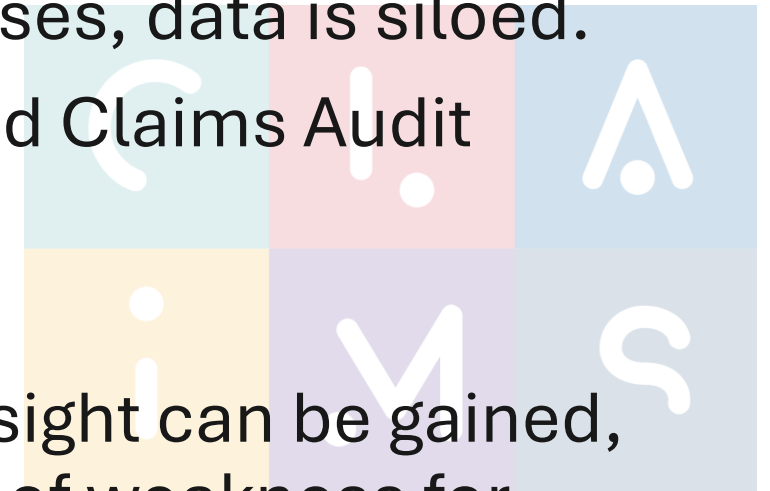
Research Context

- Risk is an inevitable consequence of doing business – Without Risk there is no enterprise.
- A risk event is ‘an unplanned occurrence which materialises a risk and results in an impact on an organisations operations, finances, customers, regulatory compliance or strategic objectives.’
- Financial services including insurance is heavily regulated by PRA and FCA
- Organisations utilise Risk Management and Audit to (hopefully) reduce the number of risk events, and the severity of those that do occur.

Research Problem

- Claims Risk Events are managed by the Claims Risk function.
- All risk events are managed by the same dept, data is siloed
- Claims Audit review departments and processes, data is siloed.
- There is no crossover between Risk Events and Claims Audit findings.

It is possible that by combining both, better oversight can be gained, allowing for possible prediction of future areas of weakness for targeted reviewing and gaining business advantage.



Research Aim and Objectives

Aim:

To evaluate whether combining oversight and analysis from the Claims Audit and Claims Risk Event functions can generate additional value by identifying control gaps, reducing future risk events, and supporting the prediction of emerging risks, without introducing onerous new controls that limit business flexibility.

Objectives:

- Produce combined data set
- Analyse for patterns to identify weaknesses
- Evaluate additional insight gained
- Develop dashboard
- Assess if combined approach provides additional value



Literature Review

Cornwell et al[6]
Operational risk analytics across financial services and energy sections are increasingly central to ERM

M As'ad [7]
Near miss events can provide decision grade intelligence when analysed systematically

M Y Noch [9]
Positive association between risk disclosures and business performance. Findings are isolated from risk events.

Peres & Ferreira [10]
AI powered systems integrate diverse datasets to produce dashboards. Integrated analytics can reveal patterns not visible in siloed data sets

Research Methodologies

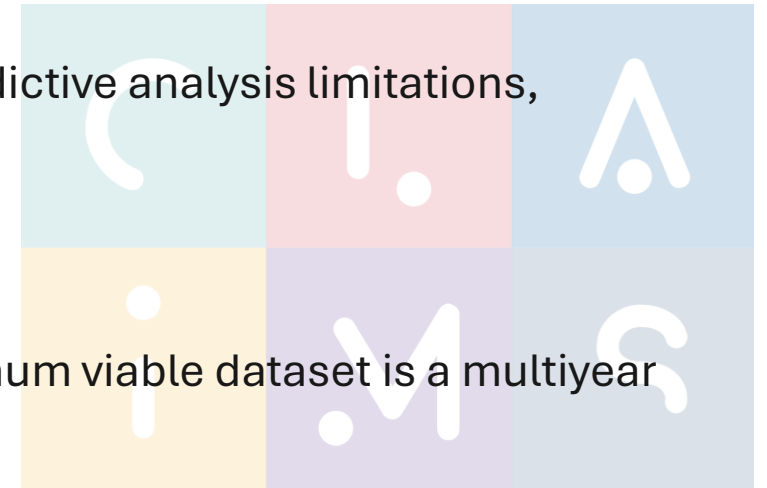
Philosophy: Mixed approach, combining positivism and phenomenology

Approach: Mixed – Both inductive and deductive

Risks & limitations: Incomplete or inconsistent data, Time constraints, Predictive analysis limitations,
Limited access to sensitive company data

Ethical issues: Confidential Data, Protecting reputation.

Data Collection: All data will be provided by the Industrial partner. The minimum viable dataset is a multiyear sample of all audits and risk events.



Resources / Materials

Hardware: Industrial partner provided laptop

Software Resource: Microsoft Excel
Power BI
R Studio
Python

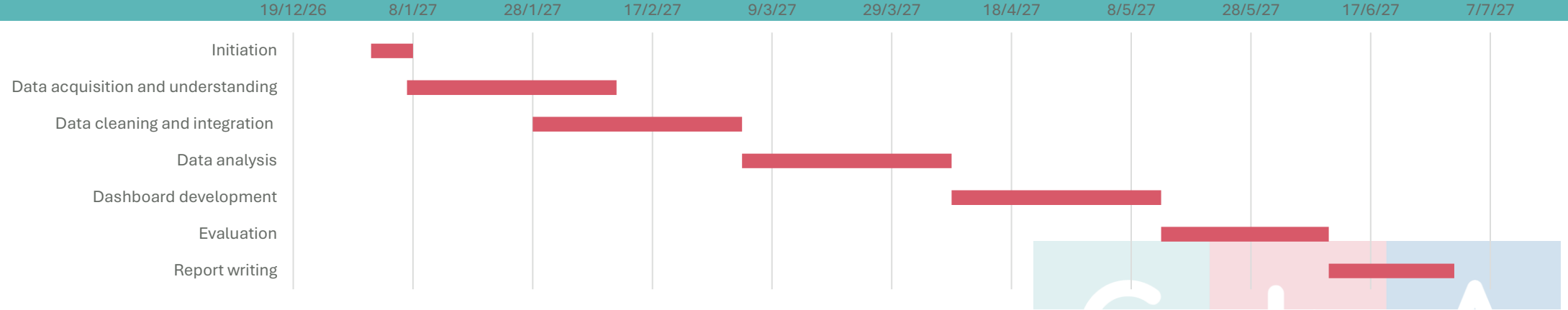
Data Resource: Claims Audits
Claims Risk Registers
Claims Risk Events

Human Resource: Author
Lecturer
Industrial partner SME's

Cost Resource: Nil

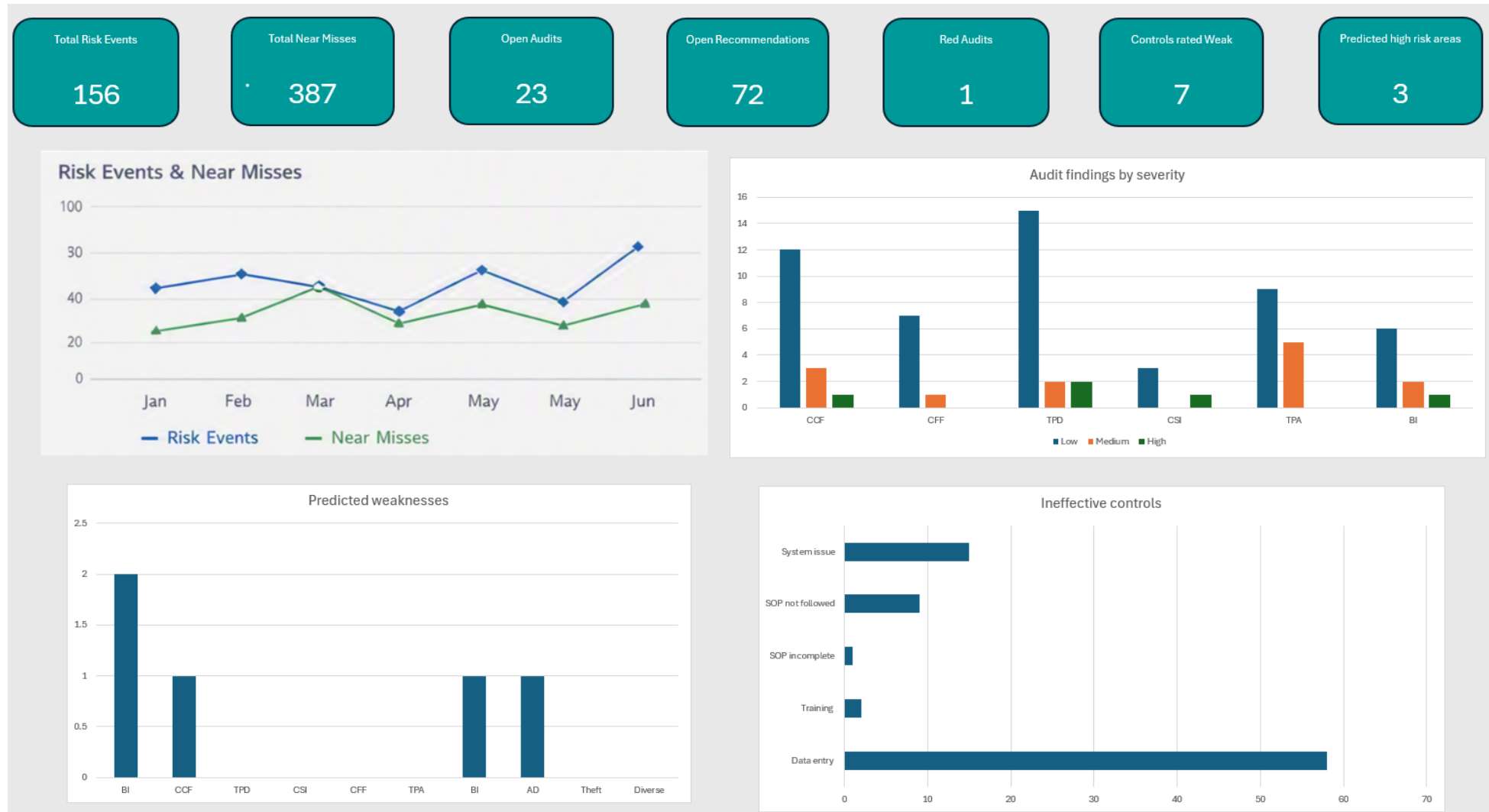


Project Plan



Phrase	Activities	Timeline
Initiation	Finalise aim, objectives, methodology etc from feedback on proposal	January 2027 1 week
Data acquisition and understanding	Obtain Claims Audit reports, Claims Audit risk coverage tracker, Claims Audit plan tracker, Claims risk registers, and risk event data. Review structure. Identify any gaps present. Identify if any additional data required.	3 – 5 weeks Jan – Feb
Data Cleaning and integration	Standardise formats; merge datasets; prepare analytical dataset	3 – 5 weeks Feb – March
Data analysis	Trend analysis, correlation analysis, quantitative interpretation	3 - 5 weeks March – April
Dashboard development	Build dashboard; refine visualisations; stakeholder feedback	3 - 5 weeks April – May
Evaluation	Assess organisational value – evaluate predictive potential	2 - 4 weeks May - June
Report writing	Complete final report, prepare dashboard documentation and presentation for industrial partner stakeholders	2 – 3 weeks June - July

Dashboard Example



References

- [1] Bank of England, *The Bank of England's approach to enforcement: statements of policy and procedure*, Annex 1: *The PRA's approach to enforcement*, London, U.K., Jan. 2024.
- [2] F. W. H. Chan, W. -S. Chan and J. S. H. Li, "Actuarial assessment of damages in personal injury litigation: how precise are we?," in *Law, Probability and Risk*, vol. 11, no. 1, pp. 25-39, March 2012
- [3] Open Risk Academy, "Risk Event," *Open Risk Manual*, 2024. Accessed: Aug. 23, 2026. [Online]. Available: https://www.openriskmanual.org/wiki/Risk_Event
- [4] Institute of Internal Auditors, *The IIA's Three Lines Model: An update of the Three Lines of Defence*, Altamonte Springs, FL, USA, July 2020.
- [5] Prudential Regulation Authority, *Restatement of CRR and Solvency II Requirements in PRA Rulebook – 2026 Implementation*, Policy Statement PS12/25, Bank of England, Jul. 2025. Available: <https://www.bankofengland.co.uk/prudential-regulation/publication/2025/july/restatement-of-crr-and-sii-requirements-in-pra-rulebook-policy-statement> [Accessed: Aug. 29, 2026]
- [6] N. Cornwell, C. Bilson, A. Gepp, S. Stern, and B. Vanstone, "The role of data analytics within operational risk management: A systematic review from the financial services and energy sectors," *Journal of the Operational Research Society*, vol. 74, no. 1, pp. 374–402, 2023.
- [7] M. As'ad, "Near miss reporting and organizational learning in health care: Conceptual framework development study," *JMIR Human Factors*, vol. 13, p. e87846, 2026.
- [8] SmartQHSE, "Predictive Safety Analytics, *Predictive Safety Analytics — Complete Guide*", 2026. Accessed: Aug 27, 2026. [Online]. Available: <https://www.smartqhse.com/safety-blog/predictive-safety-analytics-guide-2026>
- [9] M. Y. Noch, "A critical analysis of risk auditing: An auditor's approach," *Golden Ratio of Auditing Research*, vol. 4, no. 1, pp. 1–13, Jan. 2024.
- [10] R. Pires and D. Ferreira, "AI-powered safety: Transforming occupational risk management through predictive intelligence," *Procedia Computer Science*, vol. 280, pp. 929–934, 2026.
- [11] W. Y. Leong, "AI-driven predictive safety analytics for accident prevention in smart manufacturing," in *Intelligent Manufacturing and Cloud Computing: ICIMCC 2025 Proceedings*, 2026.
- [12] Institute of Internal Auditors, *The Three Lines Model: An Update of the Three Lines of Defense*, 2020.
- [13] G. Monahan, "Operational risk management literature (ERM frameworks)," in *Enterprise Risk Management: A Methodology for Achieving Strategic Objectives*, Hoboken, NJ, USA: John Wiley & Sons, 2008, ch. 2.
- [14] A. D. Livingston, G. Jackson, and K. Priestley, "Root cause analysis: Literature review," *Health and Safety Executive*, Suffolk, UK, Contract Research Rep. 325/2001, 2001.
- [15] K. Alles, "The evolution of audit analytics: Opportunities and challenges," *International Journal of Disclosure and Governance*, vol. 12, no. 2, pp. 103–122, 2015.
- [16] G. Burstein and I. Zuckerman, "A structured causal framework for operational risk quantification: Bridging subjective and objective uncertainty in advanced risk models," *Mathematics*, vol. 13, no. 15, pp. 1–18, Jul. 2025