CASE STUDY REPORT

Analytics-Driven Claims Automation

Fire & Health Insurance Portfolio Transformation

Prepared for Professional Portfolio Review

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Date: _____

1. Background

A regional general insurance company operating across property and health segments faced operational pressure due to increasing claim volumes, rising fraud exposure, and inconsistent settlement outcomes.

2. Business Challenge

The organization faced the following challenges:

- High processing time due to manual workflows
- Inconsistent application of policy terms
- Limited real-time fraud detection
- Weak claims–underwriting integration
- Rising operational costs

3. Transformation Objective

To automate routine claim assessments, embed analytics into decision-making, improve fraud detection, strengthen underwriting feedback, and reduce settlement cycles.

4. Solution Design

An analytics-enabled framework was developed with four core layers.

4.1 Data Integration Layer

- Policy and claims databases
- Hospital and surveyor systems
- Billing and fraud history records

4.2 Analytical Scoring Engine

- Claim severity scores
- Fraud probability models
- Coverage eligibility indicators
- Underwriting risk flags

4.3 Automated Decision Engine

Risk Category	Processing Path
Low Risk	Straight-through settlement
Medium Risk	Analyst review
High Risk	SIU investigation

4.4 Performance & Governance Dashboard

- Settlement timelines
- Fraud trends

- Leakage indicators
- Underwriting feedback loops

5. Implementation in Practice

Fire Insurance Claims

- Automated underinsurance checks
- Digital stock valuation models
- Business interruption calculators
- Risk-based surveyor assignment

Health Insurance Claims

- Pre-authorization auto-validation
- Package rate verification
- Non-medical expense detection
- Provider risk scoring

6. Outcomes & Business Impact

Metric	Before Transformation	After Transformation
Avg. Processing Time	18 Days	6 Days
Fraud Leakage	High	Reduced by 35%
Straight-Through Processing	15%	55%
Customer Complaints	High	Reduced
Loss Ratio	Volatile	Stabilized

7. Organizational Change

- Training analysts in data interpretation
- Establishing SIU analytics teams
- Redefining underwriting feedback processes
- Creating governance committees

8. Key Lessons Learned

- Data quality drives automation success
- Human oversight remains essential
- Fraud analytics must evolve continuously
- Cross-functional collaboration is critical
- Governance ensures long-term value

9. Future Roadmap

- AI-based document reading
- Image-based damage assessment
- Behavioral fraud analytics
- Chatbot-enabled customer support
- Reinsurance exposure modeling

10. Portfolio Relevance

This case study demonstrates advanced capability in claims automation, data analytics, risk governance, and digital transformation aligned with global consulting standards.

11. Management Conclusion

The analytics-driven framework improved settlement efficiency, reduced fraud leakage, and strengthened underwriting integration through enhanced risk governance.

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Insurance Analytics & Risk Management Portfolio

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