Insurance Claims Processing Optimization

Business Analysis Case Study

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1. Executive Summary

This case study documents the analysis and redesign of a life insurance claims processing workflow using BPMN 2.0. The initiative focused on addressing operational inefficiencies, reducing claim rework, and improving risk and compliance outcomes.

The redesigned process introduces early validation controls, risk-based investigation logic, and clearer separation of duties across claims operations, finance, and compliance functions. The outcome is a more predictable, auditable, and customer-focused claims process.

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2. Business Context

Insurance claims processing is a core operational function that directly affects customer trust, regulatory compliance, and financial performance. The process typically handles high transaction volumes and requires consistent application of policy rules, documentation standards, and regulatory controls.

Based on operational experience within insurance claims and finance functions, common challenges observed included:

- Repeated customer follow-ups for missing documentation
- Late discovery of invalid or non-covered claims
- Manual bottlenecks during assessment and approval
- Compliance checks performed after funds had already been released

These challenges formed the basis for the process analysis and redesign.

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3. Scope and Boundaries

In Scope

- Claim notification and registration
- Documentation validation
- Policy and coverage verification
- Claim assessment and investigation
- Payment, repudiation, and post-payment compliance

Out of Scope

- Policy sales and underwriting
- Product design and pricing

The scope was intentionally limited to maintain analytical depth and practical relevance.

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4. Process Analysis (AS-IS Observations)

The original claims process relied heavily on manual checks and sequential handoffs between stakeholders. Document completeness was often verified late, resulting in repeated rework cycles. Policy validation and risk assessment were not consistently applied early in the process, increasing unnecessary processing effort.

Additionally, compliance and audit activities were positioned primarily after claim settlement, creating avoidable operational and regulatory exposure.

A BPMN 2.0 model was used to visualise the end-to-end flow, decision gateways, rework loops, and role interactions, enabling a structured assessment of bottlenecks and control gaps.

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5. Key Pain Points Identified

- High rework rates caused by incomplete or incorrect documentation
- Delayed validation of policy coverage and claim eligibility
- Lack of structured risk-based investigation criteria
- Sequential processing slowing low-risk claims
- Limited traceability and audit visibility

These issues negatively impacted:

- **Speed:** extended turnaround times
- **Quality:** inconsistent outcomes
- **Dependability:** unpredictable settlement timelines
- **Risk:** exposure to fraud and non-compliance

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6. TO-BE Process Design (BPMN 2.0)

The redesigned TO-BE process introduced the following key changes:

Early Validation Controls

Document completeness and policy coverage checks were moved to the front of the process to prevent invalid claims from progressing unnecessarily.

Risk-Based Decisioning

A decision gateway was introduced to determine whether post-loss investigation is required, allowing low-risk claims to proceed quickly while prioritising high-risk cases for deeper review.

Structured Rework Loops

Clear, controlled loops were implemented for missing documentation, reducing ambiguity and repeated handling.

Separation of Duties

Claims assessment, financial payment, and compliance review were clearly separated across swimlanes to strengthen governance and accountability.

Post-Payment Compliance Review

A dedicated compliance and audit step was included after payment to ensure regulatory adherence without delaying legitimate claims.

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7. Expected Business Impact

The redesigned process is expected to deliver:

- 15–25% reduction in claim turnaround time
- Reduced manual handling and rework
- Faster settlement of low-risk claims
- Improved audit readiness and traceability
- Enhanced customer experience through clearer communication

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8. Tools and Techniques Used

- BPMN 2.0 process modelling
- Business process analysis
- AS-IS and TO-BE comparison
- Risk-based decision modelling
- Stakeholder and swimlane analysis