Case Study of AI Application

Beyond Excel Limitations: AI-Driven Insurance Reconciliation Transformation

Results of AI application:

- Total Resource Process time: 33.75 person days to 6.25 days by an approximate **81% reduction.**
- Total processing time from 5 to 6 working days to 2.5 working days - an approximate **50% reduction** – concurrently reducing resource stress and delays.
- Effective redeployment of 4 staff members to higher-value month-end activities within the organisation.
- Substantially enhanced data reliability through consistent formatting and error checking with final process output file delivered with less time and less risk of delays.
- Key dependencies on specific resources significantly reduced allowing the process to be managed by a wider pool of managers.
- Overall quality of data corrections improved since resources could focus systematically on issues
- Significant reduction in non-value add processing time.
- Feedback loops to data capture staff due to standardized insights and MI regarding processing and validation.
- Enhanced data output file reliability through consistent formatting and error checking.
- Estimated annual cost savings of **£85k** in time costs and additional improvements in operational efficiencies for an approximate **81% cost reduction**.
- ROI achieved within the 3 months following implementation.

NO	STEP	Approx. Before	Aprrox.After	Approx %	Result
1	Data Collation	15	2	87%	Reduction
2	Data Processing & Structuring	45	5	89%	Reduction
3	Data Error ID	90	7	92%	Reduction
4	Data Correction	105	28	73%	Reduction
5	MI & Extracts	13	2	15%	Reduction
6	Process Improvements & Training	2	6	300%	Improvement
		270	*50*	81%	Overall reduction

Situation

A large insurer administrator (multiple products and service providers) faced significant operational challenges in reconciling time critical product activations, amendments, lapses and de-activations

- Over 80 employees at the 5 regional centres were capturing the product changes into multiple suppliers data capture systems.
- Confirmation of product coverage was crucial since errors could result in clients not receiving critical care with severe medical and legal repercussions.
- Despite extensive training with the calibre of staff plus high staff turnover in the regional centres, the data capture quality and completeness was erratic and poor.

- Products suppliers were generally good with submission deadlines but all had different data extracts and content that then had to be compared and validated against internal sources.
- There was tight confirmation deadlines, creating extreme pressures with the corrective process being unpredictable with bottlenecks and delays in the process.
- Headquarters had to dedicated between 2 senior and 4 senior staff to conduct the reconciliations process (largely excel based) from the product suppliers.
- Excel's performance limitations became apparent when handling the volume of data across numerous tabs and spreadsheets – as well as co-ordinating the activity of multiple users.
- The internal resources also had variations and limitations in Excel skills meaning that recon capacity and capability was severely impacted by leave and illness.
- The variations in data required several data structuring steps, logical loops and checks to triage and group various problems for escalation by different teams and departments.
- Some cases needed the application of risk based logic to assess if coverage was deemed appropriate regardless of data errors or shortfalls.
- The entire recon process typically consumed a 5 to 6 full day's work for 6 resources.
- Regular delays in critical consumer coverage updates to be distributed to medical suppliers country wide.

Four-Stage Recon Process

Stage 1: Data Processing Consolidation : Airtable

- Implemented a data pipeline to transfer data from diverse product suppliers Excel formats into Airtable.
- The Airtable solution provided superior error control, rules application, scalability and audibility compared to Excel.
- AI algorithms were developed to recognize data error types patterns across different product providers due to variation in spreadsheet formats and inherent product data structures.
- Machine learning models corrected and standardized the inconsistent data formats and identified potential errors.
- Cloud-based architecture allowed simultaneous data consolidation, access and real-time visibility into the overall process and status.

Stage 2: Rule Based Assessments and Feedback : Airtable

- Automated validation rules flagged potential discrepancies for human review.
- The error data was segmented into relevant groups and levels of risk and urgency that impacted the resources required to review and remediate.
- Senior resources were freed up to actually review data segments for issue commonality.

Stage 3: AI Rules Improvements & MI : Make

- As new errors and patterns identified a structured update of AI engine was implemented.
- Standardized error identification and correct significantly improved process speed and quality.
- Less dependence of varied skills and rule applications by humans.
- Clear Mi allowed for immediate identification of gaps in data sourcing, processing.

Stage 4: Enhanced Communication (internal & external)

- AI-powered process allowed more time for Senior managers to improve the training of data capture staff.
- The improved MI allowed resources to be allocated in real-time and prioritized corrective actions based on urgency and value impact
- Overall training improved – correcting errors at source.