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CASE STUDY:
AUTOMATING INVOICE PROCESSING FOR AN INTERNATIONAL SHIPPING AND LOGISTICS COMPANY



The challenge

Client company having multiple business units (BUs), faced a significant challenge with invoice processing. Each BU received numerous invoices via email in various formats and layouts from multiple trading partners. This required each BU to have a dedicated mailbox, adding administrative overhead. It also slowed down the manual data entry of invoice processing and created bottleneck; high error rates due to inaccurate data entry led to delays, rework, and potential financial errors. Their existing solution relied heavily on manual intervention to handle inconsistencies, making it cumbersome to adapt to new or changing invoice formats.

Client company background

For over 150 years, our client, headquartered in Denmark, has been a leader in international shipping and logistics. They operate a vast network of ferry routes and offer comprehensive logistics solutions, facilitating the movement of goods and people across borders. Their comprehensive services encompass ferry transportation, logistics solutions including road, rail, and sea freight, container shipping, and supply chain management.

Client goals

- **Centralize Processing**: Automate invoice collection from a single source for all BUs.
- **Improve Accuracy**: Minimize errors through automated data extraction and validation.
- **Reduce Processing Time**: Streamline invoice processing to improve efficiency.
- **Reduce Manual Intervention**: Free up employee time for higher-value tasks.
- **Increase Flexibility**: Easily adapt to new invoice formats and changing requirements.

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Cozentus Solution

Cozentus implemented a robust Invoice Data Reader solution leveraging AI/ML and intelligent automation.

- **Unified Inbox**: All vendor invoices were collected from a centralized mailbox, eliminating the need for separate BU mailboxes.
- **Cozentus Logistics Business Rules Integration**: Hundreds of rules ensure accurate data extraction and validation, comparing extracted data with existing contracts for further verification.
- **Multiple Processing Engines:** Cozentus employs OCR, ML, NLP, and Deep Learning engines for accurate named entity recognition and data extraction into JSON/XML formats supported by a pre-processing engine handling tasks like image normalization, conversion, and many more, with an auto-profiling system selecting the optimal engine for each invoice.
- **Custom Template Engine**: For outliers or unique formats, a custom template engine ensures efficient data extraction.
- **Smart Routing and Data Serialization**: Invoices are automatically routed to the appropriate BU based on a unique business entity identification system. Standardized data formats are created for seamless integration with existing systems.
- **Forward Integration**: Solution integrates seamlessly with MS Dynamics SFTP, APIs, and mailboxes for smooth data transfer.

Tech Utilisation

This project utilized a combination of Logistics business Rules, AI, ML, and document processing technologies

Data Extraction
Extract key information from various invoice formats (PDF, Excel, Image, EDI, etc.)

Data Cleansing & Enrichment
AI & advanced algorithms clean and enrich extracted data for accuracy and completeness.

Data Transformation
Conversion to standardized XML/JSON formats.

Data Validation
Verifies data accuracy against defined rules.

Integration & Analytics
Integrates with ERP/email, provides dashboards and reports

Continuous Learning
The system continuously learns & improves its efficiency over time.

Results

- 80% of invoices now require minimal to no manual intervention.
- Extracted data is automatically posted to the Accounts Payable system, saving time and resources.
- The solution handles inter-BU invoice processing efficiently.
- Invoice processing time has been reduced to 90%.
- Automatic data extraction minimizes errors by 50%
- The solution easily adapts to new invoice formats and changing requirements.
- Improved Collaboration between stakeholders.

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