



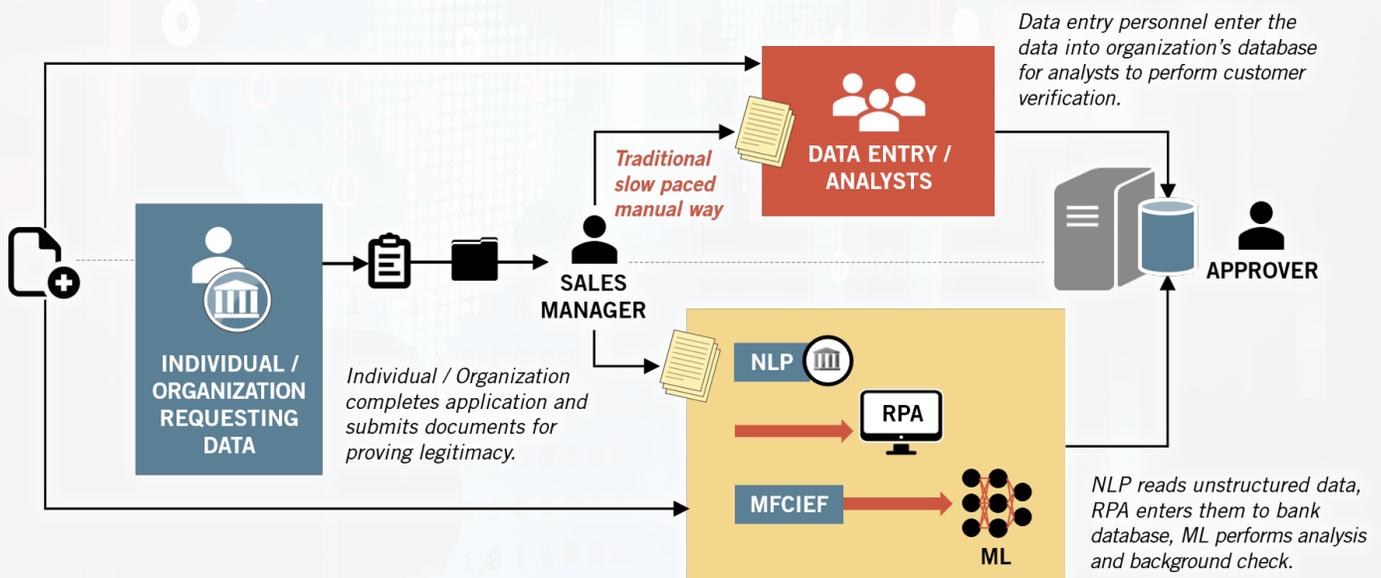
# EVOLVING COMPLEX MANUAL PROCESSES INTO DIGITAL ANALYTICS ENVIRONMENTS

## INTELLIGENT EXTRACTION FRAMEWORK FOR CUSTOMER CREDENTIALING

Rapidly evolving technologies allow business leaders around the globe to save time and money and conserve resources every day. The application of these technologies separates the most progressive finance and technology leaders from the rest of the pack. The following excerpt illustrates MorganFranklin's approach to solving verification and accuracy issues that are intrinsic to the Customer Identification Program (CIP) and outlines a proprietary method for transformation through data analytics.

In October of 2003, following the USA Patriot Act of 2001, new regulations required all financial and banking organizations to carry out customer verifications conforming to the CIP. As more organizations were exposed to this new regulation in their business, MorganFranklin Consulting responded with its Intelligent Extraction Framework (MFCIEF). Based on Robotic Process Automation (RPA) and Machine Learning (ML) paradigms, the framework optimizes the customer verification processes related to CIP, reducing costs, improving accuracy, limiting customer authentication delays, and enabling a transformation into a digital analytics environment. The MFCIEF uses sophisticated Natural Language Processing (NLP) layers to extract unstructured information from manual and automated forms to recognize and enter information into the organization's database. Custom-developed ML routines that "train" the system to accurately validate the customers' credentials serve as the foundation for the process.

The MFCIEF platform has a core shell addressing the basic CIP requirements, making implementation and value-addition fast, nimble, and highly customizable to the process and client's personalized requirements. Consider a comparison of traditional frameworks vs. the MFCIEF way of customer credentialing.



## WHY MFCIEF FOR CUSTOMER CREDENTIALING?

The implementation of MFCIEF yields faster business process automation for the customer credentialing process and significantly reduces the number of manual data entry resources required. This creates significant long-term savings and process stabilization for the organization.

- **Accuracy and Reliability:** NLP-oriented and based on successful pattern recognition of only legitimate customers and verification of historical patterns, the MFCIEF significantly outperforms its human counterparts in all aspects of data extraction, data entry, and evidence validation.
- **Dynamic Process Development:** The MFCIEF creates a deep, analytical foundation as its systems learn from new examples and produce automated reports that empower management and executives to make confident, efficient, and strategic business decisions rooted in data and analytics.
- **A Turnkey Approach:** The MFCIEF framework's turnkey implementation combined with MorganFranklin's years of experience produces successful process automations that deliver new levels of value to leaders.
- **Rapid and Measurable ROI:** Banking, data, and financial organizations working with MorganFranklin and utilizing RPA and ML paradigms save more than 20% of their OPEX costs, experience more than a 15% increase in customer authentication throughput, and recognize nearly 20% improvement in data entry accuracy.

## IMPLEMENTING THE MFCIEF AND QUANTIFYING ROI

Successful implementation of MFCIEF rarely requires deep technical knowledge of existing employees, infrastructure, or broader operating models. It is primarily based on training the system in conjunction with the customer verification analysts and subject matter experts (SME's) within the organization. This collaborative approach leads to a seamless adoption of the modified customer identification process.

- NLP enables the parsing of text to extract information from documents submitted by the applicants using linguistic rationale and correlation context. It provides the ability to extract both structured and unstructured data but processes it faster and dynamically (around-the-clock) resulting in tremendous process throughput.
- Deep learning processes non-linear relationships at a much faster rate than humans, enabling pattern recognition and classification of data. This allows the system to accommodate new customer types, discover fraud detection patterns, and make semi-supervised human-like decisions based on company history and regulations.
- RPA technology automates clerical processes based on the notion of software robots or artificial intelligence (AI) workers. It allows robots to capture and interpret existing applications for processing a transaction, manipulating data, triggering responses and communicating with other systems. The RPA process is the over-encompassing solutioning process which combines the NLP and deep learning aspects of the framework with seamless UI interaction, eventually culminating in a semi-supervised process automation for customer credentialing.

The image below illustrates a step-by-step application of MFCIEF to successfully automate and operationalize the customer credentialing process. The focus is not only workflow automation but also new data correlation and model accuracy discoveries, empowering management with effective reporting capabilities to advance the business.

IDENTIFY & PRIORITIZE USE CASES	DETERMINE APPROACH	OBTAIN DATA	BUILD NLP, MACHINE LEARNING & RPA	DEPLOY TO PRODUCTION	OPTIMIZE BUSINESS PROCESS
<ul style="list-style-type: none"> <li>• Working session with SME's and Stakeholders to collect business requirements</li> <li>• Holistic analysis on the BPM and Information Architecture of the company</li> <li>• ROI Analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Modify BPM for customer credentialing and identify correct solution architecture and software components</li> <li>• Procure hardware / software licenses, create Project Team</li> </ul>	<ul style="list-style-type: none"> <li>• Set up correct database and clustering (map-reduce) architecture for data storage and querying</li> <li>• Create Integration architecture</li> <li>• Test data Integration</li> </ul>	<ul style="list-style-type: none"> <li>• Create NLP Layer to extract data from manual forms and documents like a human clerk</li> <li>• Create RPA to enter data into different systems using UI</li> <li>• Write ML Codes for background verification</li> </ul>	<ul style="list-style-type: none"> <li>• Train SMEs, Perform UAT and end to end tests</li> <li>• Error Resolution, enhancement analysis and business go live preparation/training</li> <li>• Deploy system in Production and study audit trail</li> </ul>	<ul style="list-style-type: none"> <li>• Analysis on KPIs to measure business improvement and present research to Stakeholders</li> <li>• Discovering unseen and un-foreseen insights from data</li> <li>• Business Optimization</li> </ul>