

SUMMER INTERNSHIP REPORT

"Electronics Signatures Research"

in

JPMORGAN CHASE & CO.

Completed in partial fulfillment of the requirement of MBA Program.

Submitted to:

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Date of Submission: July 5, 2020

JPMORGAN CHASE & CO.

J.P.Morgan

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PROJECT TITLE	Electronics Signature Research			
DATE OF REPORT	July 5, 2020			
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PURPOSE OF REPORT	To report the work done at JPMorgan Chase & Co. as a part of Summer Internship Programme			
PRESENTED TO	Institute Of Management, Nirma University			
SUBMITTED TO	Prof. Tejas Modi			

ACKNOWLEDGEMENT

I would like to express my gratitude to all the people who inspired, guided and mentored me while I was doing my project.

To begin with, I would like to thank **Institute of Management**, **NIRMA University** for giving me an opportunity to link and supplement my experiences with practical learning. I would also like to thank **Prof. Tejas Modi** for mentoring me and guiding me throughout my internship period.

I am grateful to **JPMorgan Chase & Co.** for providing me this internship opportunity which gave me a great chance to improve my skills and learn new things for my professional development. I would like to express my deepest and sincere gratitude towards my managers and my buddy who helped me on my project **"Electronics Signatures Research".** Their suggestions were very helpful to me as it opened up new horizons for my research and helped me to diversify my knowledge spectrum. I perceive this opportunity as a big milestone in my career development.

Sincerely

Shubham H Patel 191350 MBA FT 2019-21

DECLARATION

I, Shubham H Patel hereby declare that the Project entitled "Electronics Signatures Research" under the guidance of Prof. Tejas Modi as my Summer Internship Project is my original work and the interpretations drawn therein are based on material collected by myself.

Shubham H Patel 191350 MBA FT 2019-21

EXECUTIVE SUMMARY

JPMorgan Chase & Co. is a leading global financial services firm with assets of \$2.69 trillion and operations in more than 100 countries. The firm is a leader in investment banking, financial services for consumers and small business, commercial banking, financial transaction processing, asset management and private equity. A component of the Dow Jones Industrial Average, JPMorgan Chase & Co. serves millions of consumers in United States and many of the world's prominent corporate, institutional and government clients under its J.P. Morgan and Chase brands.

The project is a result of the work done for JPMorgan Chase & Co. from April to June 2020 for a period of 9 weeks.

The objective of the project was to understand and evaluate the electronics signatures model involving the process flow involved, an intensive industrial analysis of the competitors of the e-signatures industry and generating a cost benefit model analysis to showcase what features are been provided by the top market leaders and the annual prices they charge. It also involved formulating a relative digital strategy for easing the documentation process to overcome the unprecedented times like the covid-19 impact and any such unforeseen situations in the future.

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INTRODUCTION

An Electronic Signature or e-signature refers to data in electronic form which is logically associated with other data in electronic form & which is used by the signatory to sign or confirm their approval of a document or a transaction.

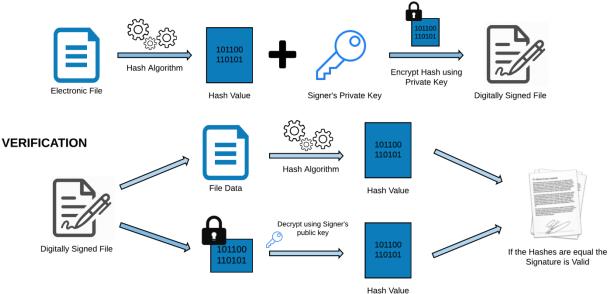
Digital Signatures in a similar manner are a subset of e-signatures as they are also in the same electronic format. Digital Signatures use a cryptographic mechanism instead to implement electronic signatures. These go much further in terms of providing additional security and trust based services.

The three characteristics of digital signatures which enhance its use are as follows:

- 1. Signer Authentication: who signed the document?
- 2. Data Integrity: depends on only binary bit in the document & therefore can't be reattached to any other document.
- 3. Non Repudiation: the signer should not be able to falsely deny their signature. That is, it should be possible to prove in court that the signer in fact created the signature.

E-signature Workflow:

SIGNING



The project also includes an intensive industrial analysis of the Electronics signatures industry and the formulation of a cost benefit analysis model of the top competitors of the market space. The top competitors offering a variety of features matching the annual prices they charge in order to gain an understanding over the optimum service provider who can be beneficial to a firm which may ask for an implementation of some of the services of the provider.

OBJECTIVES OF THE STUDY

- To evaluate the electronic signature model and perform a comparative study on major players in the industry.
- Formulation of a Cost Benefit Model (Analysis on pricing each of the vendors are offering for e-sign needs).
- Development of any relative digital strategy that can help documentation processes involved with e-signature services to be resilient through unprecedented times.

UTILITY OF THE STUDY

To understand the process of evolution of E-signatures in particular and evaluate the model. Based on the academic knowledge, the project includes creation of models which could explain the trend in E-signatures and the major players in the market. It also inculcates the evaluation of the technical knowledge on automation to formulate a digital strategy to ease up the documentation process.

METHODOLOGY

• **Approach**: The approach to the project included a correct mix of both qualitative as well as quantitative. I researched about the procedures and the layers on which the e-signature model works upon. The top competitors and their market share along with normalizing the annual prices each of them charge as every competitor has its own pricing policies at place.

- Sources of Data: The research work is done purely upon secondary sources of data. Some were public platforms including general information and the others included business review online platforms which gave a lot of insight about the quantitative data for the research.
- **Method of Data collection**: The data as mentioned was included from peer to peer reviewing platforms and data analysis platforms for the quantitative part. The qualitative part of the data was taken from general information websites.
- Method of Data Analysis: I had compiled the data and performed a data analysis on the data visualization tool named Tableau. The data has been correctly presented using forecasting and visual charts for data representation.

CONTEXT OF INDUSTRY PROBLEM

The research fully focuses upon the e-sign models and evaluation of the best of the providers in the industry comparing them with the features they provide with the annual prices they charge. Moreover, the covid 19 impact has brutally slowed down the documentation procedures in financial institutions and multi-national corporates as well. The formulation of a strategy using automation was to be provided.

PRESENTATION & ANALYSIS OF DATA

Digital Signatures stand unique to everybody like handwritten signatures. Digital signatures are made possible by different providers on specific protocols named Public Key Infrastructure (PKI). It is basically a technology in digital world to authenticate users and devices. It encompasses a framework of encryption and cyber security for the communication between a sender and a client. The solution providers use a mathematical algorithm to generate two keys; namely public key and private key.

When a client signs a document, it is done through the use of private key which is in the security of the signer. The mathematical algorithm comes into picture acting as a cipher creating a data file matching the signed document and encrypting it with a hash. The encrypted data file is the digital signature. The signature gets marked with a time stamp which makes it invalid if tampered. The client sends the signed document to the concerned authorities.

The receiver who receives the signed document also receives a public key (is openly available) and is used by the verifier. The public key has to decrypt the signatures with the cipher which the signature was created and the hash values of both should match in order to validate the signature.

VARIOUS AUTHENTICATION METHODS OF E-SIGNATURES

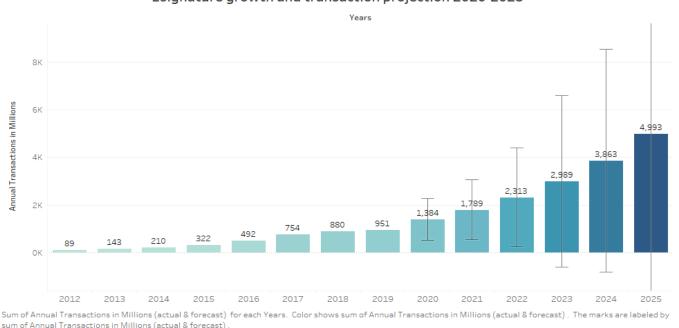
- 1. **Email Authentication**: The client receives an email from the authority inviting to open and click the link. The document gets automatically signed as the client logs in and visits the link.
- 2. **Login Credentials**: The client or the signer is authenticated by the sending authority's system prior to the transaction. It requires a login id and a password.
- Secret Question Challenge: The questions and answers are pre selected during the time of profile creation on the system prior to the transaction. The signer must answer these questions correctly in order to sign the document.
- 4. **SMS Authentication**: This is the most widely used technique in digital transaction marketplace. The signer receives a passcode in the registered mobile number in the form of a SMS which needs to be entered on the system.
- 5. **Dynamic KBA**: Knowledge based authentication consists of providing private information of the signer in order to authenticate the identity and hence sign the document.
- 6. **Digital Certificates**: These are issued by third party service providers like Certificate Authorities (CA) in order to validate the identity of the signer.
- 7. **Smart Cards**: Federal employees require smart card or a mobile derived credential when signing the document. It encompasses multi factor authentication the card or the mobile device with user's pin.
- 8. **Biometrics**: are a lot many times used for higher value transactions with existing customers. These biometrics based authentications range from facial, palm geometry, iris scan to fingerprints. A newer behavioral based authentication technology includes signatures, voice, key stroke patterns & gait patterns to authenticate.

E-SIGNATURE MARKET

The growing need for the security of the data during the transmission of sensitive information and transactions has led to the rise in the use of e-signatures globally. The green movement revolution since the past decade has led governments, corporates and major institutions to set a move towards full or partial paperless mechanisms. These electronic signatures can seamlessly integrate with existing business processes and can bring tremendous improvement in the operational efficiency, an acclivity in the reduction of operation costs and speeding up the decision making process.

Institutions from various domains like BFSI, Real Estate, HR & legal are using these digital signature based systems for security of their documents. These systems automate the business processes brining digital transformation making business processes easy to use, flexible with the highest level of security with compatibility with all rules and regulations. The digital signature documents contain vertical specific confidential information like product designs, financial information, defense strategies, customer sensitive data, government policies and many others. The acceptance of digital signature solutions by governments, regulators and acceptance by judiciary has led to the rise in use of them geographically; though changes in rules and regulations affect the market scenario of the E-sign market. The major legislations which promoted the use of digital signatures in United States are Uniform Electronics Transactions Act (UETA) 1999, & Electronic Signatures in Global and National Commerce Act (ESIGN) 2000 which mandates the use, validity and legality of these signature solutions.

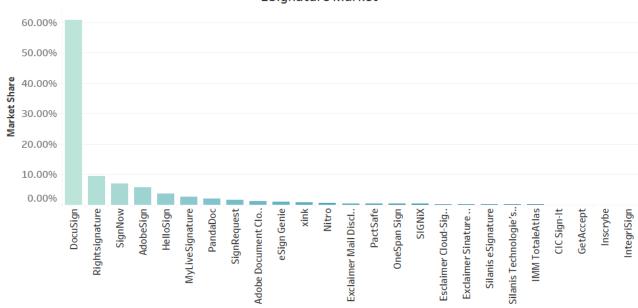
The evolution of block chain has triggered the block chain based digital signatures a major trend in the industry providing the demand of the authenticity of the data and security against forgery. The use of the technology helps in elimination of a third party certification authority and moreover, the fingerprint once assigned becomes obsolete if the entry is tampered by any other member in the chain. The graph below depicts the past trends in the growth of the E-signature market as well as the forecast with period 2020-2025 in consideration.



Esignature growth and transaction projection 2020-2025

The digital signature industry in 2012 accounted for 89 Million where it took an acclivity because of digital revolution picking up in nearly every domain. Since, then the market has moved with a moving average of nearly 50-60 % each year. The market currently stands at 1 Billion and is expected to move with a compounded annual growth rate (CAGR) of 31.91% to 5 Billion by 2025. Amidst the covid 19 impact, many governments and organizations which were digitally laid back have come forward to invest into these digital technologies maintaining the social distancing norm at place.

The market of E-signature providers consists of players from all across the globe with major players from North America, Europe, Asia Pac, MEA, and Latin America. Some of the competitors are Docusign, Right Signature, SignNow, AdobeSign, Hello Sign, My Live Signature, Panda doc, Sign Request, Adobe Document Cloud, esignGenie, One span Sign, Assure Sign, etc. The graph below shows the top 25 competitors of the industry listed down under from the market space at Datanyze Universe. The table along with the graph shows the number of domains and the market share these top competitors comprise the industry of.

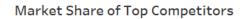


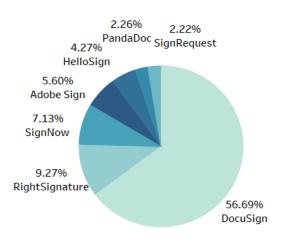
ESignature Market

Sum of Market Share for each Company Name. Color shows details about Company Name.

MAJOR PLAYERS OF THE INDUSTRY

The data was taken from the market space Datanyze Universe for this research. An independent research firm recognized Docusign as a leader in Electronic Signature industry. The growing trust of clients from different areas like Banking & Financial Services (BFSI), Real Estate, Technology, Legal Services, Construction, Healthcare, Communications, and Manufacturing has led to a significant position of the market leader Docusign in the market space. The emerging technologies in which the leader has invested in and the significant number of features it provides makes it the best. The pie chart below depicts the top competitors of the industry.





Sum of Market Share and Company. Color shows details about Company. The marks are labeled by sum of Market Share and Company.

Company Name	Market Share	Domains
DocuSign	60.82%	1214
Rightsignature	9.52%	190
SignNow	6.91%	138
AdobeSign	5.81%	116
HelloSign	3.81%	76
MyLiveSignature	2.61%	52
PandaDoc	2.05%	41
SignRequest	1.75%	35
Adobe Document Cloud	1.20%	24
eSign Genie	1.10%	22
xink	0.75%	15
Nitro	0.70%	14
Exclaimer Mail Disclaimers	0.45%	14
PactSafe	0.40%	8
OneSpan Sign	0.35%	7
SIGNIX	0.35%	7
Esclaimer Cloud-Signature for office 365	0.30%	6
Exclaimer Sinature Manager Exchange Edition	0.30%	6
Silanis eSignature	0.25%	5
Silanis Technologie's eSign-Live	0.20%	4
IMM TotaleAtlas	0.15%	3
GetAccept	0.05%	1
CIC Sign-It	0.05%	1
Inscrybe	0.05%	1
IntegriSign	0.05%	1

COST BENEFIT ANALYSIS:

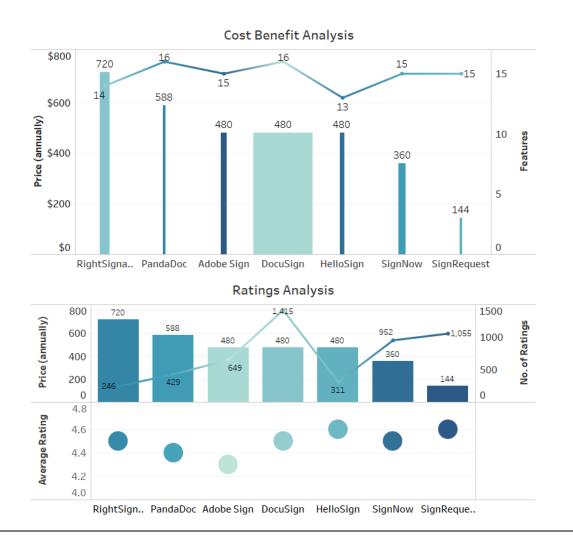
Cost benefit analysis of these competitors is a systematic approach to evaluate the strengths and weaknesses to determine which competitor provides the best features at the optimum cost achieving benefits cum cost optimization.

There are various features which these competitors provide in the market to remain competitive. These competitors are compared on the common feature scales enlisted below:

- 1. Document Signing: It allows signer to intuitively sign documents easily.
- 2. **Reminders & Notifications**: It reminds signer documents to be signed with expiration dates.
- 3. Sign-In Process: An authentic, secured and seamless signing procedure.
- 4. **Mobile**: With an increasing mobile use this feature allows users to sign on the go with mobile application.
- 5. **Signature Workflow**: Authorities or senders can set and track documents through process workflow in multiple steps.
- 6. **Mass Signatures**: A most crucial feature which fulfills requirements of around thousands of signers to sign the documents at once.
- 7. **Reporting**: Standard reporting and creation of custom reports to manage the entire signature process.
- 8. **Signature Document Creation**: Signature blocks are easy to create on all document format types.
- Regulatory Compliance: Maintaining of regulatory compliances such as AICPA SOC
 PCI DSS & ISO 270001:2013 certification.
- 10. **Signature History & Audit**: It keeps a track history of signing of documents to comply with the required regulations.
- 11. Enterprise Scalability: This becomes another crucial feature in which the scalability of the solution in an enterprise depending on the demand is provided.
- 12. Custom Branding: Promotion of brand and company even during the signing process.
- 13. Integration APIs: acts as a messenger and interacts between data, applications and devices.
- 14. **Secure (Blockchain)**: A cryptographic based blockchain e-signature service which accounts for more secure transactions.

- 15. **Signer Attachments**: Attachment of various files or documents in addition to the signed document for proof or some transaction.
- 16. **Collect Payments**: It allows a signer to make a payment while parallel signing a document.

The competitors are compared under the cost benefit analysis with respect to the annual prices they charge for the solutions they provide. Every firm has its own pricing policies. Some may include individual, business and enterprise while others may follow a two base price policy comprising of only business and enterprise level prices. Hence, for the sake of this research the prices of all the top competitors are normalized on to the business level on an annual basis. The graphs below compares top competitors with respect to annual prices they charge, the features they provide and the market share they capture. Along with it the competitors are compared on the basis of number of ratings and average ratings provided by customers on a peer to peer review platform which collects user reviews for business softwares.



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Cost Benefit Analysis: The competitors are listed in a descending manner according to the annual prices they charge for the serves they provide. The line graph above it depicts the number of above mentioned features these players provide on their respective platforms. The breadth of each bar in the graph sows the market share each competitor entails.

Ratings Analysis: The top market players are listed in a descending manner in accordance with their annual prices they charge for the services they provide. The line graph depicts the number of ratings for each taken from the peer to peer review platform. The bubbles below each bar in the downward portion shows the average rating each player has achieved based on the total ratings.

Below mentioned is an infographic based on the features each player provides to remain competitive in the industry.

Features	DocuSign	Right Signature	SignNow	Adobe Sign	Hello Sign	PandaDoc Sign Request
Document Signing						• •
Reminders & Notifications						• •
Sign In Process						• •
Mobile Application						• •
Signature Workflow						• •
Mass Signatures						• •
Reporting						• •
Signature Document Creation						• •
Regulatory Compliance						• •
Signature History and Audit		•		٠	•	• •
Enterprise Scalability					•	• •
Custom Branding						• •
Integration APIs						• •
Secure (Blockchain)		۲	۲			• •
Signer Attachments					•	• •
Collect Payments					•	• •

The colored marks in each column with matching rows depict the features, the respective competitor provides. The red colored mark depicts the non-availability of the said feature for the respective player in the market.

The above mentioned analysis shows DocuSign being the market leader offering vast amount of services and features with enterprise scalability and competitive pricing. DocuSign is being used by the major hunks of the financial industry from top investment and consulting banks to retail banking divisions.



DOCUMENTATION PROCEDURES

Millions of documents get captured and analyzed to draw business insights and help customer onboard to taking business decisions in a day. Document management systems have to be very robust and fail proof in providing these solutions as every document contains all the sensitive information like name, phone number, address, account details, e-signatures and declarations, etc. Transforming these documents into meaningful text and analyzing them is the first priority of these systems to help different Lines of Businesses (LOBs) work efficiently. Let us have a look how technology has changed the document management systems in the recent past.

- 1. Web Browser based interface: The implementation of these solutions required the installation of on-premise infrastructure for individual workstations. But, this has become obsolete with the web based solution usually knows as web client where the same solution is managed online on a web portal. The advantage is that it is versatile to run on any platform without any hard installation device which marks a lot of place on the premises. Moreover, it imitates the simplest of user interfaces similar to modern internet applications.
- 2. Cloud Infrastructure: The on premise solutions were once a norm because now organizations have started realizing the benefits of moving into cloud based infrastructure. It provides massive scalability which is multi oriented and comes with cost advantages. Though certain organizations may require a hybrid solution looking after the compliance & security requirements of data, solution providers have dual solutions which run on premise as well as on cloud.
- 3. **Mobile Applications:** It is said that the largest of the deals of the future will be done on hand within milliseconds through mobile based devices. The employees prefer on the go applications & services to serve better towards the fulfillment of the department. From document capture, access and storing to analysis can be done through mobile applications available on all smartphone based platforms i.e. android, windows, or IOS.
- 4. **Auto-Indexing:** When a document is captured and added to the document management system, a lot of variety of content and fields get added. The classification of each type of documents before added to the repository is important in order to derive correct business decisions from them. Automatic indexing plays its role here with classifying entries from

the documents into various different types such as payable, receivables, etc. and store into a classified manner in to the repository so that the turnaround time for analysis gets reduced.

5. Scalable architecture: Gone are the days when a department would start using a solution and roll out more for other departments or processes as required. The future demands a scalable architecture which matches the growth of the organization and its departmental goals.

INTELLIGENT DOCUMENT PROCESSING

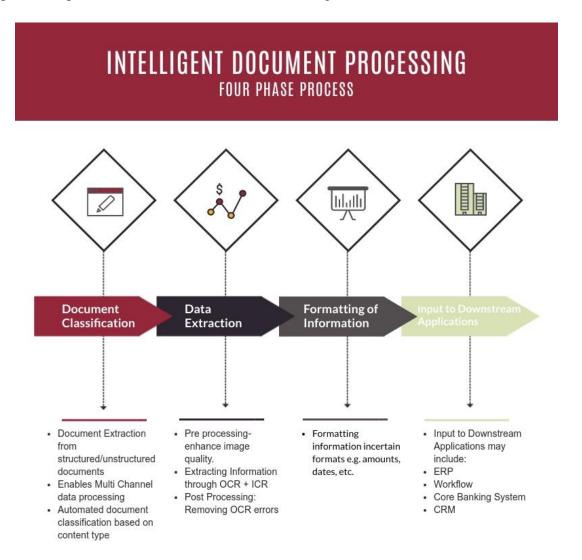
Machine Learning & Artificial Intelligence combined with the robust hands of Robotic Process Automation is becoming a norm nowadays. Technologists have started implementing these technologies in almost every solution types and come out with software solutions which are efficient and fail proof.

Businesses are moving with a very fast pace and the amount of data is generated every second is huge and the data driven insights are equally important to drive the growth of these businesses. The world of data consists of structured data which is in a suitable format which can be put to use right away and unstructured data which is in random unclassified format. Most researches agree that 80% of the data is "dark data" which is stored in emails, text files and scanned documents.

Intelligent document processing also called a s intelligent capture is a terminology used to understand the unstructured & semi-structured data and convert them into a structured format. The main goal of this technology is extracting information regardless of the type of document such as electronic, semi structured or unstructured. This technology if leveraged in its full terms can become a game changes for a lot many firms in the marketplace.

How Does Intelligent Document Processing Work?

The first part in understanding the technology is to know exactly what type of data needs to be extracted. The structured data is the neatest data which doesn't needs any attention but the major chunk i.e. unstructured data needs to be looked after. The below given diagram correctly explains the processes involved in the IDP terminologies.



1. **Document Classification:** The first step is document extraction and data classification. The documents are extracted from structured/unstructured group of documents. The documents may be present in any file formats such as pdf, tiff, json, jpeg, xls, etc. The IDP firstly enables multi-channel data processing through scanned filters, FTP and email attachments to extract documents and automates document classification based on the content type. The documents are classified in formats such as invoices, bills, etc.

2. **Data Extraction:** The core of the technology is here where the most important step is carried. Extraction of information is taken place using business rules, artificial intelligence, natural language processing & fuzzy logic.

The second part in this step is pre-processing of data where the image quality is enhanced. Now, the enhancement may include increasing brightness, adjusting contrast, and removal of dirt, removal of lines and noise and removal of background to make the data more visible so that the intelligent mind of the technology can extract information from the document effectively.

Optical Character Recognition (OCR) & Intelligent Character Recognition (ICR) now comes into picture in the data extraction process. OCR translates scanned images of text whether printed or type written & turns into machine coded text. ICR deploys a system that learns different fonts & styles of handwriting. It has the ability to learn and improve accuracy & recognition.

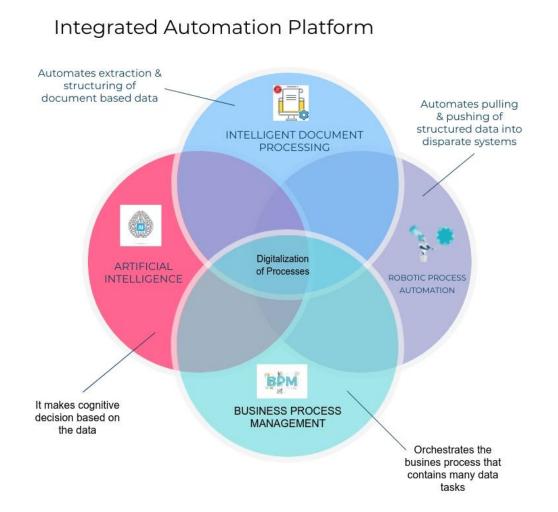
The final part of data extraction involves removal of post OCR errors which can be the basic errors in documents such as differentiation between "5 & S, O & 0, I & L". Auto validation & Auto correction enhances the efficiency of the system and helps data extraction efficiently.

- **3. Formatting of Information:** The third step is data formatting where the data from the classified document type is written down in the correct format type such as "\$ for currency and amounts", "dd/mm/yyyy for dates", etc.
- **4. Input to downstream applications:** The final step after the technology leverages its capability to classify, extract & format the document, the data is transferred to the downstream applications such as ERP, Workflow systems, Core banking systems, CRM, Salesforce, SAP, etc. from which data driven decisions are undertook.

IDP solutions can be applied to a variety of business cases across all the industries where manually processing of documents takes place. Examples include invoice processing, purchase order processing, insurance claims, loan processing documents; know your customer (KYC) and others

Inculcating the use of such IDP solutions help businesses reduce turnaround time, streamline operations, achieve cost savings and increase productivity.

INTEGRATED AUTOMATION PLATFORM



The world is changing with its equipped technologies. Technologies are either being obsolete or changing so rapidly that one has to catch an appropriate pace with it. Merely implementing the Intelligent Document Processing won't work unless leveraging the capacity of other co-processes attached to it. A research by Deloitte suggests that 58% of organizations have started their intelligent automation journey but only 8% are currently operating at scale (up from 4% last year). Hence, it becomes necessary to not only automate every process but try to push and invest into every leg of the automation to gain operational efficiency with minimal turnaround time.

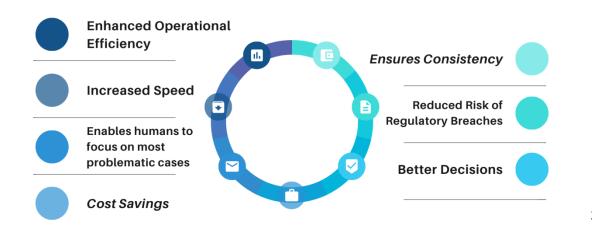
Combining the legs & arms of Robotic Process Automation (RPA) with the eyes of Optical Character Recognition (OCR) & brain of Machine Learning (ML) can help business overcome the challenges in processing semi-structured & unstructured documents.

It is said that IDP comprehends RPA, i.e., RPA takes care of movement of data mimicking human action and IDP takes care of extracting information from documents. Lack of IDP minimizes benefits of RPA. Hence, the above diagram suggests the digitalization of processes in a virtual & physical environment into an organization to achieve results.

- Intelligent Document Processing (IDP) automates extraction & structuring document based data.
- Robotic Process Automation (RPA) automates pulling & pushing of structured data into disparate systems.
- Business Process Management (BPM) orchestrates the business process that contains many data tasks which may include Design, Modeling, Execution, and Monitoring & Optimization.
- Artificial Intelligence (AI) makes cognitive decision based on the data in the system. It can help systems make decisions in complex situations.
- Analytics says how a process is performing, how will it perform & what to do to optimize.

ADVANTAGES OF DIGITALIZING PROCESS

ADVANTAGES



CONCLUSION

The use of E-Signatures has increased since the last decade. Newer technologies are setting in to the world to simplify the processes and we need to optimally extract the most of it in order to remain competitive in the marketplace. The coronavirus pandemic has disrupted technologies and businesses but on the other side it has shown the real competitive strength an organization has helping itself sustain the unprecedented times. Moreover, the banking industry is evolving smartly in an exponential manner with more efficient, interactive & customer centric solutions which helps customers to directly interact with systems as well as employees to work upon tasks which require human intelligence. The expanding automation techniques and the race to make one's processes better & efficient is driving the competition of the BFSI industry as a whole. In years to come, more efficient solutions equipped with smarter technologies will become the new normal.

MANAGERIAL IMPLICATIONS

- The electronics signature industry is expected to grow at a faster pace with an annual Compounded Annual Growth Rate (CAGR) of around 31.9% by 2025. The covid 19 pandemic has impacted a lot of industrial sectors and switching onto these electronic mediums will help in maintaining social distancing norms with easy documentations.
- E-signature services are increasingly getting accepted to ease the tedious procedures and Banking Industry is going to gain a lot in a lesser time frame. Moreover, the compliances followed by the service providers of the industry offered at optimal costs will help esignature as a solution to penetrate into developing as well as under-developed nations.
- The background data entry and repository maintenance tasks will get automated with intelligent automation at place which will help employees work upon tasks which requires human intelligence. The banking solutions will get revolutionized to bring smarter, interactive & customer centric solutions at the table.

LEARNING

- The first year of study in the course gave an overall insight of different arenas into which an industry works upon ranging from Marketing, Finance, HR, and Data Analytics to decision making managerial skills. The presentation on different topics in subjects through different online tools like Canva, Prezi, Visme & PPT presentation helped me present my work to the firm in the most effective manner.
- The subjects in Finance especially Corporate Finance & Accounting and Decision Making helped me understand a variety of topics such as Bonds, Stocks, Forex, Asset & Wealth Management and many more while interning with the organization.
- The summer internship project demanded confined data analytics and hence, I ended up learning Tableau; a data visualization tool which helps create interactive dashboards to interpret and showcase data which altogether helps in making smarter data driven decisions.
- The project included automating legacy tasks for which I ended up learning Robotic Process Automation (RPA). The ways through which RPA mimics human actions to complete repetitive tasks & helps achieve process completion in decreased turnaround time with better efficiency. Automation Anywhere is a pioneer in the automation service provider industry and it helped me gain a certification as a professional in Robotic Process Automation through its enterprise V11.0 which will open avenues to the automation industry ahead in my career.
- The way Intelligent automation techniques comprising Machine Learning, Artificial Intelligence, Robotic Process Automation & Business Process Management are going to change the dimensions of the banking industry helped me understand the intricacies involved and gain a broader perspective into how smarter banking solutions can be revolutionized.
- The internship exposed me to the actual working environment of the investment banking industry which acted as a simulation for me working from home. Adaptability with the culture of the organization, while taking responsibility of the tasks in hand and managing them within deadlines is what will help me shape my corporate career ahead.

BIBLIOGRAPHY

- <u>https://info.aiim.org/e-signatures-101</u>
- <u>https://www.docusign.com/how-it-works/electronic-signature/digital-signature/digital-signature-faq</u>
- <u>https://www.businesswire.com/news/home/20190215005149/en/Digital-Signature-Market-2023-5.5-Billion-Outlook</u>
- https://www.datanyze.com/market-share/electronic-signatures--309
- https://www.g2.com/products/docusign/reviews
- <u>https://www.g2.com/products/signrequest/reviews#reviews</u>
- https://www.g2.com/products/pandadoc/reviews#reviews
- <u>https://www.g2.com/products/rightsignature/reviews#reviews</u>
- <u>https://www.marketresearchfuture.com/reports/intelligent-process-automation-market-6065</u>
- <u>https://automationacademy.com/en/intelligent-automation-banking</u>
- <u>https://www.automationanywhere.com/company/blog/product-insights/what-is-intelligent-document-processing-a-primer</u>
- <u>https://zinnov.com/hyper-intelligent-automation-the-new-avatar-of-rpa/</u>
- <u>https://becominghuman.ai/the-beginners-guide-to-intelligent-document-processing-idp-5cc88b8de425</u>
- <u>https://www.capgemini.com/service/digital-services/insights-data/cognitive-document-processing/#</u>
- <u>https://www.searchtechnologies.com/natural-language-processing-document-</u> <u>understanding</u>
- <u>https://www.wipro.com/en-IN/blogs/atul-sharma/document-processing-automation-with-new-age-cognitive-solutions/</u>
- <u>file:///C:/Users/Shubham/Desktop/BRM/Everest%20Group%20-</u>
 <u>%20Intelligent%20Document%20Processing%20(IDP)%20Products%20PEAK%20Matr</u>
 <u>ix%20Assessment%202019%20-%20CA.pdf</u>