Artificial Intelligence Implementation in SAP

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Abstract: *People, both in business and in public life always want to secure their freedom - freedom of expression, communication, and above all, freedom of choice. However, this concept of freedom is rarely extended to the consumer knowledge perspective. After all, customers are human beings and freedom is at the heart of the concept of shopping and food. Welcome to the world of Artificial intelligence (AI). When AI is integrated with customer experience, it can create a customer journey that allows customers to have their own experience, ultimately leading to more agency and more satisfied customers. What matters the most in business efficiency today is customer relation management and the time it takes to provide business solution to them. The profit/loss graph is heavily dependent on users' trust and experience with the company or organization. Understanding the importance of using ERP systems in various sectors like Education, Bank, Telecom, Software solution company is well known in the IT industry today. From cafeteria income and outcome to company's revenue and turnover generation to debit and credits; from students' detail to performance of the student in academics in particular subject, everything can be achieved through Open-source software SAP. Implementing the vast powers of SAP integrated with AI gives boosting efficiency to the company. According to SAP, Gartner's latest report stated, "By 2023, organizations in the advanced stages of digital transformation will find that poor customer experience is their biggest obstacle to continued success. "Client misunderstandings can be the result of inability to effectively manage complaints, misunderstanding of customer feedback, and ignorance of customer preferences. There is a need to close the gap between freedom and technology. If artificial intelligence is integrated with SAP, it can close that gap.*

Keywords: SAP

I. INTRODUCTION

Artificial Intelligence (AI) and SAP ERP technology have been instrumental in expanding and organizing the operations of many modern companies. Despite the importance of this technology in both rating firms and large corporations, not all are fully aware of how AI and SAP benefit their organizations. In this research paper, the author highlights why AI and SAP-SAP-enabled digital transformation are important, let's take a look at the different specific and integrated ways in which these technologies work together to produce the best in an organization.

Embedded in business plans, AI and machine learning allow customers to automatically expand and perform repetitive tasks and open up completely new forms of digital innovation through data learning, rather than setting explicit rules.

Integrated traditionally in SAP applications, cloud, and business networks, AI ensures that digital intelligence can be easily deployed across the business to build better customer service, improve business performance, improve employee satisfaction, rethink existing business processes, and more. Any automated applications can be integrated without the seam and complete SAP ERP technology, not only in the manufacturing or financial sector, but in any sector or industry that requires the relaxation of complex business processes. In fact, no matter what the problem is, as long as there is data to work with, SAP Data Intelligence's enterprise-grade AI can be used to analyse and fix it. This emphasizes the relationship between default AI and business data. The more complex these tasks, the more automated they can be, and more data can be applied to both dynamic models and improve predictable analysis.

While SAP ERP technology itself is a useful tool, its integration with AI and machine learning algorithms makes it extremely important for businesses looking to expand their operations. As more terabytes of business process data continue to be produced over the years, AI and SAP technologies can only improve and scale closer to digital transforming organizations.

II. LITERATURE REVIEW

Many researchers have focused on developing various plant care systems. Different repair procedures such as Preventive, breakdown and condition-based care procedures are performed by organizations and each method has both positive and negative aspects.

With the SAP application, organization the plant care function not only works in managing many repair processes such as breakage, prevention and conditioning but also maintains basic and operational data associated with the equipment. Other SAP applications that include SAP plant care work include Event Management which helps to improve workplace safety and reduce health and property risks. The use of high-speed computer information and integrated memory data has completely changed the methods of research analysis [26], making it possible to allocate large amounts of data processing in real time.

With the use of memory information such as SAP HANA, the SAP application can improve machine reliability and monitor machine life by creating a separation model that combines the integration of machine learning algorithms with machine storage data stored in the SAP system. With the advent of the next generation of cloud-based cyber-physical system dominating industrial automation, the integration of data that resides in the SAP application or SCADA with DCS with machine learning algorithms via SOA (service-based structures) is inevitable. These technological advances in networked devices support the reliability model of cyber-physical machines based on the conclusions presented in this paper.

III. SAP SYSTEMS APPLICATIONS AND PRODUCTS

(SAP ERP) Software called "Systems, Applications and Products" which integrates businesses and operations, integrates the focus area for integrated manufacturing operations and supply chain management (programs) through enterprise resource planning (ERP). SAP is a "software" that allows a business to "track customer (related organizations) and business interactions". Initially, the idea was to give users the ability to participate or interact within a work environment focused on the same platform (website) with a wide range of (complete) applications. SAP ERP enables many organizations or companies to successfully run their business operations. SAP generally provides for the "management" of finances, assets and accounting costs, industry or crops, manufacturing, assets and personnel.

SAP or Systems, Applications and Products, the Enterprise Resource Planning (ERP) software leader assists with day-to-day operations / operations. It incorporates extremely large software packages that are useful for managing an organization's business processes. Since its launch in the 1970s, it has grown to become the largest European software maker and the fourth largest in the world (Schulz., 2017). SAP is an hour-long necessity as it offers a host of benefits that include bringing discipline to the organization, keeping an accurate and complete diary of all inputs, mobility and adjustment, efficiency and ready for business growth as a whole. In addition, it can be used in a variety of languages and can handle a wide range of currencies.

IV. WHAT IS INTELLIGENT ENTERPRISE?

The research analyzed that the there are certain important goals that intelligent ERPs focuses on. Delivering agile and flexible processes, enabling data driven decisions, providing future proof IT solutions to customer, complying with regulatory requirements, reducing IT costs and accelerating time to value. The below diagram shows how intelligent Enterprises work.

In today's world championship, it is even more important for organizations to use smart ERP. With intelligent ERP, the author refers to ERPs such as SAP S / 4 HANA that use thinking and decision-making power through SAP HANA, SAP Data Intelligence, and the cloud of statistics; condition management, workflow manager, SAP intelligent Robotic Process Automation; Connecting Offline Internet of Things, listening and talking about SAP Conversational AI.
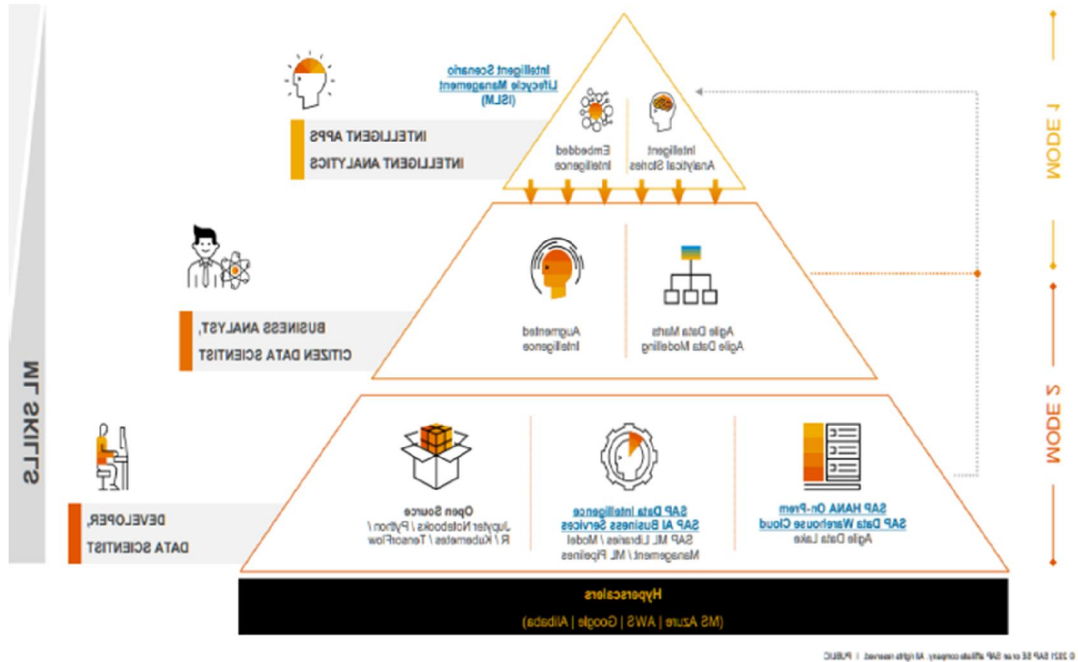
V. COMBINATIONAL POWER OF AI AND SAP

SAP has provided all the modules an organization needs or may need in one single location. These capabilities can be expressed by adding AI features to the business flow.

There are still many organizations that do not include the wise warning of profit and loss analysis that inform you of hidden costs and earnings. This is achieved through the ingenuity of mechanical engineering and this is just one example of many. Now, the question is how AI power goes into the background processes of SAP S / 4HANA. SAP enables its customers to rethink backend processes effectively, securely, and transparently as a new solution or as a product of middleware intelligence. The processes of a single business that can have a profound effect on each phase of a business are accompanied by machine learning to become more intelligent and independent. Some examples are as follows:

1. **Buying**
   Division of goods and services, standard product classification, invoice payment blocking, and image-based invoice receipt.
   An analysis of product sales and sales, quote qualification opportunities, customer retention, sales forecast, sales recommendation, and more.

2. **Activities**
   SAP Predictive Asset Insights, image processing by image processing, and stock exchanges.

3. **Finance**
   SAP Cash application, billing accounts, remittance tips, cash and financial management, dispute proposal, and revenue collection reminder. The SAP Cash Application automates the process of matching incoming payments to open receivables, reducing the time required.

4. **The Service**
   Negative trading, service tickets, customer support, and solution recommendation. Service Ticket Intelligence creates a model based on successfully completing a previous ticket, using it to classify service tickets and provide recommended solutions for service providers.

5. **Imployee**
   Learning recommendation, career path recommendation, simultaneous training content translation, job suspension, and resume matching.

6. **Core Data:** Semantic search, text analysis for key data, business law mines, and duplication of records.

With AI in SAP, we can manage Payment Advice with a Robotic Process automation bot which is a smart automation machine using a standard machine learning model that is introduced as part of the SAP Cash Application. It automatically creates the process of importing payment advice files into various corporate coding systems and triggers notifications to the user with payment advice numbers and status in a Microsoft Excel file to ask the user to confirm payment advice.

The bot is a complete example of how intelligence can be gained by making the bot work with everyday applications, such as Outlook, Microsoft Excel, the Microsoft Windows file browser, and PDF documents.AI Enables Automatic Creating Invoices Providers Spreadsheets where the bot downloads various source files and converts source files into integrated files that the bot can detect. After that, the bot will create invoices for invoice providers - Create, Read, Release, Undo API and can upload additional email attachments via the Attachments API. This can avoid manual labor and reduce human error.

How easy it can be for a business with a bot Automatic Load Installation bot that automatically loads general voucher loading of SAP S / 4HANA. It can significantly reduce the time required and provides file tracking to ensure all files are uploaded and sent.

The RPA button, will scan your inbox to find variations of the title line, retrieve attached files, and store them in a specific folder (root folder) on your local machine. As part of step 2, the bot will select those files and process them into SAP S / 4HANA. Once completed, the bot will create the appropriate success with the result folders and create files based on whether the processing was successful or incorrect. This method, in which bots create folders at each step, is also a systematic method so that you can investigate at the folder level that something is not working as expected.

5.1 Automatic Order Creation Sales from Excel

This API-based bot makes the task of internal sales representatives much easier. In most cases, internal sales representatives have to place individual and individual sales orders on the system based on received spreadsheets. This is a very time-consuming and error-prone process, adding to the manual effort and creating potential risks to the business. This bot does the job automatically and frees up the craft sales representatives within the craft.

This bot imports a spreadsheet from a predefined folder to the SAP S / 4HANA system and sales orders are created automatically. When sales orders are created, the appropriate sales staff and their customers will be notified automatically via email.

In practice, AI has expanded extensively in terms of Predictive maintenance, Asset Intelligence network, distributed production, defective code recognition, visual asset prediction, defective equipment detection. In marketing, AI increases the chances of conversion and brand acquisition to generate a leading revenue stream based on market value and competition.

In finance, AI is integrated into intelligent P / L analysis, financial and liquidity forecasting, project cost forecasting, Risk Discount all at a click. Within SAP, the human resources department may have a smart resume review, job evaluation, learning recommendation and more.

VI. METHODOLOGY

During the implementation journey of this project, we follow the Activate Methodology guidance to plan, implement, test, and deploy your SAP Bots and RPA's and AI. The various phases involved are listed down below:

6.1 Prepare Phase

In this phase, from the task create initial Artificial Intelligence list, you can download *AI Master List* from the accelerator section. This list shows all AI scope items by each Line of Business.

6.2 Explore Phase

This phase will show all the deliverable and tasks for AI.
- RPA – Review Processes for Robotics Process Automation: This task contains two accelerators –Vol 1 and Vol 2 – related to RPA installation and running a BOT with an example of running SAP delivered BOT.
- Machine Learning task contain the details about process of activating Machine Learning
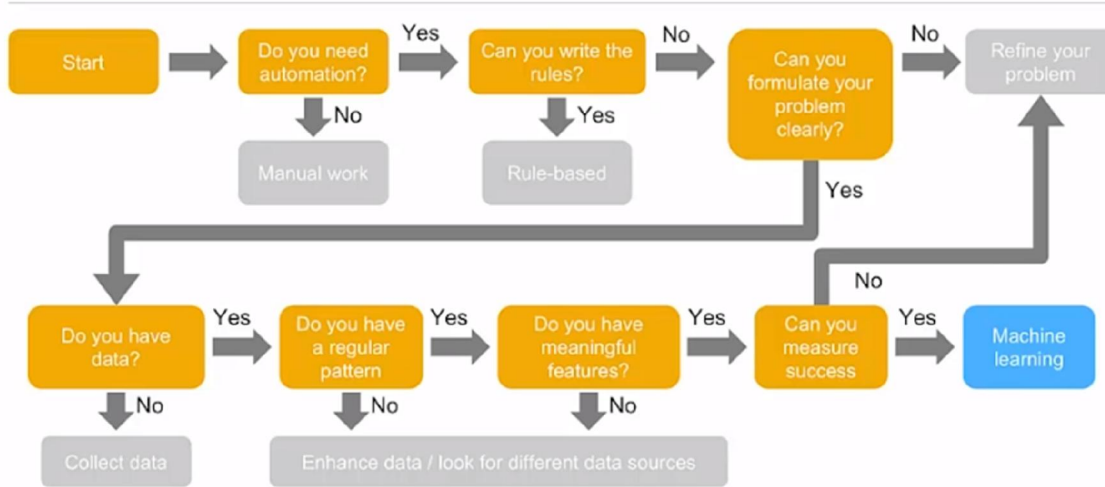
6.3 Realize Phase

In this phase, you will have two deliverables- One for Q-Landscape, and one for Productive Landscape for RPA.

6.4 Run Phase

Now that your solution is live, you can monitor the jobs running in RPA Factory.

VII. BUSINESS-REACTIVE OR PREDICTIVE?

In today's competitive world, it is increasingly important for organizations to understand the market and take appropriate action. But is it always a good choice to market? Not at all. A few times we should predict better results. Many predictive analytics algorithms are used for machine learning and AI that can provide better business decisions.

For companies that export and reap the benefits from their crops, it is important to monitor the condition of transportation to take action in case of problems. The "Materials Overdue - Stock in Transit" app provides a complete overview of open delivery that allows the business user to take action.

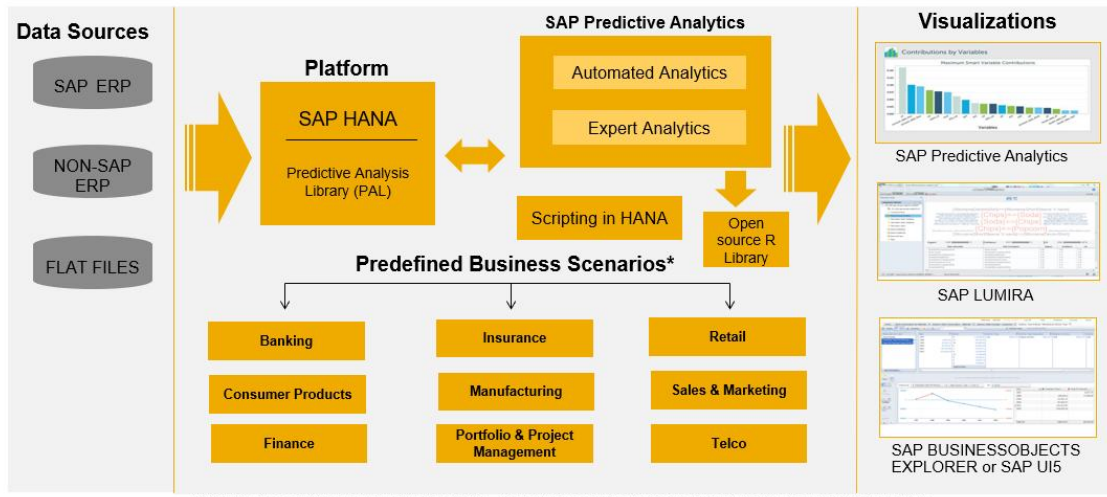SAP Predict Arrival of Stock in Transit allows warehouse managers to

- Predict the arrival date of delivery and break the status into different categories.
- Defining predictable models, training and application scenarios.
- A pre-built KPI set allows for solid analysis of S / 4HANA cloud data with drill down function.
- Timely and effective visibility of stock shipping orders.
- New ability to integrate with SAP S / 4HANA Cloud to get real-time data on production scenarios with predictable statistics.

SAP Cash and Liquidity Management Identify fraud early and increase the accuracy of your income forecast. SAP Cash and Liquidity Management allows Treasury and Risk Manager and Finance Manager to

- Translate history and cash flow history for future use.

Identify expenditure trends: history / emergence, sudden changes, unusual numerical values affecting the business.

- Identify the major impact of cash flow and cash flow? How do they affect the difference between the actual date and the scheduled date for SAP Cash and Liquidity Management Find fraud in the early stages and increase the accuracy of the revenue forecast?

* Refer to the specific scenario slide for details. Also, please see the Software Requirements document for specifics.

VIII. CONCLUSION

Perhaps the most impressive way is AI submitting SAP applications through a company AI dialog. This paper focuses on aspects of modern SAP Conversational AI and how using a digital architecture solution can help organizations direct business processes. Combined with SAP's comprehensive software services, this intelligent customer-facing technology can tailor the organization's response to customer inquiries and concerns. Using advanced AI algorithms, SAP integrated AI system and chatbot feature provides alert feedback to customers, all possible through the collection and processing of all available business data. Moreover, with the use of machine learning models, the contextual awareness of this AI can be continuously improved, giving it greater power to respond intelligently to complex situations.

Supporting data management and automation of machine learning tasks carried out by scientists, with the SAP Data Intelligence. Enabling teams to build chatbots that integrate with organizational data and SAP applications, using SAP Conversational AI. Enabling the organization to automate processes and gain efficiencies through AI/ML services, with SAP Intelligence Robotic Process Automation (RMA). Unifying all AI capabilities into a single platform and allowing the business to deploy AI/ML services into any business process, with SAP AI Business Services.

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