

ARTIFICIAL INTELLIGENCE APPLIED IN ENTERPRISE RESOURCE PLANNING

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ABSTRACT

Agility in decision making was always crucial for business managers. Recent crisis emphasized even more how critical is to have the analyses available in real time. The complexity of the new challenges and the reduced reaction time to adapt according to fast changing environment pushed for automatization of data processing and developing new levels of data modelling.

Artificial intelligence comes to support businesses to handle complex and volatile environment. Artificial intelligence offers new level of analysis, different scenarios are available in real time. Finance people are not any more data processors but strategic thinkers, advisors who supports the decision making with all the needed information coming from automatized data modelling.

KEY WORDS

AI, resource planning

CLASSIFICATION

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INTRODUCTION

How companies solve latest global changes and challenges?

Nowadays, the world is described as VUCA world, this means the following generally valid characteristics are describing the situation: volatile, uncertainty, complexity, ambiguity.

During COVID crisis – the stop of deliveries and services and in parallel the stop of production happened from one day to another. Managers during similar crisis needs to answer questions like what are we doing with our employees? On short term vacation could be an option but what longer crisis needs to be handled as well and the expectation is that best surviving solution is found.

Crisis management required additional analysis, scenarios were needed to be done in real time, immediate follow up on each action and frequent forecast estimations are required in order to keep track the fast-changing situations [1].

Human capacities have their limitations in following up daily changing conditions – this is why machine learning and artificial intelligence is crucial to keep the agility of the business managers at the required level.

DEVELOPMENT TRENDS IN ENTERPRISE RESOURCE PLANNING

Most of Enterprise Resource Planning (ERP) provider tries to provide support for the changing conditions and offers Embedded Artificial Intelligence (AI) options, together with their ERP solutions [2-4]. Most of the ERP providers have already embedded generative AI solution. In parallel to embedded solutions other companies are developing AI solutions, designed to be easy to customize with many types of Data Sources. The advantage of these solutions is the following: easy to customize, fast implementation process and low cost with implementation.

Another trend existing on the market is the migration of data to Cloud based solutions. Prior to migration data cleaning, data structuring needs to happen. Clean and structured data on a cloud server facilitates automatization and application of artificial intelligence.

USE OF GENERATIVE ARTIFICIAL INTELLIGENCE FOR ENTERPRISES: SOURCE OF ACTIONABLE INSIGHTS

Most of the ERP providers already implemented Generative AI solutions. This is a new source of generation of useful content, combine external and internal sources, internal data sources with external data about the market or economy. Companies have access to different scenario analyses in real time, artificial intelligence can generate in parallel many scenarios and update the financial planning immediately as soon as one of the scenarios are validated. In this way Artificial intelligence introduces a new dimension of finance analysis and planning, facilitates to Do more with less, supports deep dive inside the complex problems without extra human efforts.

As a consequence, there is a new role of Finance Planning and Analyse: Controllers are not any more data operators but beneficiary of the data analyses. Controllers are more and more involved in supporting management decisions, and becomes a strategic partner of the managers from different levels.

MICROSOFT DYNAMICS 365, HISTORICAL PARTNER OF ENTERPRISES

Microsoft is involved since a long time in supporting enterprises data analyses [5-7]. Automatic connection to data source or option to manage Data Models are embedded already in Microsoft

Excel. Power BI is the next level of data modelling and offers fast deep dive options on different complex data. Microsoft Dynamics 365 brings automatization further, and offers different scenario analyses in parallel, any change in one of the elements applies automatically to the full data model. Microsoft offers a real-life example a Pizza delivery chain, where the demands are changing daily. Managers of the supply chain are using Microsoft Dynamics 365 to update in real time the changes on each level of the supply chain and avoid in this way the risk of any shortage of delivery of materials.

FREQUENT EMBEDDED SOLUTIONS

Booking of the invoice can be fully automatized. In case the purchase to pay process is fully compliant and information exist in the system, the ERP can match the purchase order with the information from the invoice. As a result of matching can be booking the invoice or sending the quantity and price differences to be approved or clarified by the responsible employee.

Generation payment directly from the ERP, automatic sending of the payment files or importing and booking the bank statements are other solutions which are already in place. Based on cash collection information the ERP can provide prediction on cash forecast and facilitates actions on overdue receivables.

Budget or forecast planning is another area where most of the ERP can provide future predictions based on existing data source. Forecast can be generated automatically based on assumptions provided by the users combined with historical data.

Success Factor is an SAP solution developed together with Microsoft designed to offer support for Human Resources for recruiting and training [4, 5]. Job descriptions, training requirements, training matrix are created with support of artificial intelligence. The full hiring process is supervised by AI.

FUTURE ROLE OF FINANCE PEOPLE

Following the development automatization trends there is a valid question among finance people: Will it take my job?

Even if we agree that some type of jobs like processing raw data, processing information will be eliminated other jobs, more analysers, more strategic thinkers are needed. The chief financial officer will be most probably the chief future officer.

Finance work in 5 years will be probably totally different. Employees will be no excel jockeys any more, they will not process any more the data but understand the figures, data.

Finance people will continue to have access to full data source and data analyses therefore they will become a strategic function of the organization, and will provide guidance, consultancy in real time to managers of the business organizations.

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