



## ENABLING DIY-AI FOR BUSINESS

With rapid advances in artificial intelligence (AI) and data science, data has become an essential asset to every enterprise. AI analytics refers to a subset of business intelligence that uses machine learning (ML) techniques to discover insights, find new patterns and discover relationships in the data.

Business wants to accelerate these discoveries by prototyping AI/ML solutions on their own, without too much of involvement of IT team. They want to do it by onboarding data scientists as part of business team. However, IT team would like to maintain single source of truth for the corporate data and would like to avoid local copies of data being prepared by such project.

To mutually benefit the IT and business teams, the concept of DIY-AI (Do It Yourself AI) is invented. This concept allows IT team to maintain control over data and the business team retains control over logic and sensitive business rules. IT team becomes enabler by providing infrastructure and access control over the data to the AI programs written by business owned data scientists. Allowing agile AI/ML projects and letting fast fail principle prevail.



## Executive summary

IT teams of the organization who implement the projects and maintain the software landscapes are always best suited to control the architecture and the prevailing data models of data repositories.

IT teams will be able to provide the data sets to address the functional needs of the business users while making sure the single source of truth of data. Meaning the data repositories avoid data redundancy. Along with that, they also manage aspects like security, data authorizations etc. IT teams strive to keep the sanity in the data warehouse with the aim to have scalable and consistent systems designed to enable and support business intelligence (BI) activities like analytics.

Business users (business) on the other hand know their data and its usage better than anyone else and they are best suited to design the business rules and explore the data in a way to get intelligent insights that the data has to offer; serving them to take their next best action in the business context.

With the availability and ease of use of languages like Python and R and the AI/ML capabilities they bring, business can use the mature data sets (provided by IT teams) and implement DIY data science projects on top of that. For this purpose, business could employ data scientists closely working with them and benefit from their skills for this purpose.

## Introduction to AI

AI can be classified into three main domains: data science, computer vision and natural language processing (NLP). This document explores the aspect of data science. Data science is all about applying mathematical and statistical principles to data in order to derive interpretations and visualize a large amount of data in a simple way.

## Business intelligence

By the definition, business intelligence is a technology that is used to gather, store, access and analyze data to help business users in making better decisions. On the other hand, artificial intelligence is a way to make a computer, a computer-controlled robot, or a software that thinks intelligently like humans.



## DIY-AI

DIY-AI approach promotes a symbiotic relationship between IT teams and business teams creating a win-win solution, which adds value to the enterprise. This approach assigns the responsibilities in such a way that it follows most essential governance aspects of the IT implementation keeping in mind the aspirations of business teams adding value to the organizational success.

## How DIY-AI works

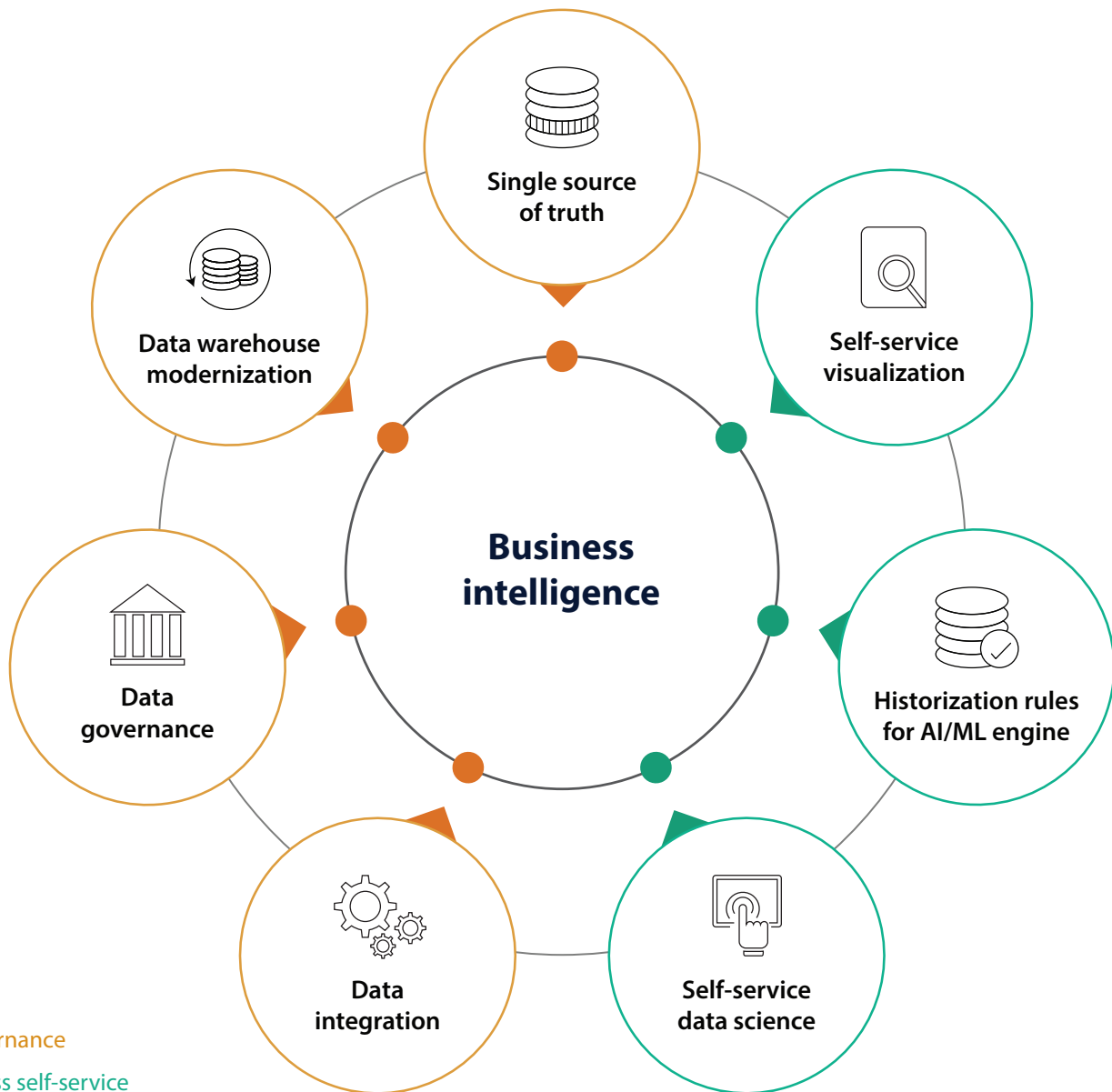
Within DIY-AI concept, there are two essential stages: data preparation (Stage 1) and data analysis (Stage 2).

IT teams will be part of the data preparation process (Stage 1). They will implement and govern the backend data models and provide the necessary authorizations for the business to use this data.

Business teams will take part in data analysis process (Stage 2). Their needs can be as simple as they just want to control business rules to analyze the data or can be as complex as they need to have the agility and flexibility to build AI prototypes by themselves to implement these rules.

Indeed, algorithms and mathematical models are complex to implement and need specific expertise. Hence, business teams will hire data scientists close to them.

Figure 1: DIY-AI steps



IT governance

Business self-service

## IT governance

IT teams will exhibit following responsibilities:

### Single source of truth

Creating meaningful and unified data sets of corporate data by functional domains by avoiding data redundancy in data warehouse.

### Data governance

Managing several aspects like usability, availability, integrity and security of the corporate data based on internal data standards and processes.

### Data warehouse modernization

Staying to keep the state of the art data warehouse by implementing best of tools and practices.

### Data integration

Combining the data from several business systems and sources to create comprehensive data repositories.

## Business self-service

Business teams will exhibit following responsibilities:

### Self-service data science

Data scientists from the business teams implement AI/ML algorithms to derive insights from data.

### Self-service visualization

Being agile and creating charts and visualizations to interpret the data as per changing needs.

### Historization rules for AI/ML engine

Business keeps control over the logic and sensitive business rules and keeps the rules version control.



## Case study

An enterprise receives huge volumes of claims every day for reimbursements. Going through all the claims manually is both time consuming and resource consuming. The enterprise thus wants to perform real-time analysis on claims posted to find fraudulent claims and take appropriate actions. To do that, business team defines a set of rules to be applied on the claims data.

Let's consider that the enterprise in the example is using SAP HANA database.

### IT governance

As part of stage 1, IT team will implement the data models to get the real-time data of claim submissions with all the required attributes.

- IT team will hence do the data preparation on HANA database, ready to be consumed.

- The Python server which can be used to perform the AI/ML solution is also set up by the IT team, thus enabling the entire IT infrastructure for business self-help.

- Business team hires data scientists who will implement machine-learning models using Python language and the packages/libraries it brings.

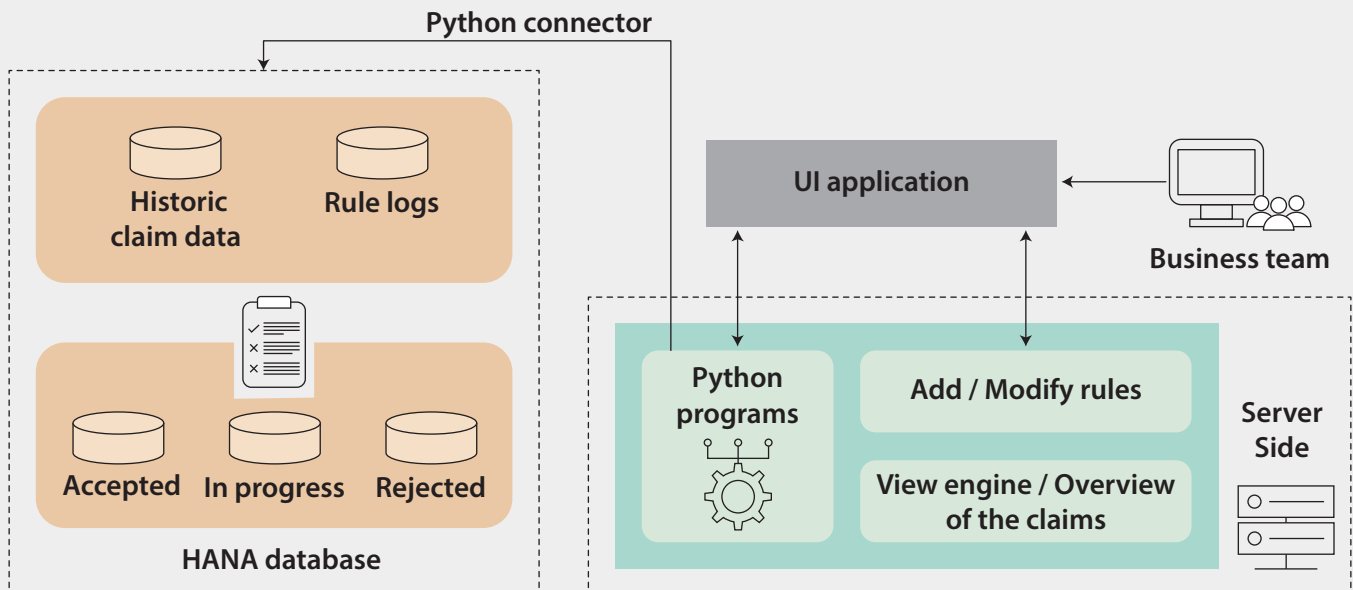
- Fig. 2 is an example of such a technical connection.

- These algorithms will use the business rules defined and authorized as they mature.

- Once everything is implemented for each step (IT and business), the end user will have the possibility to have a quick overview on all the claims. Using a dedicated UI application, this user can directly accept or reject a claim as well as add/modify some rules without doing any code changes.

- This way business teams will have the agility and autonomy to adapt the business rules and algorithms to find fraudulent claims and to swiftly act on them, saving huge amounts of money for the enterprise.

Figure 2: Case study architecture



## The roadmap for enabling DIY-AI for your enterprise

1. Foster the relationship between the IT and business teams while outlining their responsibilities as detailed in this point of view document.
2. Your IT strategy should be to clearly define the needs around the data requirements.
  - IT teams should focus on data acquisition, availability and process governance.
3. Empower your business teams for self-service data science.
  - Hire data scientists close to the business teams to implement AI/ML data models.
  - Define the business rules to be applied and bring in the domain expertise to effectively implement them.



## Conclusion

Enterprises are becoming ever intelligent by using artificial intelligence and machine learning in day-to-day life.

By sharing the responsibilities of IT and business teams the DIY-AI way, IT team becomes an enabler by providing infrastructure and access control over data and the business

team is empowered for self-service data science gaining the agility and flexibility to efficiently analyze the data to create actionable insights.

This is what we call the “Do It Yourself - Artificial Intelligence”.





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