

Decision-making processes through data intelligence

Module 6: Administration

- EXECUTIVE SUMMARY

Guidance of organizational decision-making processes through data intelligence. This module prioritizes the structuring of analytical thinking through data collection, analysis, and visualization, supported by Business Intelligence in managerial routines. Here, technology serves the purpose of transforming raw data into practical support for strategic actions and well-grounded decisions.

For 10 weeks, a dedicated group of students and their instructors will understand your challenge and propose solutions using agile methodologies. By the end of the program, your company will receive up to 5 functional prototypes, allowing you to accelerate and validate ideas.

- THE CHALLENGE

Organizational decision-making is often hindered by the absence of structured decision-making processes and by imprecise diagnoses of business problems. Even in contexts with large volumes of data, the lack of systematic analysis and consolidated visibility prevents information from effectively supporting strategic choices, resulting in a reactive and fragmented decision-making process.

- MODULE OBJECTIVE

To structure data-driven decision-making processes through a data intelligence simulator that generates a multiple criteria decision, using Business Intelligence as a strategic support for the collection, processing, and visual analysis of organizational information.

- PROBLEMS WE CAN ADDRESS

1. Real Success Cases (What we have already delivered)

- **Agribusiness & Industry:** We developed for **BAYER** a decision-making process through an advanced data intelligence simulator, capable of generating multiple-criteria decisions to support their Decision Agriculture model.

2. Other Potential Applications (Where else we can generate value)

Organizational decision-making is often hindered by fragmented data, unstructured processes, and intuition-based choices. Our students can structure data-driven decision-making processes, building Business Intelligence (BI) simulators and interactive dashboards to support your strategic actions in areas such as:

- **Market Expansion & Product Launches:** Structuring BI tools to evaluate the feasibility of new product launches and simulate market expansion scenarios, reducing the risks of blind strategic moves.
- **Investment Prioritization:** Developing analytical models based on historical market data and performance indicators to optimize investment decisions and allocate resources more effectively.
- **Performance & Risk Management:** Creating decision-support dashboards that consolidate key performance indicators (KPIs) from different business units, eliminating information silos and providing real-time visibility for executives.

- **POTENTIAL USE CASES**

- Structuring decision-making processes for market expansion.
- Defining criteria for resource allocation.
- Feasibility analysis for product launches.
- Prioritizing investments based on performance indicators.
- Evaluating the performance of business units.

- **POTENTIAL DELIVERABLES**

- PESTEL Analysis
- Exploratory Data Analysis (EDA)
- Problem Framing
- Payoff Matrix with Decision Criteria
- Data Characterization & Context
- Decision Tree Model
- Decision Simulator
- Sensitivity Analysis Report
- Executive Report

- **ASSUMPTIONS AND REQUIREMENTS**

1. **From the Partner Company:**

- **Decision Mapping:** Documentation of current decision-making processes to identify where information is critical.
- **Strategic Alignment:** Clear definition of the key indicators and metrics that truly govern the business.
- **Knowledge Curation:** Guaranteed access to subject-matter experts to validate business context and analytical requirements.
- **Access to Data Assets:** Availability of the required data sources and originating systems needed to support the decision process.

2. **From the Project:**

- **Business Problem Clarity:** The existence of a clearly defined organizational issue or challenge that requires analytical support to be addressed.
- **Sampling and Feasibility:** A sufficient volume of data to ensure statistical relevance and to support sound decision-making.

- **Data Quality and Accessibility:** Data structured in formats that enable processing and analysis (spreadsheets, databases, or APIs).
- **Security and Compliance:** Assurance that data handling complies with LGPD requirements and established data governance standards.

- **SCOPE AND CONSTRAINTS**

1. Included Scope:

- Business Modeling and Problem Framing: Definition of the decision logic and identification of critical indicators (KPIs) prior to technical execution.
- Strategic Data Architecture: Development of BI designed to address specific business questions.
- Visual and Diagnostic Intelligence: Creation of interactive dashboards focused on performance visibility and the reduction of decision-making subjectivity.
- Consultative Documentation: Preparation of technical documentation that explicitly links metrics to current decision-making processes.

2. Out of Scope:

- Final Decision Execution: The project provides decision support, but the final strategic choice rests exclusively with the organization's management.
- Production Environment Deployment: The focus is on model and solution development, without involving the organization's final IT infrastructure.
- Ongoing Operations and Support: Post-project maintenance and long-term, real-time monitoring are not included.
- Legacy System Remediation: Data migration or correction directly within source systems or transactional platforms is excluded.
- Leadership Development: The scope is limited to decision-support tools; training in managerial or behavioral leadership competencies is outside the project.

- **POTENTIAL TECHNOLOGIES / ARCHITECTURE / BUSINESS TOOLS**

- **Potential Technologies:** Python, SQL, Power BI/Tableau/Metabase, BigQuery/Redshift, APIs REST.