BUSINESS INTELLIGENCE

CODE: **ENST10352**

CREDIT HOURS: **40 HOURS**

PROFESSOR: **ALBERTO DE MEDEIROS JÚNIOR**

General Objective

Enabling the master's student to diagnose and solve market problems based on data of different natures and sources, integrating them with internal information, aiming at the effectiveness of the company's results, such as the practice of business intelligence, enable decisions related to product and process innovations that provide the development of new markets.

Specific Objectives

- To be able to search and analyze data that help to characterize the reality of the identified opportunity, regarding its demand, prices, quality, distribution, image, competition and other relevant aspects from reliable databases.
- Be able to obtain and process internal and external data that affect the use of the opportunity considering the decision-making regarding the adequacy of the company's resources, capabilities and processes to ensure effective results.
- Understand the importance of information in companies for the integration of innovation with the development of new markets
- Identify the main information systems used by companies.
- Understand how information systems are used to support decisions in the integration of technologies and markets.
- Understand how machine learning and Artificial Intelligence can be used to support managerial decision-making.
- Understand why visually represented data is suitable for decision makers.
- Use technological resources to interactively visualize the data collected in companies.

Focus and approach

The focus of the course is centered on issues related to the use of data, information and knowledge for the management of technology and innovation integrated with the needs of the market, using technological resources for data analysis and visualization.

The approach of the course is theoretical-practical, with the use of systems for decision support, data visualization and data mining, with an emphasis on machine learning, which provides a space for discussion and practice of methods and techniques more appropriate to applications aimed at solving concrete issues.

Content

1. Digital transformation and emerging technologies
    1.1. Digital Transformation
    1.2. Internet of Things
    1.3. Cognitive Computing
    1.4. Artificial intelligence
    1.5. Industry 4.0
    1.6. Cryptocurrencies
    1.7. Blockchain
2. Information Systems Integrating Technology, Innovation and Markets
    2.1. Introduction to Information Systems
    2.2. Information Attributes
    2.3. The Roles of Information Systems
    2.4. Technology-Innovation/Market Integration
    2.5. The Search for Opportunity
3. Operating with Information Systems
    3.1. Information Systems in Operations
    3.2. Integrated Management Systems
    3.3. Information Systems to Support Decisions
4. Deciding with Knowledge
    4.1. Decision Structure in Companies
    4.2. Decision Making Models
    4.3. Rationality in Decision
    4.4. The Rational Decision-Making Model
    4.5. Bounded Rationality
    4.6. Heuristics and their Biases
5. Mining Data to Create Value for Companies.
    5.1. Business Intelligence Concept
    5.2. Database Management Systems
    5.3. Knowledge Discovery in Databases
    5.4. Applications of Data Mining
    5.5. *Big Data*
    5.6. CRM Systems
    5.7. Decision Making Considering Opportunities and Threats
6. Data Regulation
    6.1. General Data Protection Law (LGPD)
    6.2. Rights Established by the LGPD
    6.3. National Data Protection Authority
    6.4. Data Protection Officer

Teaching-learning strategy

- Basic procedures: reading, group discussions, teacher presentations, and preparation of partial and final papers.
- Communication process by group dynamics, for which students should read and reflect on the indicated texts and discuss in the classroom.
- On the first day, groups of students are formed with the objective of enabling greater productivity in the discussions, through the exchange of different views and interpretations. Students with educational and professional backgrounds, as well as diverse experiences, are chosen.
- In the first part of the class, the questions raised by the readings of the articles are discussed within the groups. Next, the professor presents the explanations on the subject.
- In the second part of the class, debates are opened for the whole class, based on the teacher's readings and explanations.
- The last part is reserved for the closing of the class, highlighting important aspects dealt with and commenting on those that may not have been raised in the discussions.
- The practical activities consist of developing solutions in SuperDecisions (https://superdecisions.com), Tableau (https://tableau.com) and RapidMiner (https://rapidminer.com).
- For Tableau, training will be used, with exercises that enable visualization

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Note: **F** = physical edition in Mackenzie's libraries
D = digital edition in Mackenzie libraries

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