**Requirements specification for Student Research Management business process**

**1. Business goals of the organization**

The ETI Faculty at Gdańsk University of Technology excels in AI, telecommunications, and embedded systems. They drive innovation, advance technology, and prepare future experts through cutting-edge research and industry collaboration. The main goals of organisation are:

We will take the previous five years data and calculate the average. Each year, we will compare the current values to these averages. The key measurements will be:

* A 5% increase in student participation in research projects.
* A 15% increase in the number of successfully published final research papers.

At Gdańsk University of Technology they would like to analyze the impact of increased educational activities on research outcomes. Moreover, they want to assess student involvement in research projects and identify the most promising research areas. In addition, they aim to evaluate how financial support influences the success of student research teams.

**2. Business processes**

## **Student Research Project Management**

### **General description of the business process and performance metrics**

The Student Research Project Management process involves organizing, tracking, and evaluating student-led or faculty-supervised research projects within an academic institution. It ensures that research activities are well-structured, efficiently managed, and aligned with institutional goals.

**Performance Metrics & Analytical Challenges:**

#### **1. Research Output Metrics:**

* Number of successfully completed student research projects.
* Number of research papers submitted and published.

#### **2. Student Participation & Engagement:**

* Number of students involved in research projects.
* Percentage of students completing research projects successfully.

### **3. Research Project Management & Efficiency Metrics**

* Average time taken to complete a research project.
* Percentage of projects completed within the proposed timeline
* Number of research projects abandoned or delayed.

**Typical questions:**

* What is the number of successfully published final research papers?
* Which professors are the best based on the success of the projects they supervise?
* How many students participate in research projects?
* What is the success rate of research projects across different departments?

### **Data:**

* **Primary Source:** University’s Learning Management System (LMS), which logs courses, research components, and student participation.
* **Secondary Source (Excel or CSV):** A manually maintained database of student research projects, their topics, and their outcomes.

## **Research Project Financial Management**

### **General description of the business process and performance metrics**

The student research project management process ensures students engage in faculty-led research and benefit from financial support. A review committee selects students and assigns funding. Throughout the project, milestones are tracked, and at the end, faculty assess project outcomes. The university aims to evaluate the impact of financial support on student research success and identify high-potential research areas.

Performance Metrics & Analytical Challenges:

* Measure the effectiveness of financial support by analyzing research output from funded vs. non-funded projects.
* Assess whether increased funding leads to more patents, publications, or industry collaborations.

### Typical questions:

* What percentage of student research projects receive financial support?
* Which research areas attract the most student participation?
* What is the publication rate of student-led research projects?
* How does financial support impact research success (e.g., patents, conference presentations)?

### Data:

* Primary Source: University’s Research Project Management System (relational database storing student participation, project details, and funding data).
* Secondary Source (CSV or JSON): A dataset containing grant amounts, project outcomes, and research topics.