

Specification of business processes

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1. Business goals of the organization - “Gall Anonymous” High school

“Gall Anonymous” High school - is an innovative high school that educates the youth. All the classes are conducted stationary in our facility in Sopot. In 2023, GA High School was placed 3rd in the ranking of the best high schools in Pomeranian voivodeship on ‘Perspektywy.pl’. The main goal of the “Gall Anonim” High School is to **become the best high school in Pomeranian voivodeship in 2024**. To achieve this goal, we need to **increase the average of final exams by 10% compared to the previous year**. To measure the process of our goal, “Gall Anonim” high school monitors 2 metrics:

- results from monthly monitoring exams (from 0% to 100%),
- points of students’ satisfaction (in scale from 1 to 10)

It assumes that our High School is successful if there is a **rising trend for the first metric at a level not lower than 1% per month, and for the second one at a level not lower than 5% per year**. Currently the biggest problem is to answer the question why in the analyzed month the predicate points of certain students has decreased or increased.

The most important issues in high school include knowing the objective knowledge of students, lack of satisfaction of students and lack of willingness to participate in extracurricular activities. Enrolled students are assigned to different classes that count more or less 30 people and have various subjects for example: mathematics, physics, literature, history, english. In addition, teachers are specifically assigned to teach a particular subject to a specific class. Each teacher has different methods to conduct classes and evaluate student’s work, leading to potential differences in grading among classes. The satisfaction level of each student is checked every year. Moreover the students can take part in extracurricular activities and teachers can supervise these contests.

The principal would like to analyze the influence of the teaching method of hired teachers on the performance of their students in exams and their satisfaction. Moreover, he wants to check if the results of their innovative monthly exams are highly correlated to the final exam results at the end of the academic year. In addition, the head teacher wonders if the number of lessons conducted or attendance results in a higher amount of points.

2. Business processes:

Monitoring students

General description:

The process of monitoring students goes as follows: During each month the teachers have detailed prescriptions of what their students should know before an exam. They are free to choose which method they want to pass on the knowledge (3 options: mass- there are lectures and the whole class does activities together, individual- everyone does activities by their own, group- they do activities in groups). In the first 3 days of every month, instead of classes, students take the monitoring exams. Students need to take the exams from each course they take. The exam is the same for all of the students in every study year. The exams are signed by code, so the teacher grading the exam does not know whose work it is. For each type of exam, there's an answer key. In addition, at the end of each academic year the final exams are conducted from each course (its purpose is to check the knowledge from the whole year).

Typical questions

Which student made the biggest progress from each course?

Who from what course made the biggest progress?

Whose classes have the highest average result?

Are monthly exam results correlated to final exam results?

Is the attendance related to the results on monitoring exams?

Which learning method is the best?

Data:

All data is extracted from the schools system- "toGather". This system store info about who is signed to what class, who is conducting classes, attendance of students, results of monitoring exams, and results of matura exams, teachers and their method of teaching and satisfaction level of students.

In addition, on the first sheet of EXCEL there is more data about students based on survey answers. Moreover data about teachers also are stored in the EXCEL on the second sheet.

Participation in the extracurricular activities

General description:

The process of participation in the extracurricular activities is as follows. Each month, teachers inform students about upcoming contests and extracurricular activities, and eager them to participate, mainly by telling them what are the benefits and prizes. Students interested in participating in specific contests approach the teacher and express that they want to participate. For the whole preparatory period, the teacher serves as a guide - provides exercises, and offers assistance, when students struggle with something. When the contest starts, all participants try their best to get to finals, because that grants students benefits, including 100% from matura from a particular subject. The school maintains records of students participation, who reached which stage and who were their supervisors

Typical questions:

- Are there any teachers that have no students participating in any contest?
- Which students are the most involved in extracurricular activities?
- Which teachers' students perform the best in contests?
- Are there trends in the types of contests or activities that students are most interested in?
- How does participation in extracurricular activities contribute to results in school?
- In which competitions is it statistically easiest to get to the finals?

Data:

All data about involvement in extracurricular activities are recorded in our high school database. The information about a student's achievements are passed to the school secretary from the student himself, who participated in a contest/project, or the teacher who was his supervisor.