INTERNATIONAL UNIVERSITY OF APPLIED SCIENCES

# CASE STUDY

## Tasks for Course: DLMDSEBA01 – Business Intelligence I

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# 1. TASKS

In this section, you can select one of the listed case studies to work on (see sections 1.1, 1.2, 1.3).

When working on your case study, please consider the task described in the respective case study itself.

**Note on copyright and plagiarism:**

Please take note that IU Internationale Hochschule GmbH holds the copyright to the examination tasks. We expressly object to the publication of tasks on third-party platforms. In the event of a violation, IU Internationale Hochschule is entitled to injunctive relief. We would like to point out that every submitted written assignment is checked using a plagiarism software. We therefore suggest not to share solutions under any circumstances, as this may give rise to the suspicion of plagiarism.

## 1.1 Task 1: BioFood

After your studies, you accept a consulting position at a management consultancy specializing in advising retail companies in the field of Business Intelligence (BI).

In the retail sector, in particular, the ongoing consolidation and coordination processes intensify the competition for these companies.

For these reasons, the medium-sized trading company "BioFood" has recently contacted your management consultancy to initiate a consulting project regarding the planning of a sustainable BI system.

The client's idea is to use a BI system in order to gain an information advantage, thereby giving them a competitive edge. For example, the product range design process is to be optimized with the help of data mining. There are also plans to address particular customer groups with the help of personalized advertising.

By answering the following questions, your project team is expected to support the client in planning a BI system.

**Task:**

Process models are used for the handling of complex IT projects. These determine the order in which project activities are carried out. In the IT sector, there are several different process models which vary according to the project being carried out. The project manager has the task of selecting the optimal process model from several options. Process models are used for the handling of complex IT projects. These determine the order in which project activities are carried out. In the IT sector, there are several different process models which vary according to the project being carried out. The project manager has the task of selecting the optimal process model from several options.

As in conventional IT projects, the development of BI systems requires a structured approach. The procedures are similar in structure to those of other applications and information systems but have some distinctive features.

Studies show that the selection of a project approach is particularly influential on the success of a BI project.

However, the large number of existing general and BI-specific process models poses the question of which model to use for implementing a BI system.

Work through the following tasks as part of your case study analysis:

1. Identify and explain the specifics of BI projects
2. Describe the general process models and discuss to what extent they are suitable for the implementation of BI projects.
3. Analyze and explain the most common BI-specific process models.
4. Develop appropriate selection criteria that enable a comprehensive selection of BI process models.

### 1.2 Task 2: Sylt Fish Specialties

After your studies of Business Intelligence at IUBH, you accept a job as an IT consultant in a specialized management consultancy with a focus on Business Intelligence.

Sylter Fischspezialitäten GmbH recently contacted your management consultancy to initiate a consulting project for the design and development of a BI application. The first milestone is reached with the successful creation of a prototype.

The customer is an up-and-coming company from the island of Sylt with almost 400 branches in Germany. This makes the company one of the top 5 fast food restaurants in Germany. Their business model is to offer fresh fish via the fastest inland route. This logistics concept must meet correspondingly high standards.

Do people like to eat salmon in the evening? How popular is soused herring in Bad Honnef? For dessert, red berry compote or vanilla quark? For Sylter Fischspezialitäten GmbH, these questions are of great importance. With the help of Business Intelligence, the highs and lows of the branches from Flensburg to Munich can be recorded quickly. Reasons for changes in turnover can be found with detailed reports, weak points can be discovered, and actions can be undertaken. Thus, additional sales can be generated. In addition, each branch can compare itself with the others.

The reports or analyses must be available every morning for certain user groups, e.g., employees from sales or controlling.

In order to answer the above questions, the logistics manager plans to implement a suitable 'report system'. After an initial requirements analysis with the IT manager, data from the stores is required. The management is positive about the project but demands timely results.

**Task:**

Create a prototypical BI application with sales and the dimensions time, product, and geography.

Work through the following tasks as part of your case study analysis:

1. Identify the relevant operational systems and provide exemplary extractions as flat files.
2. Design and implement a data model for the DWH.
3. Load the test data into the DWH using a suitable tool (e.g., an ETL tool).
4. Create five suitable analyses using appropriate BI tools.
5. Please document the results in your paper. Justify in particular your decisions and procedures.

### 1.3 Task 3: Meier Drogeriemarkt GmbH

After your studies of Business Intelligence at IU International University of Applied Sciences, you accepted a job as "Business Intelligence Architect" at a German trading company.

Meier Drogeriemarkt GmbH is an up-and-coming company situated in Western Germany with almost 160 branches. This makes the Cologne-based company one of the top three drugstore chains in Germany.

In addition to a wide range of investments in its own employees, the corporate culture also includes a corporate management style based on detailed figures. The goal of the BI project is to create a uniform reporting system that provides all company data with consistent key figures. The DWH will thus become the central information supply for a large number of departments, especially branch management, category management, and CRM.

Branch management: Currently, it is still common practice to distribute reports and analyses weekly by internal mail. In the future, branches will have direct access to the DWH. Store managers will be able to evaluate, for example, up-to-date sales, stocks, and other key figures. The DWH helps to make decisions and analyze undesirable developments.

Category Management: The correct selection of products is determined in category management. Decisions must be backed up with valid figures. In the future, sales will be monitored with the help of the DWH. This will allow the assortment to be continuously optimized in the "procurement" and "marketing" departments.

CRM: In the future, the so-called bonus programs (e.g., Payback) will also be evaluated. With the help of the Payback card and the data collected with it, conclusions can be drawn about consumer behavior. Advertising measures can be tailored to the individual needs of customers and success can be measured accordingly. This means that the customer's wishes are no longer read from their eyes, but from their data.

The DWH will become a central part of the daily work: the employees use the information for daily decisions.

In order to implement the above-mentioned visions, the head of controlling plans to implement a corresponding "report system" and addresses the requirements to the IT manager.

The management is positive about the project but demands timely results. The head of controlling is appointed as BI project manager. This manager was given preference over the IT manager in order to strengthen the business and non-technical focuses.

An initial, rough requirements analysis has already taken place. The BI project manager assigns you to the conceptual development of a DWH architecture.

**Task:**

Design a future-proof BI architecture with associated software components.

Work through the following tasks as part of the case study:

Design an appropriate DWH architecture.

1. Model a multidimensional data model with three dimensions for the analysis of receipts.
2. Analyze and classify five "ETL tools" and five "front-end tools" respectively. Make recommendations according to the previous evaluation (e.g., Talend, Informatica, Cognos, QlikView, etc.).
3. Summarize the individual solution approaches in a holistic BI architecture, including its proposed "tools" (big picture).
4. Document the results in the report. Justify in particular your decisions and procedures.
5. Make assumptions if you are stuck on the solution or feel that additional information is missing.

## 2. ADDITIONAL INFORMATION FOR THE EVALUATION OF THE CASE STUDY

When conceptualizing and writing the case study, the evaluation criteria and explanations given in the writing guidelines should be considered.

**Identification**: Was the problem understood and presented correctly?

**Approach**: Introduce the models and theories you use. In particular, you should describe and explain your analysis and its results. Document your approach in detail and reflect on it continuously.

**Quality**: Is your assignment well-structured and does it actually solve the problem?

**Result**: Are the results comprehensible and are they supported by literature (research)?

**Formalities**: Adherence to the guidelines.

**Accuracy**: Correctness of spelling and punctuation.

**Language**: Quality of the linguistic expression and adequacy of language style for scientific work.

## 3. TUTORIAL SUPPORT

Students have the option to make use of any one of several opportunities to get support for their case study analysis with the course tutor. Taking advantage of these opportunities is the responsibility of the student and the use of these services is voluntary. It is possible to contact the tutor regarding formal and general questions about working on the case study. Please note: a review of outlines and aspects of the presentation is not intended here, since the student's ability to work independently is part of the evaluation and counts as a part of the overall assessment. There are however general tips for developing the case study to help you getting started.