Presentation:
OLAP and DW/BI Lifecycle, Part 2

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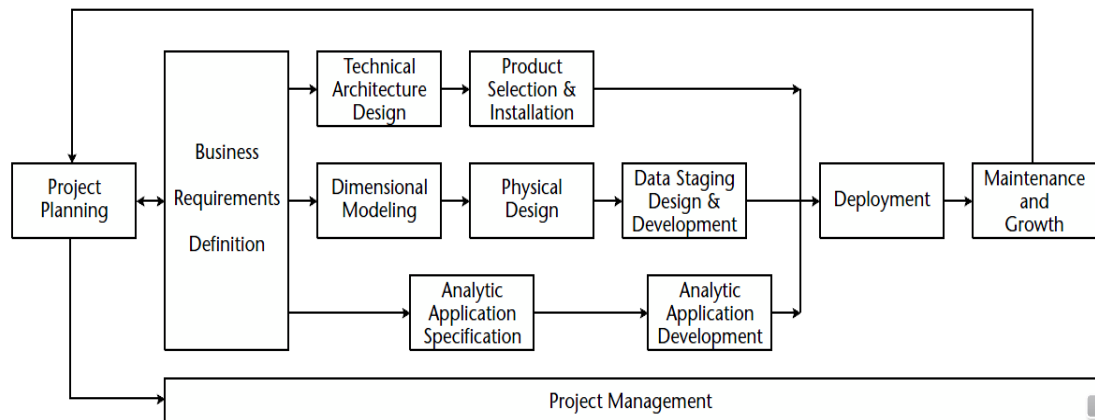
DSV, Stockholm University
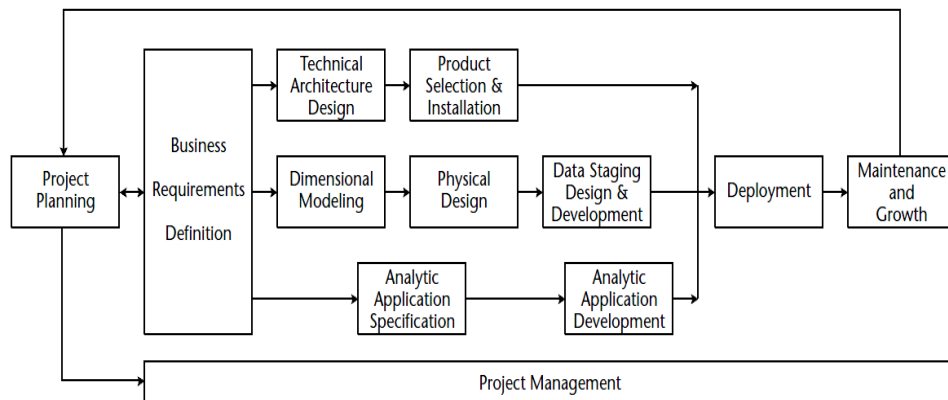
DW/BI Lifecycle Overview

DW/BI Lifecycle Overview

- The road map outlines the steps that need to be carried out in a DW/BI Project

- The diagram shows task sequence/dependency/concurrency (in which order the tasks should or must be carried out, and which tasks can be carried out in parallell)
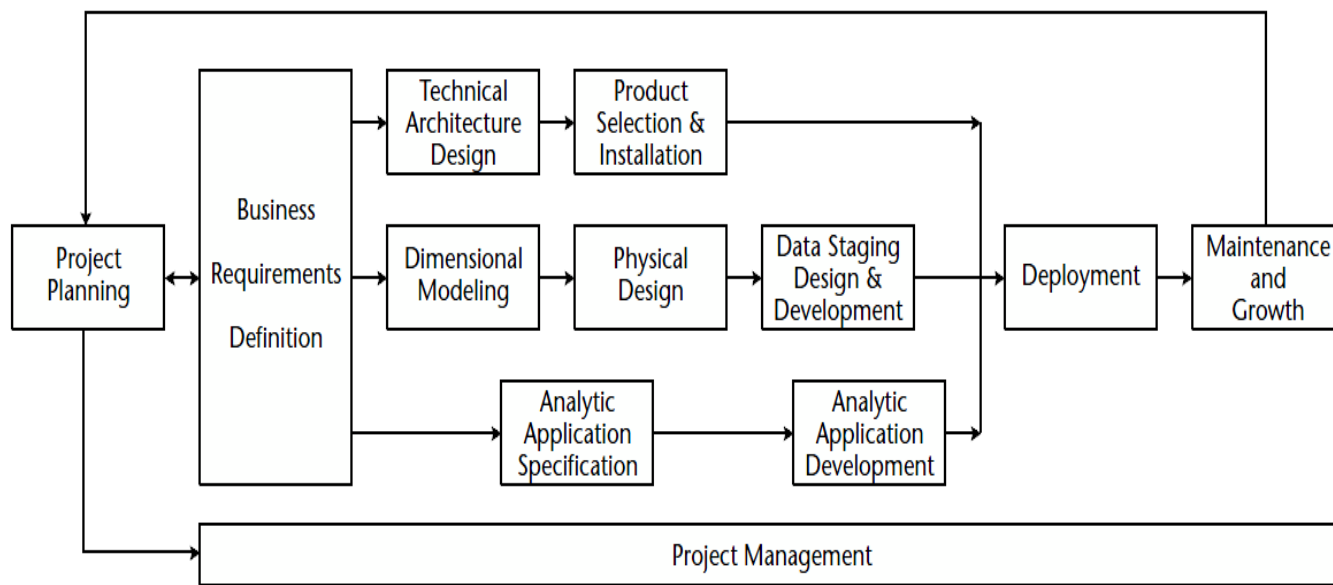
DW/BI Lifecycle Overview

- The lifecycle roadmap focus on:
    - Business need
    - Dimensional structured data
    - Incremental and Iterative approach

DW/BI Lifecycle Overview

Project Planning & Management

- **Assessing readiness to proceed**

  Tre most critical factors:

  – Have a strong executive business sponsor (but not only the CIO)

  – Have a strong business motivation, that is, the DW/BI solution solves critical business problems

  – Have technical and other resource available and, most important, have data feasibility: that is, resonably clean source data at the right granularity
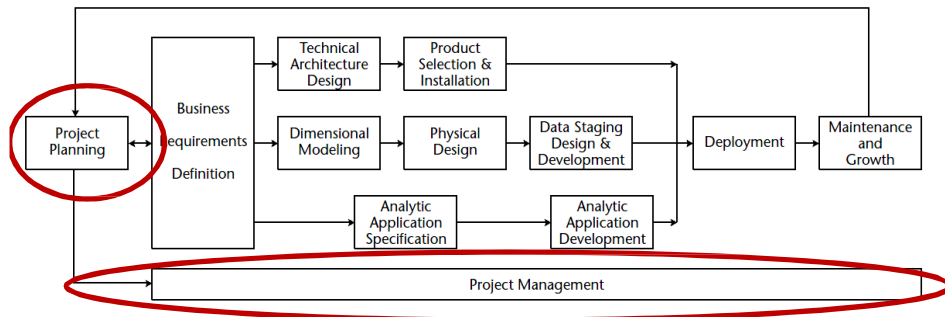
Project Planning & Management

- **Provide Scope**
  - Decide scope of the project based on business requirements and IT resources, that is, what should be designed and implemented in the project
  - Consider that BI project tend to expand rapidly
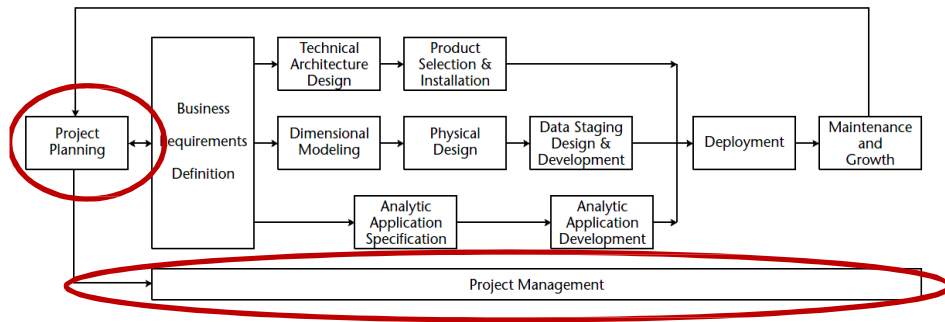

- **Provide Justification**
  - Calculate cost/benefit ratio
  - Focus on business opportunities and not only costs

Project Planning & Management

- **Plan and allocate resources**
  - Plan, launch and maintain plan
  - Obtain resources from both business and IT to carry out the plan
  - Involve users early and often – it is critical to DW/BI acceptance
 - Establish communication strategy – very important in DW/BI project
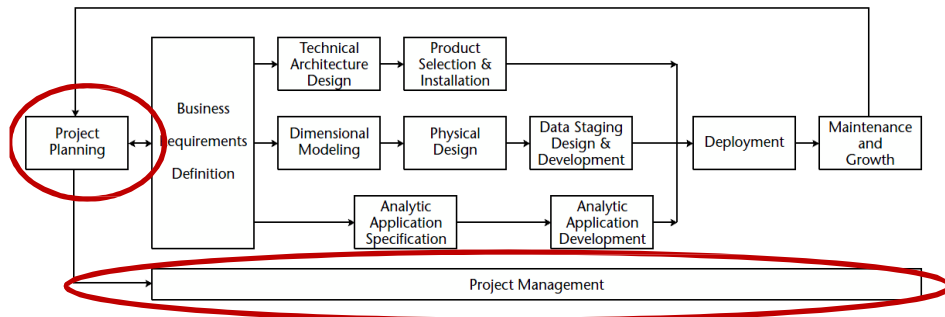
Business Requirements Definitions

- Business users requirement will impact almost all design and implementaion decision, see the three arrows from the business requirements definition box
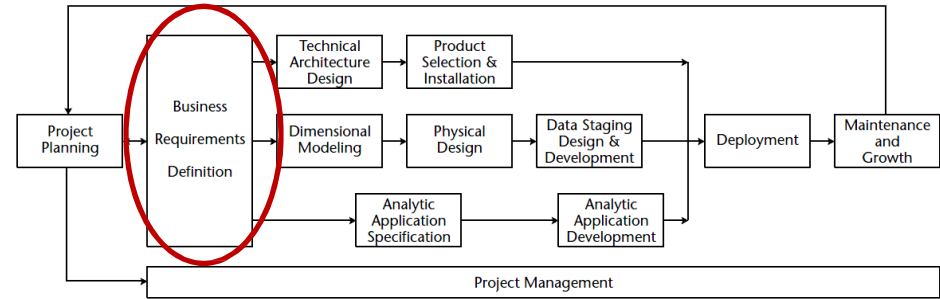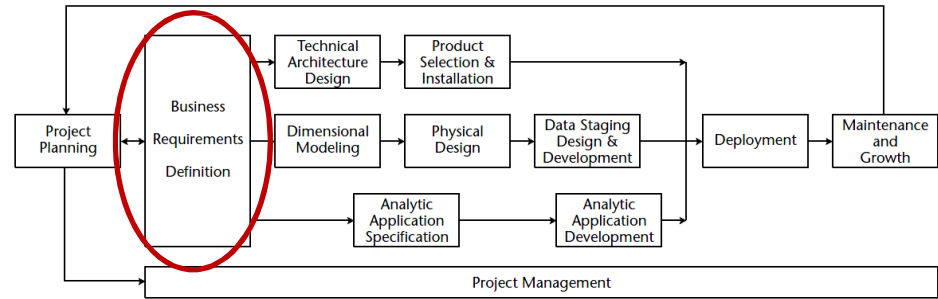
Business Requirements Definitions

- Collect business requirements
  - Interview business users from different part of the organization to identify needs, issues and opportunities
- Collect data-centric info
 - Interview data and IT experts to identify data realities
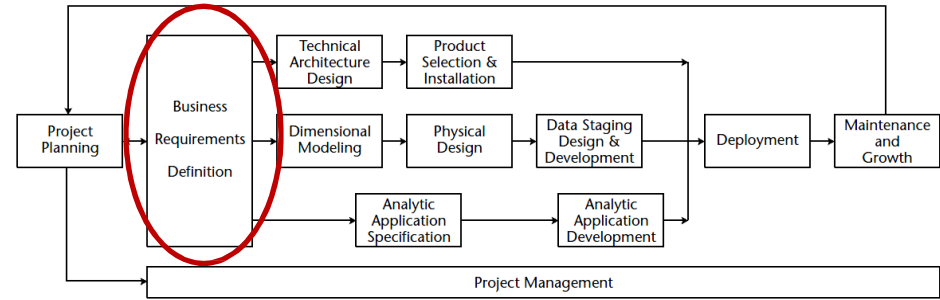
Business Requirements Definitions

- Document requirements
  - Relate the requirement to business process
  - Identify the metrics
  - Specify why business users want to analyse these metrics
  - Specify current limitation
 - Specify feasilibility to provide the data needed for the metrics

Business Requirements Definitions

- Prioritize requirement based on business processes

  - Use the prioritization grid, where the vertical axis refers to the potential impact, and the horisontal axis refers to feasibility.

  - Business processes is placed in the grid, to support prioritization

  - Start with business processes in the right upper corner, and avoide the one in the left right lower corner
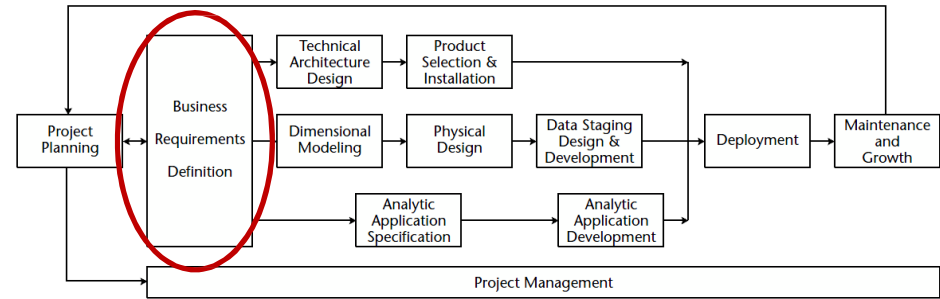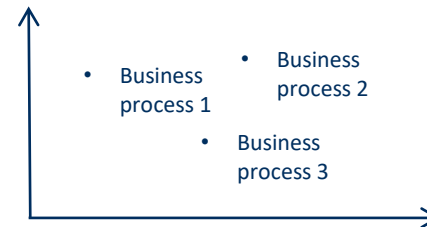
The technical track
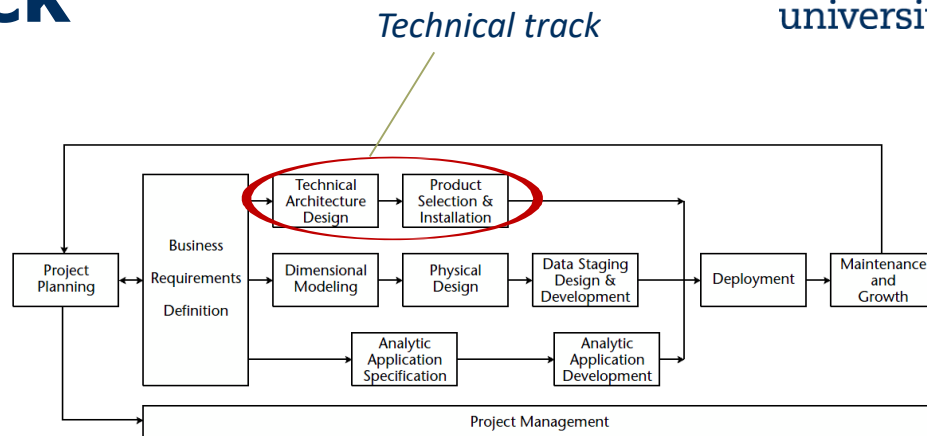
- The technical architecture track aims to support the integration of multiple technologies, given the business requirements

- First, technical architecture design, needs to be carried out

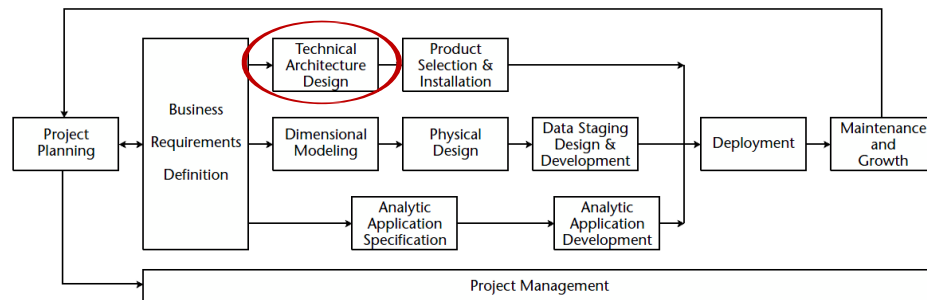- Second, the product selection and installation needs to be carried out

Technical track

Technical architecture design

- Every DW/BI system has a technical architechture – it could be explicit or implicit, planned or not planned
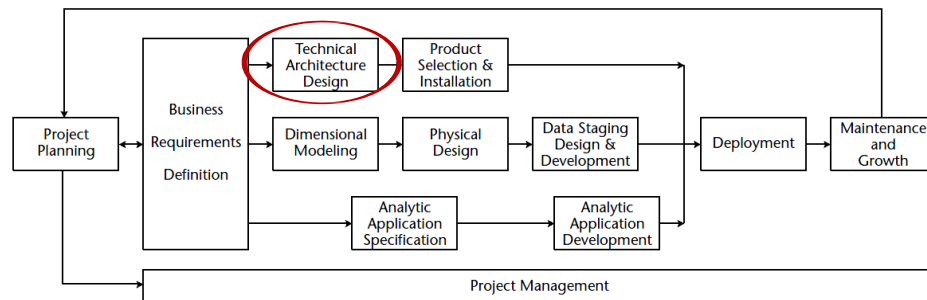
Technical architecture design

- To make the technical architechture planned and explicit:
  - Establish a architecture task force to do the design
  - Collect architecture-related requirements
  - Document architecture requirements
  - Create a architecture model
 - Determine architecture implementation phases

- Design and specify subsystems
- Create an architecture plan
- Review and finalize the technical architecture

Product Selection & Installation

- Tasks to be carried out for product selection and installation (note, can be used for any technology selection):

  - Understand the internal purchasing process

  - Develop a product evaluation matrix – with evaluation criteria, and weighting factors

  - Conduct market research – use the web, Gartner studies, etc, and do not send requests for proposals (RFP) to vendors
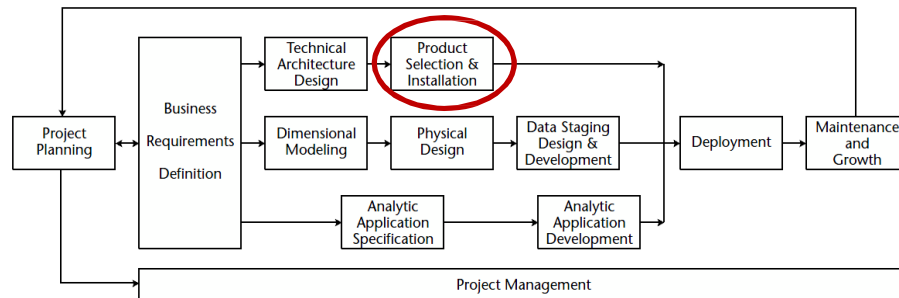

- Evaluate a short list of options

- Conduct prototypes if there is not a clear winner

- Select product, install on trial, and negotiate

The data track

- In the data track, the business requirements are first translated into a dimensional model

- The dimensional model is then translated into a physical structure – focussing on improving performance, such as aggregration, indexing and partitioning

- Finally, the ETL system is designed and developed

Data track
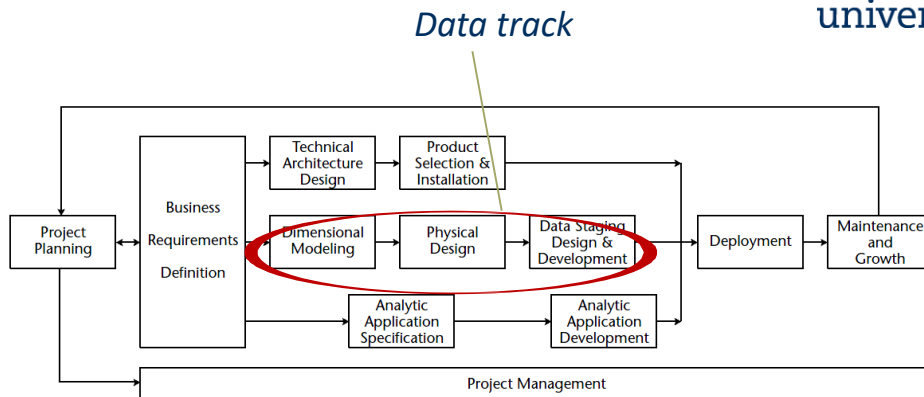
The BI application track

- The BI application also needs to consider business user requirement as well, more precisely, the user's analytic needs

- First, the BI application need to be specified, second, the BI application need to be developed

- Most of the user do not carry out ad hoc queries usïng BI tools. Therefore, create 10-15 BI reports and BI applications for users to select among.
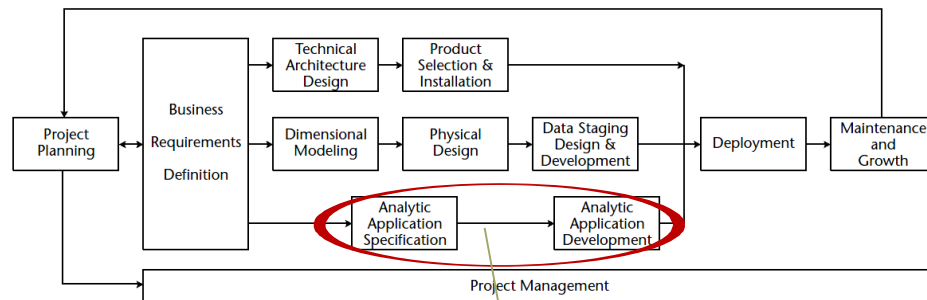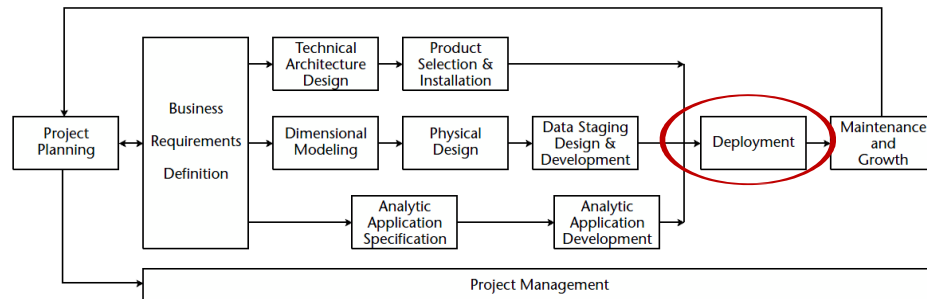

BI application track

Deployment

- Deployment need to be prepared to be successful

- Risk to loose users' trust if you deploy too early or has not prepared for deployment

Maintenance and growth

- Resources need to be invested in the following areas:

  - User support, often organized in different tiers: web/self-service, power users, and central support

  - Education

  - Technical support, based on service level agreements (SLAs)

  - Program support, that is monitor the DW/BI program that it address the needs of the business