IS660J

Lecture 7

Professor K.M. Burns

Agenda

Building the Data Warehouse

- Great Groups
- Business dimensional lifecycle
  - What to do?
- What not to do?

Leaders of Great Groups

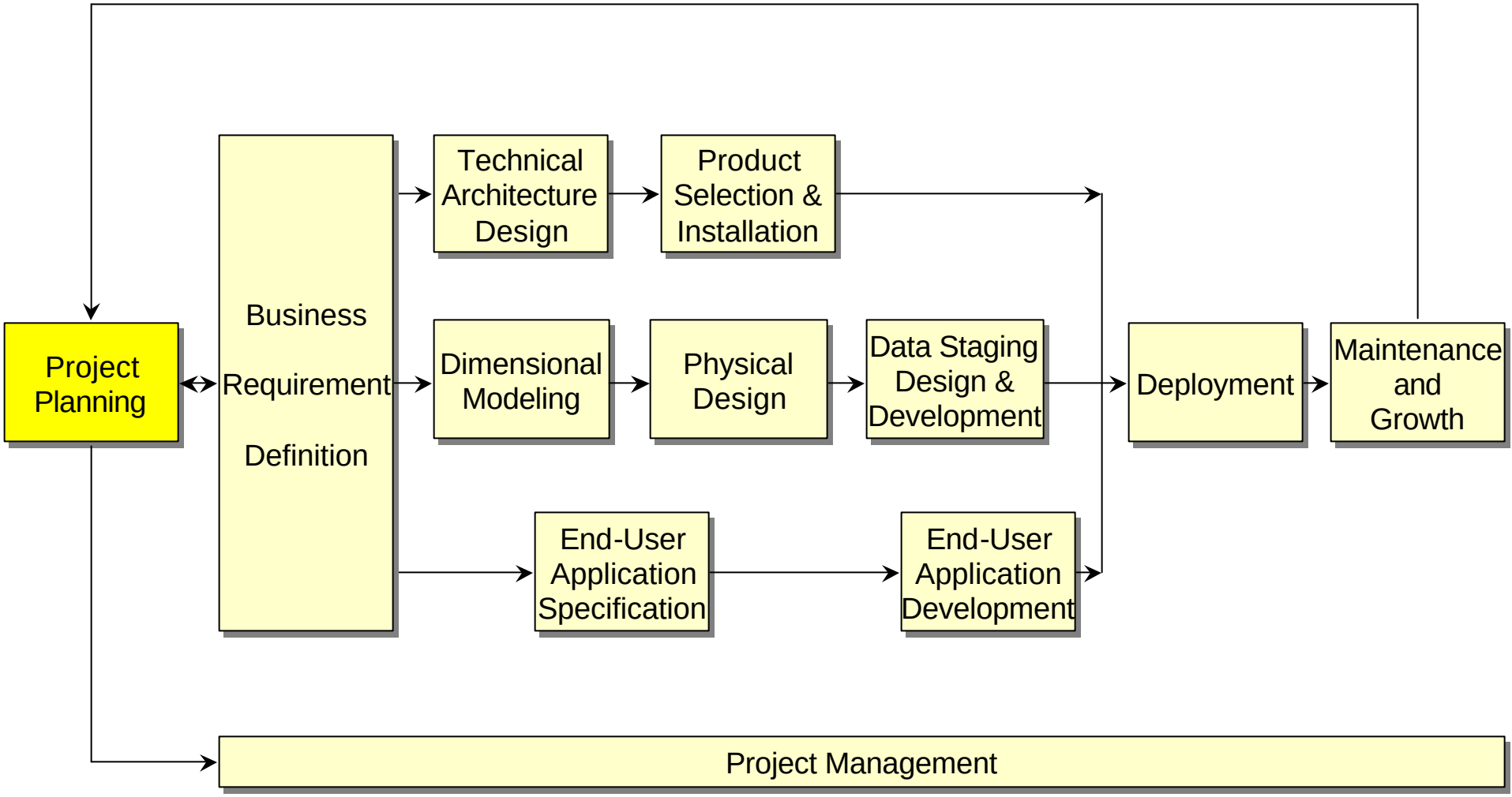
Warren Bennis – “great groups make great leaders … and visa versa”

- Provide direction and meaning
- Generate and sustain trust
- Display a bias towards action, risk taking and curiosity
- Are purveyors of hope

The Business Dimensional Lifecycle

- Focus on the needs of the business
- Must be dimensional
- Finite cycle with a beginning and end

The Business Dimensional Lifecycle



Project Planning and Management

Assessing readiness

- ✓ Business sponsorship – 60%
- ✓ What are the critical business problems to be solved – internal and/or external? – 15%
- ✓ Do we have operational data? – 15%
- ✓ Relationships between the business and IT – 5%
- ✓ Current Analytic culture – 5%

Project Planning and Management

Scope

- ✓Value
- ✓Manageability
- ✓Prioritization

Justification

- ✓Cost-Benefit Analysis

Scope Creep

$ Objs

time

Project Planning and Management

Staffing – cross-functional business teams

- Business sponsor
- Business driver (surrogate)
- Business Lead (communicator)
- Business Users
- Business Systems Analyst
- Business Subject Matter Experts
- Analytic Application Developers
- Data Warehouse Educator

People can play multiple roles

Either IT or business

Staffing – IT

- Project Manager
  - Technical Architect
  - Technical Support Specialists
- Data Modeler
  - Database Administrator
- Metadata Coordinator
  - Data Steward
- Data Staging Designer
  - Data Staging Developer
  - Data Warehouse Support

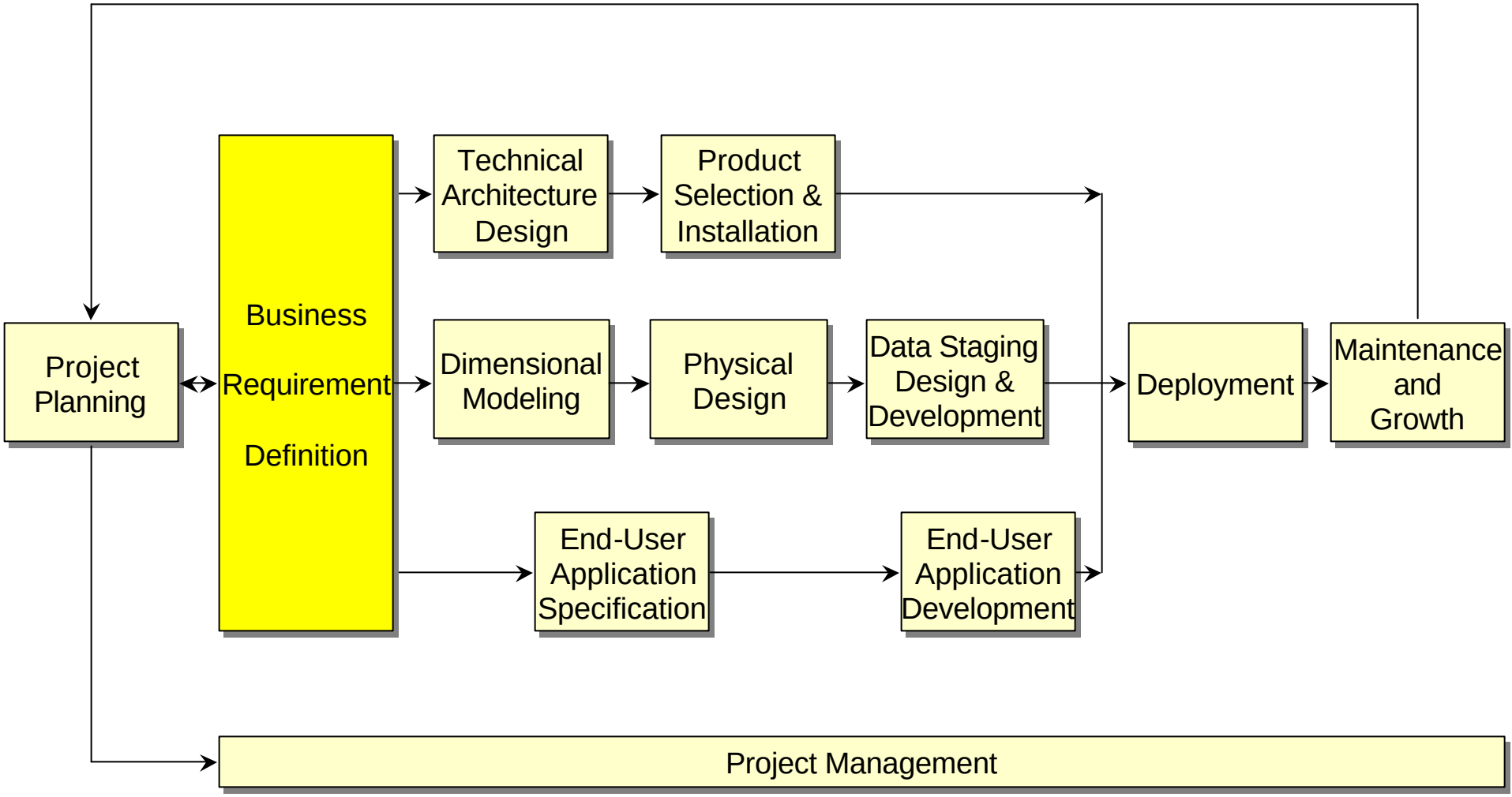
Can be staffed internally or with external consultants (proven experts or staff augmentation)

Example

Developing and Maintaining the Project Plan

- Estimates are developed by key team members and rolled up
- User Acceptance after milestones/deliverables
- Communications Strategy – see matrix on pg 340
  - Every meeting should have an agenda (in advance)
  - Status Reports
  - Change Request Forms
  - Change Control Log
- Sample Plan
- Project Issue Log

The Business Dimensional Lifecycle

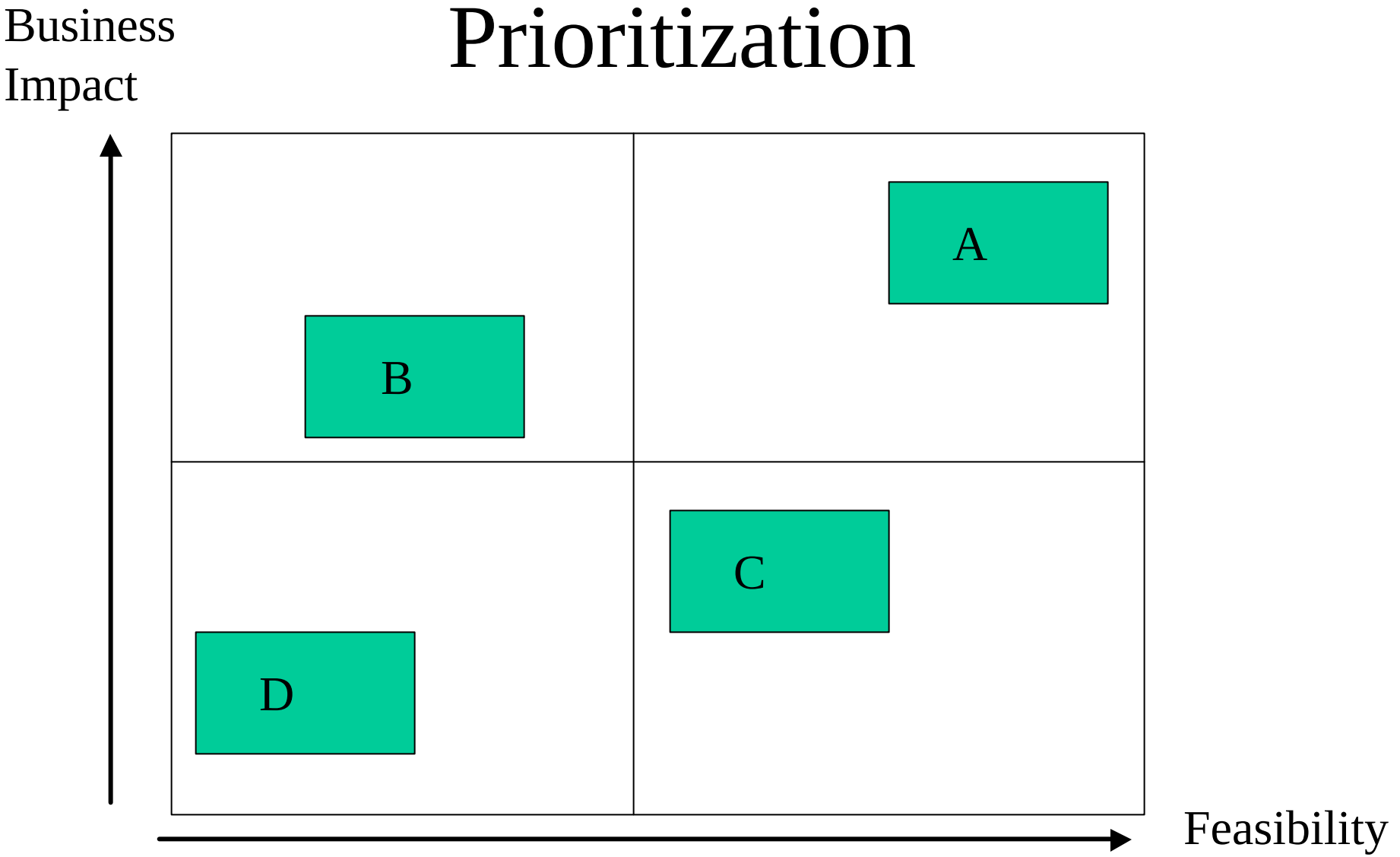


Business Requirements Definition

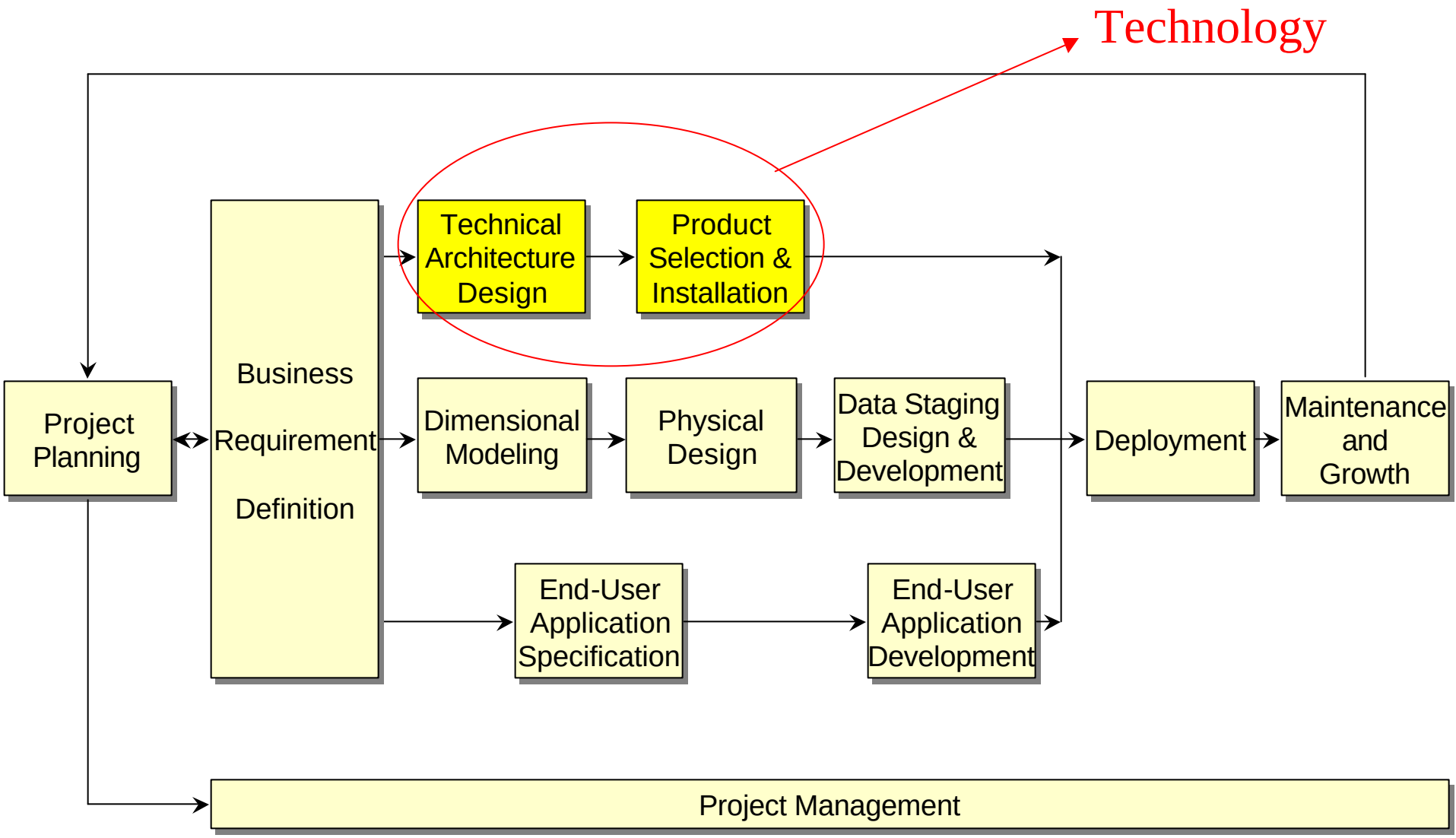
Preplanning

- Forum
  - Interviews
  - Facilitated Sessions
  - Both
- Homework in advance (vocabulary and questions)
- Who
  - Horizontal organization → bus matrix
  - Vertical organization → all levels
- Launch meeting for business users
- Examples

Business Requirements Prioritization



The Business Dimensional Lifecycle



8 Steps for Creating the Technical Architecture

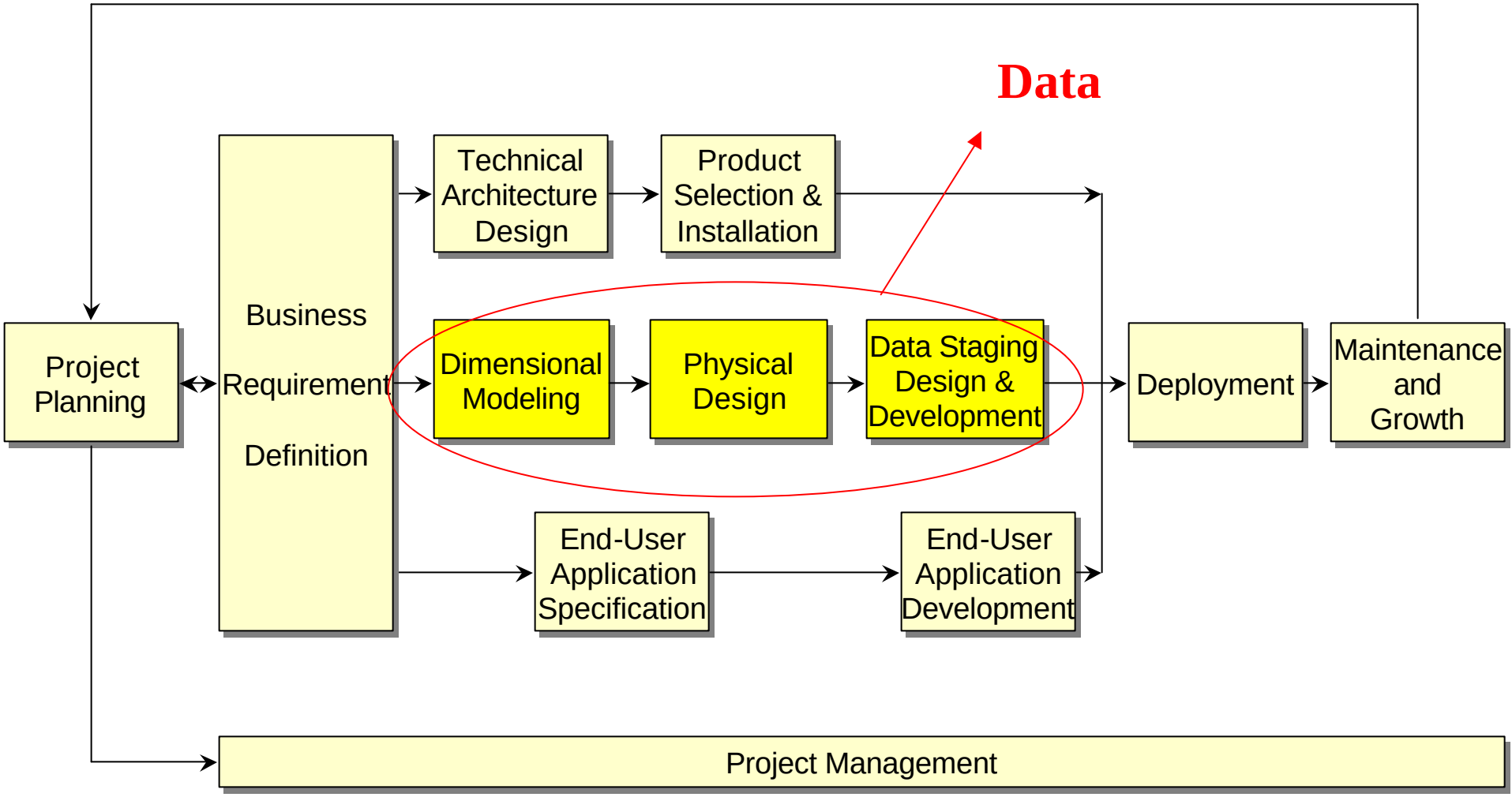
1. Establish an Architecture Task Force
2. Collect Architecture-related requirements
3. Document Architecture requirements
4. Develop a high-level Architectural Model
5. Design and specify the subsystems
6. Determine Architecture Implementation Phases
7. Document the technical Architecture
8. Review and Finalize

Product Selection and Installation

Tasks

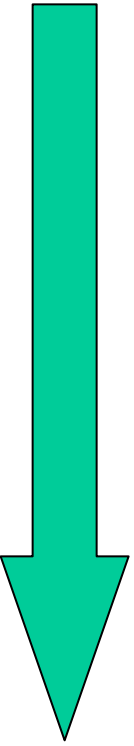
- Understand the corporate purchasing process
- Product Evaluation Matrix
- Conduct Market Research
- Narrow options and perform detailed evaluations
- Prototype, if necessary
- Select, trial and negotiate

The Business Dimensional Lifecycle

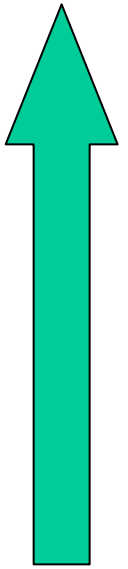


Dimensional Modeling

- Draft the data warehouse bus matrix – recall 4 step process (abstract up)



1. Select the business process to model (high impact and accessible data)
2. Declare the grain of the business process (atomic data)
3. Choose the dimensions that apply to each fact table row – discrete, textlike attributes
4. Identify the numeric facts that will populate each fact table row – continuously valued



Physical Design

Strategies for:

- Aggregation
- Initial Indexing

Data Staging Design & Development

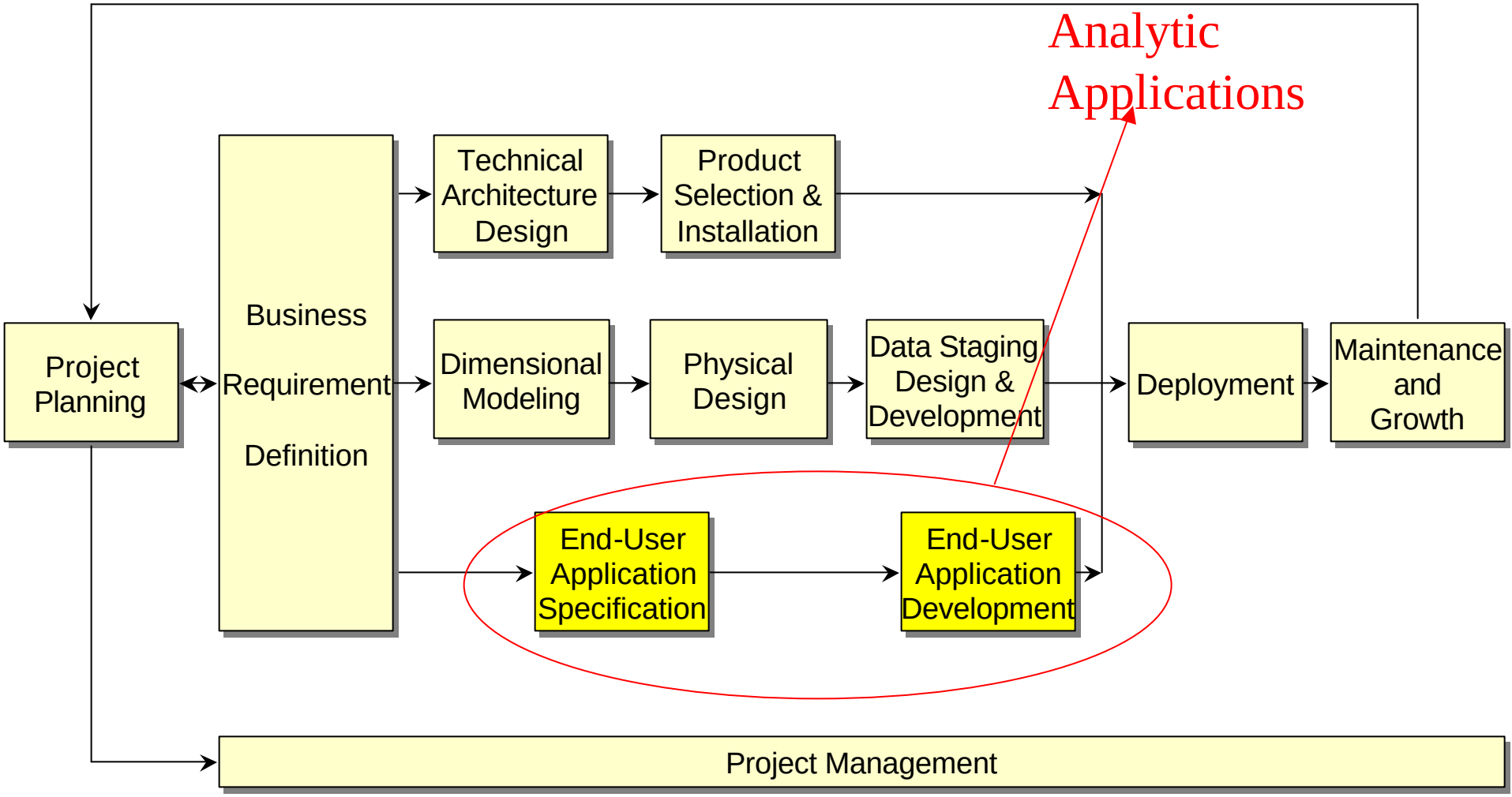
Dimension Table Staging

- Extract
- Cleanse
- Manage surrogate key assignments – figure 16.4

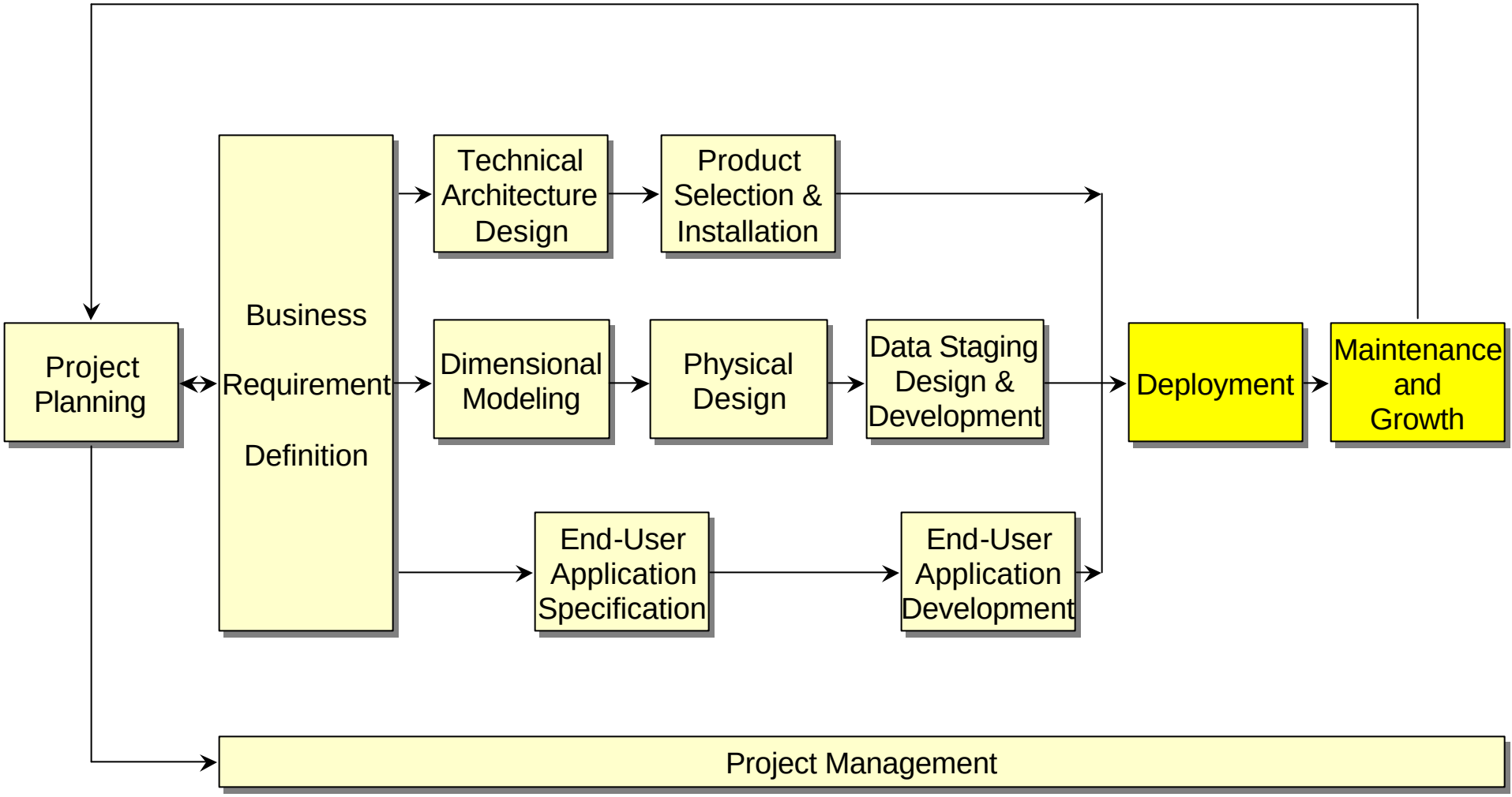
Fact Table Staging

- See 10 steps on pgs 361-362

The Business Dimensional Lifecycle



The Business Dimensional Lifecycle



Common Mistakes

- Source systems personnel
- Communication
- Location of IT personnel
- Timing of training
- Analytic tools
- Iterative approach vs. all at once
- Executive sponsorship
- Scope creep
- Initial data mart selection
- Politicizing using external consultation

Conclusion

- The Data Warehouse Lifecycle Toolkit – Kimball, Laura Reeves, Margy Ross, Warren Thornthwaite
- Next week – OLAP - see updated Syllabus for readings.