

Project Control & Management

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Lecture 1

Recommended Reading

- Project Management, A system approach to planning, scheduling and controlling; 11th Edition, **H. R. Herzner**, Wiley, 2013. ISBN: 978-1-118-02227-6
- Project Management of Complex and Embedded Systems, **K.H. Pries and J.M. Quigley**, Auerbach Publications, Taylor & Francis Group, 2009. ISBN: 978-1-4200-7205-1
- Lecture Notes

Class Structure

- Lectures
- Class discussions
- Group discussions
- Introduction to New Tools

Assessment

- Assignment, consisting of a report generated by groups by clear and distinct sections for individuals contributions
- Individual performance and performance as a group
- Report submitted by the deadline
- Achievements measured against learning objectives
- For deadline for submission see instructions from course administrator

Objectives

- Principles of Project Control and Management
- Systematic approach to project control and management
- Deployment of tools and skills in controlling and managing projects
- Team work
- Embedding voice of customers and monitoring process and product quality for project management

Subjects

1. Principles of Project Management

- Concepts and Definitions
- Organisation (structures and interactivities)
- Management Functions

2. Project Management in Engineering Environments

- Process breakdown for delivery
- Product Integrity and Reliability
- Cost factors and management

Subjects cont.

3. Planning

- Laying the foundations
- Scheduling Techniques
- Risk Assessment

4. Embedded Voice of Customer and Quality Control

- Product conceptualisation
- Quality function deployment
- Continuous customer satisfaction evaluation system

Subject cont.

5. Process Control

- Principles of discrete event systems modelling
- Stochastic modelling
- Simulation and predictions

Project Management

- The knowledge and facilitation of a close interrelationship of:
 - Capability & Performance
 - Cost
 - Time
 - Close relationship with customer
 - Resource capacity and availability



On definition of Project - 1

A project has:

1. an **aim** and a **set of objectives**

- The aim is expressed in a sentence or two
- Objectives are a number of measurable and achievable targets where the success and failure is measured.

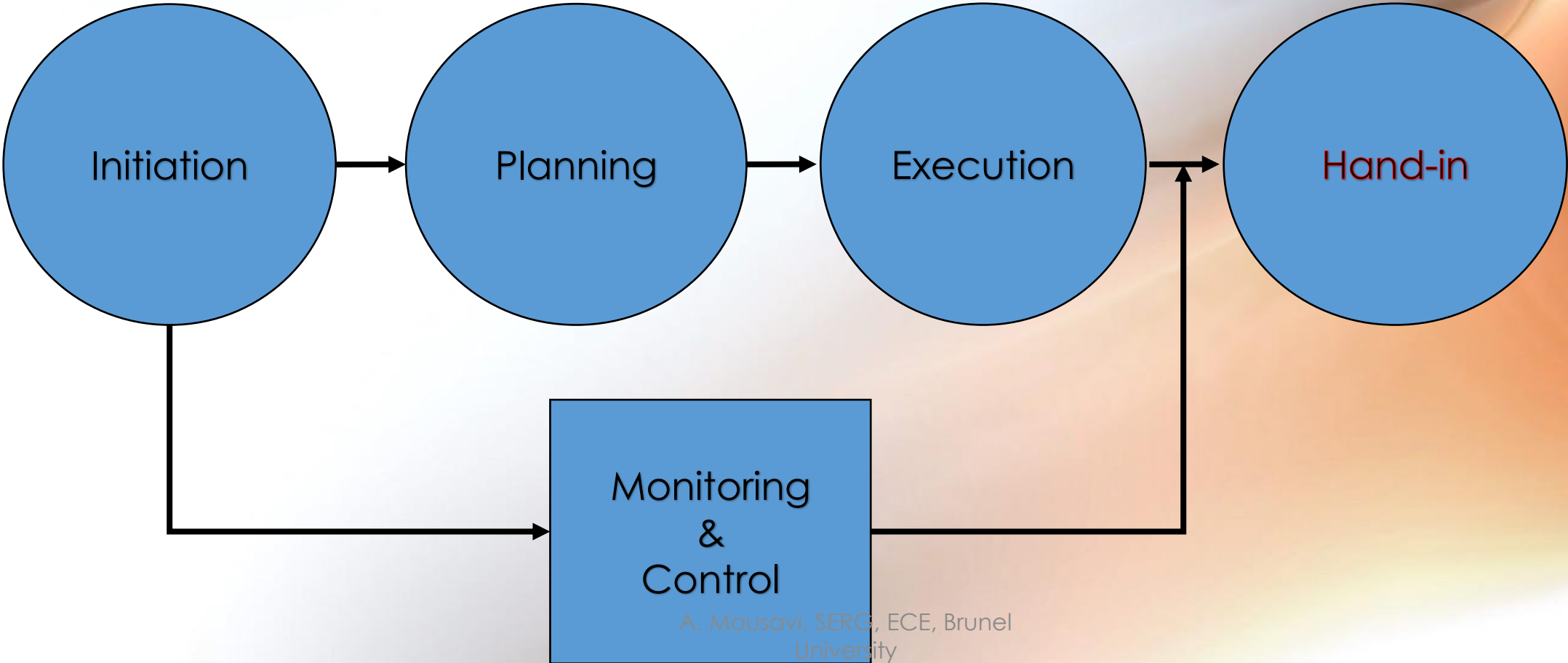
On definition of Project - 2

2. a **methodology** for a systematic approach to achieving each objective. The terms of reference are:
- **The Acquisition** of sufficient **knowledge** about the subject (research)
 - **The Design** the technical and scientific strategy, plan and layout
 - **The Implementation** the systematic approach to turning a design into reality e.g. tangible product or service
 - **The validation & verification** of the results of the implementation

On definition of Project - 3

3. Time scale a start and an end
4. Budget and allocation of resources
5. May be multifunctional and cut across a number organisational structures

The Project Process Flowchart



Project Process Plan -1

1. Project Initiation:

- Understanding the project scope
- Benefits for the company/team
- Documentation outlining the detail scope, requirements (Cost/Benefit) analysis, preliminary time estimates
- Project Leader

Project Process Plan -2

2. Project Planning

- Definition of work and tasks
- Production Process Plan and Flowchart
- Resource requirement to complete each tasks
- Resource capability evaluation
- Resource Allocation
- Scheduling and time estimates based on resource capability and available resources
- Risks and contingency

Project Process Plan - 3

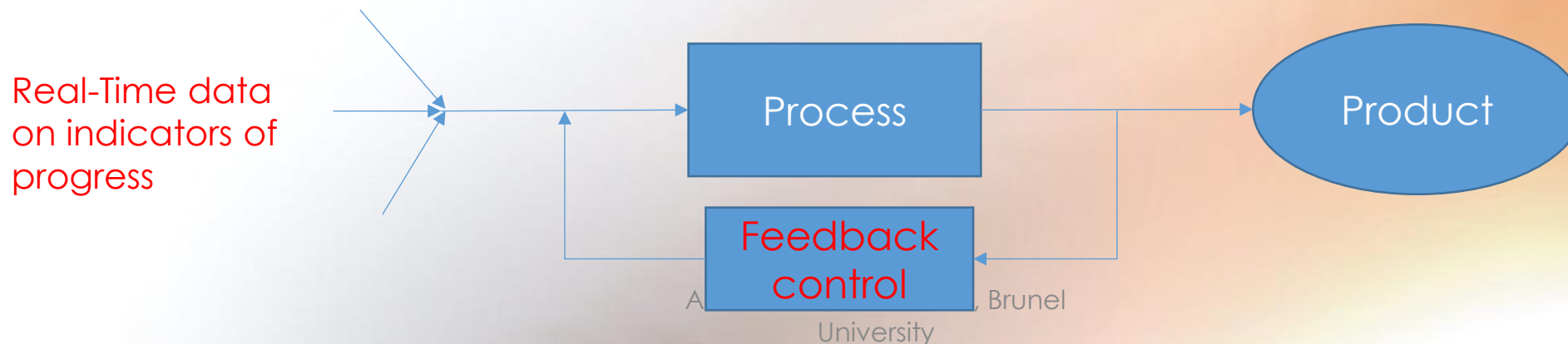
3. Project Execution

- Translation of project specification into work elements
- Observe and facilitate implementation
- Manage and support activities

Project Process Plan - 4

4. Project Monitoring and Control

- Embedding mechanisms to ensure the project is meeting its objectives in the given time (manual/automatic)
- Tracking work, resources and material
- Process and product quality control (customer voice, quality function deployment, process control)
- Feedback and adjustments



Project Process Plan - 5

5. Project Completion

- Ensure all objectives are met, the product meets customer requirements
- Documentation
- Contractual, financial and administrative closure

Once again Project Management

- The knowledge and facilitation of a close interrelationship of:
 - Capability & Performance
 - Cost
 - Time
 - Close relationship with customer
 - Resource capacity and availability



Measuring Success

- Time factors
- Cost factors
- Risk factors
- Customer Satisfaction
- Quality of process (efficiency, effectiveness, utilisation, and inventory)
- Reputation
- Value

On peoples relationship

- Team Building (Synergetic Capabilities)
- Relationship between members
- Understanding the team Person-Job-Fit
- Social network models
- Managing conflicts (internal and external)

What was covered?

1. Lecture structure
2. Assessment
3. Objectives
4. Syllabus
5. Definition of Project Management
6. The Process of project Management
7. Benchmarks for success

Reading

- H. R. Herzner book, Chapter 1 & 2
- K.H. Pries and J.M. Quigley, Chapter 1
- M. Shekarriz, et al (2015), paper on capability (print out of the paper distributed in class)
- E. Hosseini et al (2015), paper on team capability (print out of the paper distributed in class)