INF5890 – IT and Management

**Project Management in Practice:
handling complexity and uncertainty**

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UiO :

Today's lecture

- Recap from previous lectures.

- Familiarise with the concepts of project uncertainty and complexity. Understand how project management can be adapted depending on projects' uncertainty and complexity.

- Discuss and reflect on a real case. How do people manage projects in practice?

UiO :

Previous lectures

- **What** is a project ?

- **How** to manage a project ?

- **When** to have a project ?

Finding effective ways to manage an IT Project is not trivial
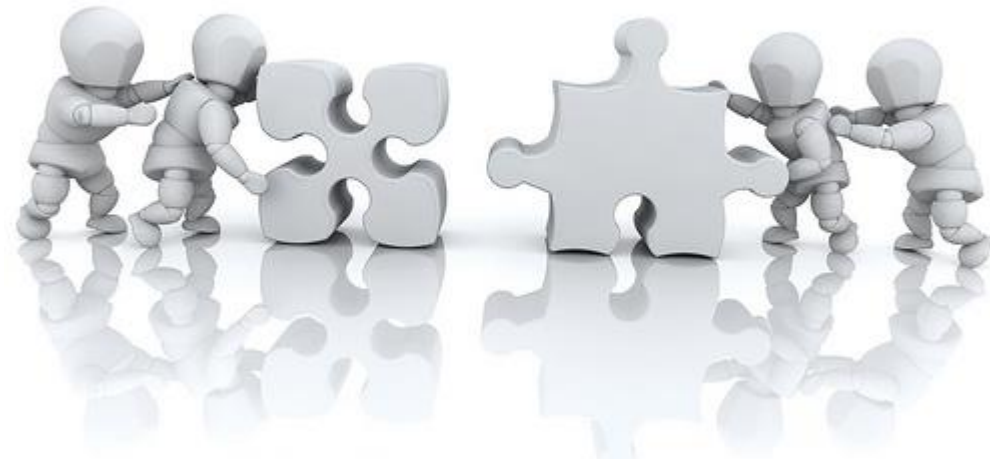
- A **1995** Standish Group study (CHAOS) found that only 16.2% of IT projects were successful in meeting scope, time, and cost goals; over **31%** of IT projects were **canceled** before completion.

- The number of successful IT projects has more than doubled, to 39% in **2012.** The number of failed projects decreased from 31 percent in 1994 to **18%** in 2012.

- Still, there is a lot of room for further improvement.

Success rates in Norway are not different…

HIT-undersøkelsen
(andel prosjekter opplevd som suksessfull mhp angitt faktor)

	< 10 mill	10-100 mill	> 100 mill
Nytte	31%	47%	35%
Kvalitet	24%	28%	25%
Budsjett	24%	47%	47%
Tid	29%	35%	35%
Effektivitet	24%	12%	24%

Hovedstadsområdets nettverk for IT-styring og ledelse (HIT), 2016,
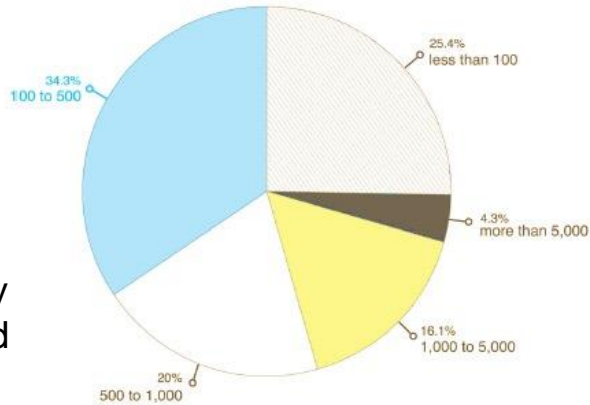http://hitledelse.com

UiO :

Why are projects uncertain and complex?

- "A project is a temporary endeavor undertaken to create a unique product, service, or result" (PMBOK).

UiO:

# Why are projects uncertain and complex?

- It has not been done before. We might not know exactly what it takes and we might not be sure about the exact properties of the end result.
  - Also, even the "knowns" such as scope and key specifications might change along the way.

- Multiple relationships are at play: among different system components, among the resources involved the project, between the project and the ongoing business. Complexity increases when number, variety and connectedness increase.
  - Also, resources, work parts and business might change along the way.

- Complexity further aggravates uncertainty…

UiO :

Let's talk about **complexity.** On average, how many requirements does a project contain?

25.4%
less than 100

34.3%
100 to 500

4.3%
more than 5,000

16.1%
1,000 to 5,000

20%
500 to 1,000

What percentage of your time is spent weekly **dealing with changes** to requirements?

5%
more than fifty percent

6.9%
it's not my job

40.6%
ten to twenty-five percent

22.9%
less than ten percent

24.7%
twenty-five to fifty percent

Around 20% of projects are very complex, around 25% are very simple, the rest are somewhere in between.
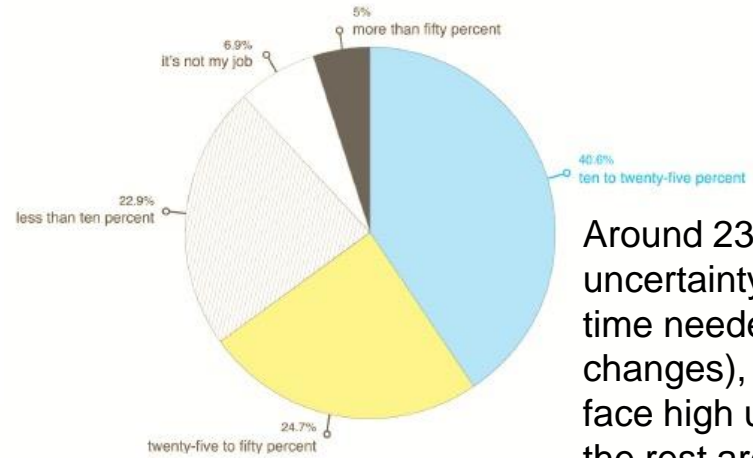
Around 23% face little uncertainty (not much time needed for changes), around 30% face high uncertainty, the rest are somewhere in between.

Source: The state of requirements management survey 2011, 808 participants, http://www.jamasoftware.com/wp-content/uploads/documents/State_of_Requirements_Management_2011.pdf

What kind of IT projects people do?

Survey for IS projects,
USA, 2011
808 participants

Project aims

- 89% of participants declared they participated at least in one project on enhancing an **existing system.**

- 69% of participants declared they participated at least in one project on developing a **new system.**

Software Development Process

- 36% of participants declared they are not "purists" and use a **mix** of processes.

- 26% of participants declared they use **waterfall** or modified waterfall.

- 19% of participants declared they use **agile.**

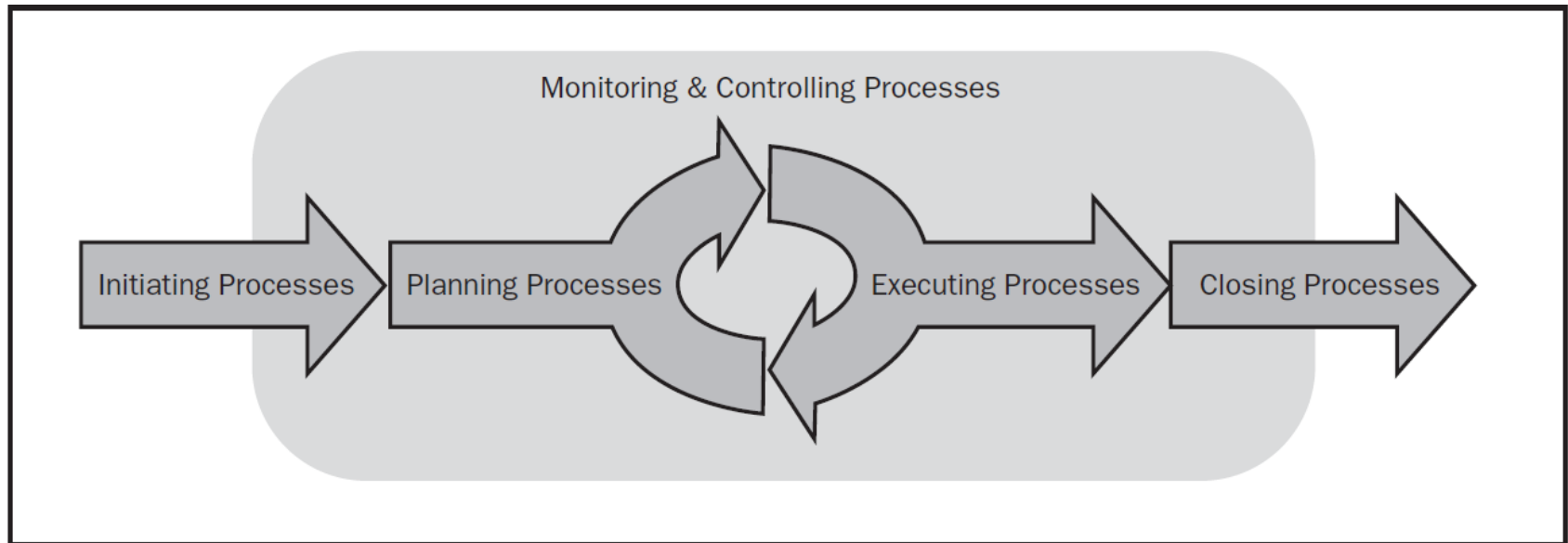# The continuum of software project life cycles
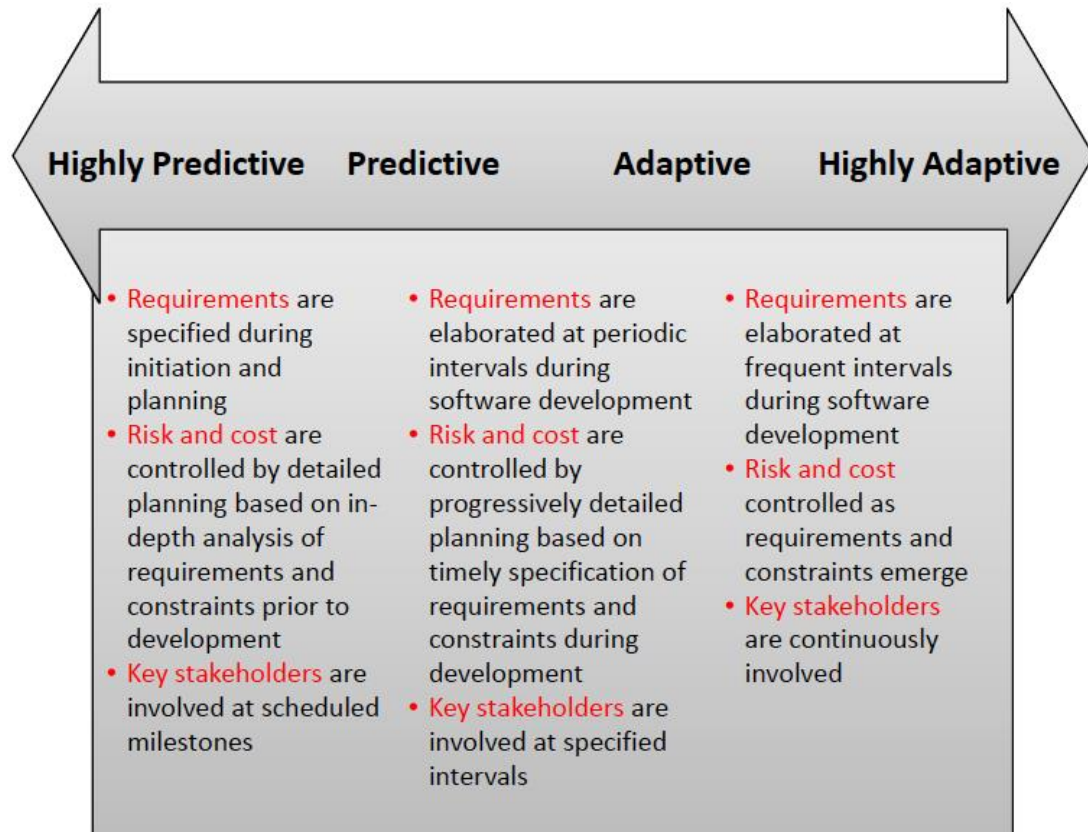
Project life cycles can range along a continuum from highly predictive approaches at one end to highly adaptive approaches at the other.

Project Management: Initiating, Planning, Executing, Monitoring and Controlling, Closing

Project management is accomplished through the **appropriate application** and integration of 42 logically grouped processes comprising the 5 Process Groups (Initiating, Planning, Executing, Monitoring and Controlling, Closing).

Source: PMBOK 4th edition, 2008, adopted by IEEE as Std 1490-2011

| Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring & Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Execution	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Collect Requirements 5.2 Define Scope 5.3 Create WBS		5.4 Verify Scope 5.5 Control Scope	
6. Project Time Management		6.1 Define Activities 6.2 Sequence Activities 6.3 Estimate Activity Resources 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
7. Project Cost Management		7.1 Estimate Costs 7.2 Determine Budget		7.3 Control Costs	
8. Project Quality Management		8.1 Plan Quality	8.2 Perform Quality Assurance	8.3 Perform Quality Control	
9. Project Human Resource Management		9.1 Develop Human Resource Plan	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management	10.1 Identify Stakeholders	10.2 Plan Communications	10.3 Distribute Information 10.4 Manage Stakeholder Expectations	10.5 Report Performance	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Monitor and Control Risks	
12. Project Procurement Management		12.1 Plan Procurements	12.2 Conduct Procurements	12.3 Administer Procurements	12.4 Close Procurements

According to PMI, the project management processes can be categorized into five Process Groups: Initiating, Planning, Executing, Monitoring-Controlling, Closing.

The processes within each group are mapped to knowledge areas in a 9x5 matrix.

This matrix is an overview of the PMI´s project management body of knowledge from which processes can be selected and adjusted.
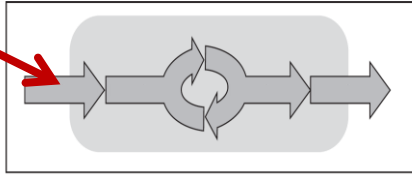
Table 3-1 in the PMBOK GUIDE

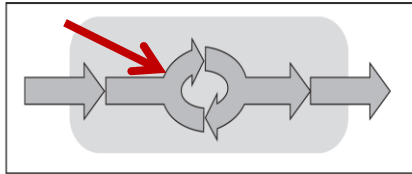# Not all projects have the same needs
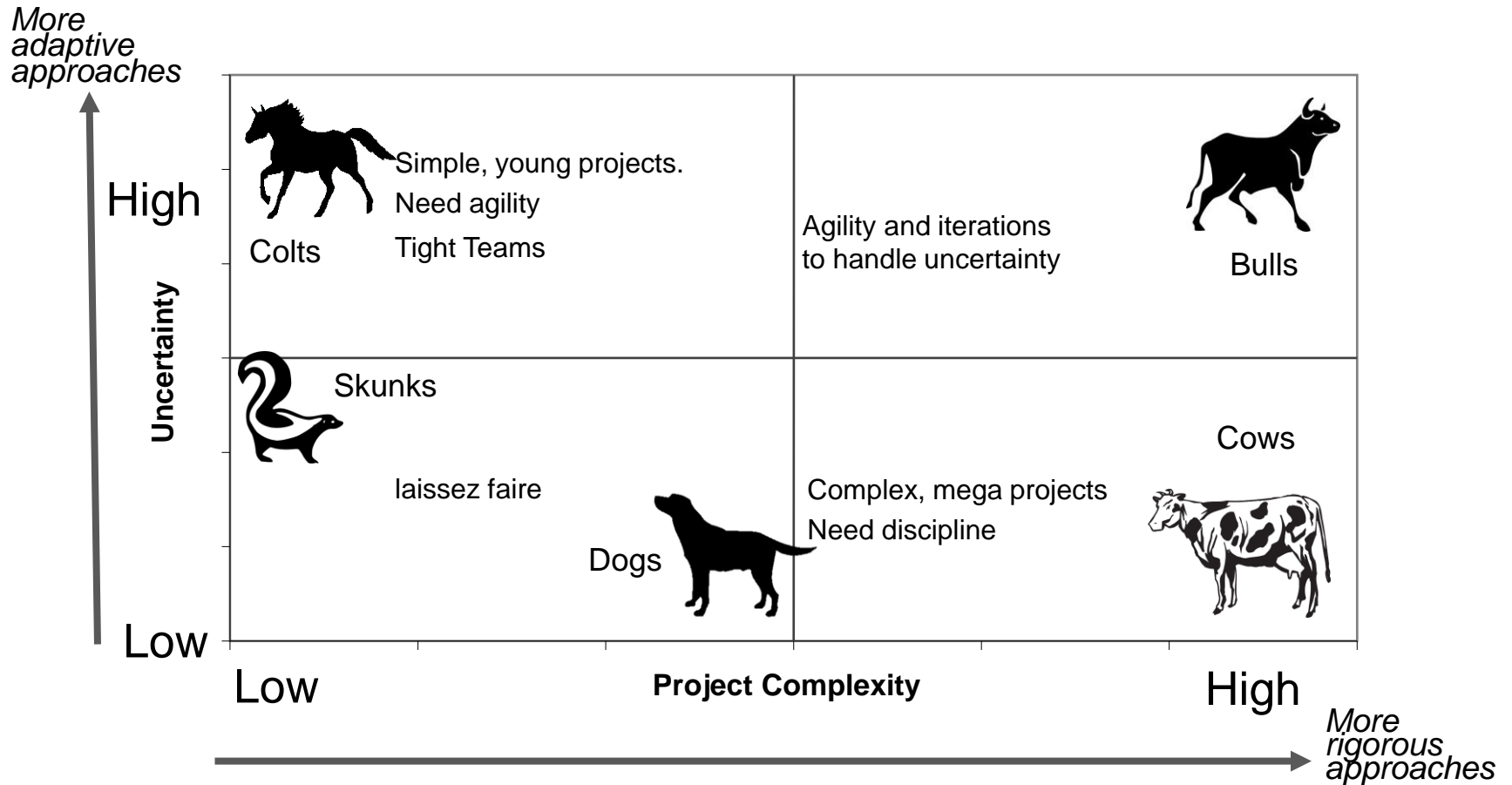
Adapted from: Little, T. (2005). Context-adaptive agility: managing complexity and uncertainty. *Software, IEEE, 22*(3), 28-35.
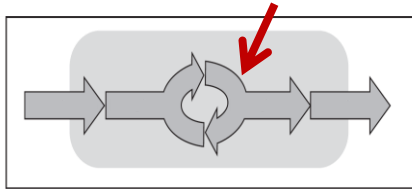
UiO **:**

Initiating:

Processes to define work and to ensure you have authority to proceed (project charter).

Planning:

Processes for planning related to scope, time, cost, quality, communications, human resources, risks, procurement. Projects that follow a predictive approach tend to have more detailed initial planning than more adaptive ones.

Executing

Processes to prepare "products" according to specifications. This is where the main activity happens. Projects that follow an adaptive approach, tend to dedicate more time and resources to communication within and outside teams and stakeholder management.
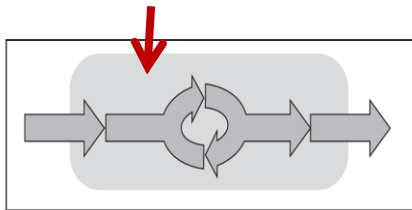
Monitoring and Controlling.

Processes to track, review, and regulate the progress of the project. Recommending corrective or preventive actions (including changes) in anticipation of problems.
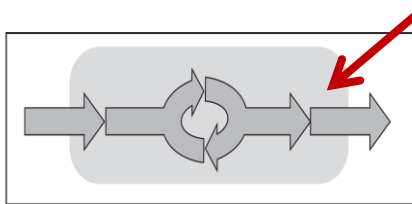
Closing:

Processes to finalize all activities (closing the project and any procurement when applicable). Handovers are important (e.g. from project teams to operations).

Discuss and reflect on a real case

- Work in teams of 5.
- Read the 2016 Testimony for HealthCare.gov (from the bottom of page 2-Background, to the first paragraph on page 7). https://oig.hhs.gov/testimony/docs/2016/bliss-testimony-032016.pdf
- In which quadrant would you put the project (complexity - uncertainty)?
- Identify Problems
  – Initiating?
  – Planning?
  – Executing?
  – Monitoring and Controlling?
  – Closing?
- One post-it per process group.

Discuss a similar case which was approached differently

What were the key things they did to ensure quick launch?
What was the key accomplishment?

UiO :

Access Health CT

280 Trumbull St, Hartford, CT, USA

1,3 ★★☆☆☆   170 anmeldelser   Sorter etter: **Nyeste** ▾

Julianna R
for én uke siden

★☆☆☆☆   I've sent paperwork with my personal information all over it to these Access Health "professionals" on multiple occasions... And yet they continue sending me letters asking for the very same paperwork. I sent an email asking them how many times I need to send documentation before they accept it, they've disregarded my letters and email communication for over 2 weeks now. Access Health doesn't know what they did with my personal information, I don't know what they did, either. But I feel very strongly they're employing scammers who are stealing personal information !!

👍 1

aymen aljabbari
for én uke siden

★☆☆☆☆

Dan McDonnell
for én uke siden

★☆☆☆☆   Tried logging in one day, and the site was down. Tried the next night. I'd forgotten my user name so I chose the option to have it sent. I got the message "User name has been sent to your inbox", but nothing was there.
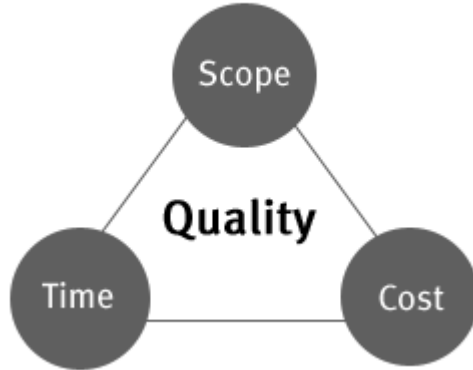
👍 Nyttig?

UiO :

There are several ways to define project success

Project Management Triangle

- The project met scope, time, and cost goals (the traditional project management triangle).

- The project satisfied the customer/sponsor.

- The results of the project met its main objective, such as making or saving a certain amount of money, attracting a number of users, etc.

What can we say about the project success of "access health CT"?

Key points

- Information Systems' projects can be complex and uncertain: they are unique, they unfold under changing business conditions, they require multiple interrelated resources and work parts.

- Not all projects have the same uncertainty and complexity so they need to be approached in different ways (no universal best solution).

- Project management is accomplished through the appropriate application and integration of project management processes categorized in five process groups: Initiating, Planning, Executing, Monitoring-Controlling, Closing.

- There are several ways to define project success. These include the traditional project management triangle (scope, time, and cost), customer satisfaction, meeting a preset objective etc.