SPM

Project Management Framework

Day 2: Project Management Framework

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Last Class We Discussed:

- Course Introduction
- What is a Project ?
- Characteristics of a Project
- What is Project Management and why is it important ?
- Advantages of formal Project Management ?
- **Triple Constraints of a Project**
- **Traditional Vs Agile Workflow**
- **Project Life Cycle Notations (OUJZ)**

Today’s Learning Objectives

- Systems View of Project Management
- Three Sphere Model for Systems Management
- 4 Frames of Organization - Perspectives on Organization
- Organizational Culture
- Significance of Stakeholder Management
- Project Phases
- **SDLC(Systems Development Life Cycle) - Predictive Vs Adaptive Life Cycle**
- **Waterfall and Sprial Life Cycle Models**
- **SCRUM Framework**
- **KANBAN Framework**

Projects cannot be run in isolation !

- Must operate in broad organizational environment
- Project Managers need to use “systems thinking”
- **Systems Thinking** is a concept of taking a **holistic view** of carrying out projects within the context of the organization.
- Senior managers must make sure projects continue to support current business needs.

Systems View of Project Management

"Systems Approach" emerged in the 1950s to describe a more analytical approach to management and problem solving.

It includes three parts:

- Systems philosophy - an overall model for thinking about things as systems
- Systems analysis - problem solving approach (problem, opportunity, constraint and needs)
- Systems management - address business, technological, and organizational issues before making changes to systems

3 Sphere Model for Systems Management

4 Frames/Perspectives on Organizations




LENS	STRUCTURAL	HUMAN	POLITICAL	SYMBOLIC
METAPHOR OF ORGANIZATION	FACTORY OR MACHINE	FAMILY	JUNGLE	TEMPLE
PERSPECTIVE ADOPTED BY THE CHANGE AGENT	ARCHITECT	CATALYST	ADVOCATE	PROPHET
SUMMARY OF BASIC ASSUMPTIONS	❑ The organization exists to achieve established goals and objectives. ❑ What matters is that tasks are clearly and rationally divided, defined by procedures and coordinated so that work gets done.	❑ People and organizations need each other: organizations need ideas, energy, and talent; people need careers, salaries, and opportunities. ❑ What matters is to align people's needs and aspirations with the organization's goals.	❑ The organization is an arena where individuals and interest groups fight over resources to advance their agendas. ❑ What matters is to gain power, create strong alliances and manage to secure resources and priority in agendas.	❑ Organizations are chaotic, uncertain and ambiguous places where much is open to interpretation. ❑ What matters is to create meaning and to understand deeply anchored aspects ruling in the organization.
EXAMPLES OF COURSES OF ACTION	❑ Reorganize, implement or clarify policies and procedures ❑ Develop new information, budgeting, or control systems ❑ Add new organizational units ❑ Plan processes	❑ Processes of participation and involvement (task forces, open meetings, etc.) ❑ Train, coach ❑ Empower ❑ Address individual needs, personal aspirations	❑ Bargain ❑ Negotiate ❑ Advocate ❑ Build alliances ❑ Network with other key players ❑ Anticipate conflicts	❑ Create or revitalize ceremonies and rituals ❑ Work to develop or restate the institution's vision ❑ Use heroes, stories, symbols ❑ Energize, inspire

Case Study - What Went Wrong ?

Research paper Title - “A Study in Project Failure”

Brief: Conducted by 2 researchers examining the success and failure of a total of 214 IT projects over and 8 year period in several European Countries.

Founding: Only 1 in 8 (12.5 percent) were considered successful in terms of meeting triple constraints.

Hypothesis: Culture within organization is often to blame for the failures

Lesson: Among countless things, people often do not discuss or leave out leadership, stakeholder and risk management issues.

3 Basic Organizational Structures

FUNCTIONAL

Functional managers report to the CEO

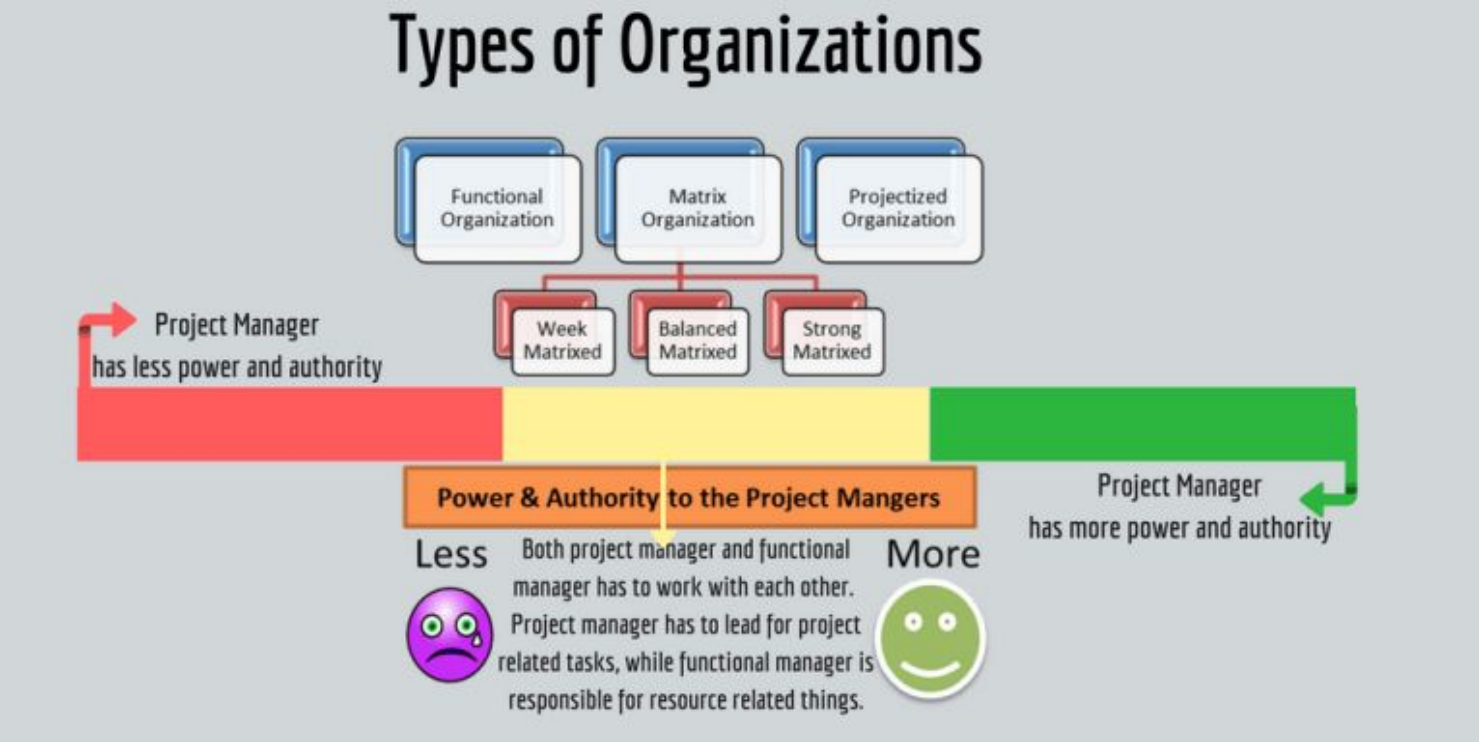
PROJECT

Program managers report to the CEO

MATRIX

- Middle ground between functional and project structure.
- Personnel often report to multiple bosses.
- Power Balance can be weak, balanced or strong in case of matrix structure.

Overview: 3 organizational structures



QUIZ 1

To start with, we are looking for a candidate who can join us to work with our development manager to deliver the products to the customer on time. Also project has a team of developers and development manager who are working on ground to fulfill these customer requirements. Eventually we need a person, who can work with the team and development manager to coordinate the meetings, track the status and update the status to the relevant stakeholders. So, which type of organizational structure we are talking about?

A. Functional
B. Matrix
C. Projectized
D. None of the above

QUIZ 2

We are looking for an efficient person, who can manage the whole show starting from collecting requirements from the customer, managing the project constraints. Also he is fully responsible and accountable for the output of the project. All project staff will report to the candidate. When the project is completed, project staff will be released from the project. Which type of organizational structure we are talking about?

A. Functional
B. Matrix
C. Projectized
D. None of the above

QUIZ 3

We have a complex and prestigious project coming up. Our top developers and development manager will work on this project. Thus we need a manager who can work for the project management related activities to manage project schedule, time, cost and other project constraints. Also he needs to work with the development manager for people management responsibilities. Which type of organizational structure we are talking about?

A. Functional
B. Matrix
C. Projectized
D. None of the above

Organizational Culture & its 10 Characteristics

Organizational Culture is a set of shared assumptions, values and behaviors that characterize the functioning of an organization.

It is a commonly agreed opinion from experts that underlying causes of many problems in a company is due to its culture rather than its structure or staff.

1. Member identity*
2. Group emphasis*
3. People focus
4. Unit integration*
5. Control
6. Risk tolerance*
7. Reward criteria*
8. Conflict tolerance*
9. Means-ends orientation
10. Open-systems focus*

*Project work is most successful in an organizational culture where these items are strong/high and other items are balanced

Stakeholder Management - A Case Study

- CASE STUDY : The disastrous launch of the website “healthcare.gov” in October 2013
- Basis: Article ran by Forbes diagnosing that the Governments had broken every rule of Project Management
- **Mitigation Measures implemented:**

  Then President Barrack Obama formed the “Obama Trauma Team” comprising of outstanding and leading performers in the field from several organizations to help fix the site.

LESSON LEARNED: Project managers must take time to identify, understand and manage relationships with all project stakeholders. Using 4 frames of organization can be helpful.

Roles and Impact of Upper/Top Management

People in top management positions are often the key stakeholders in any project

HOW Top Management can help Project Managers ?

- Providing adequate resources
- Approving unique project needs in a timely manner
- Increased cooperation from other departments or parts of/within the organization
- Mentoring and coaching on leadership issues

Best Practice for IT governance

IT Governance addresses the authority and control for key IT activities in organizations: IT infrastructure, IT use and project management.

Case Studies/Research evidences to support claims of IT governance significance:

- Sydney Water's customer relationship management system
- The Royal Melbourne Institute of Technology's academic management system
- One. Tel's billing system

All 3 of above case studies highlight failed IT projects based in Australia due to the lack of IT governance. Organizational Commitment and Standards can be a solution.

Project Phases and the Project Life Cycle

A project life cycle is a collection of project phases that defines:

- What work will be performed in each phase
- What deliverables will be produced and when
- Who is involved in each phase and
- How management will control and approve work produced in each phase

Characteristics of Project Phases

EARLY PHASE:

- Resource needs are usually at lowest
- Level of Risk/Uncertainty is at highest
- Stakeholders have the greatest opportunity to influence the project

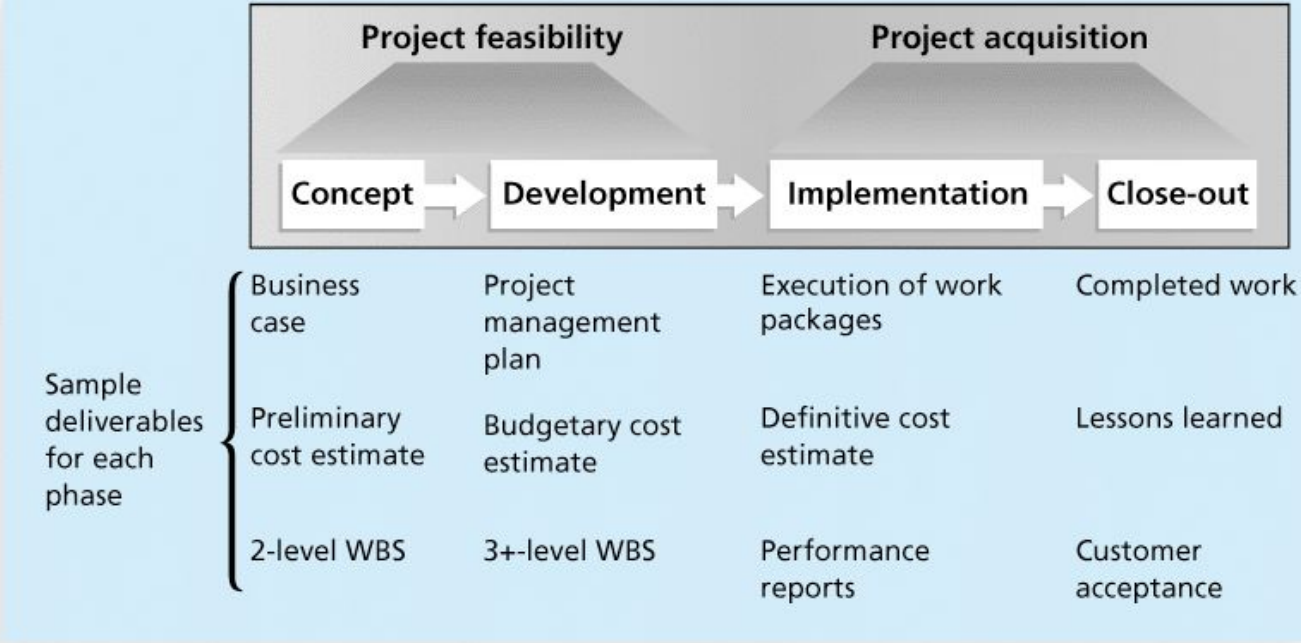
MIDDLE PHASE:

- Certainty of project completion improves
- Resource needs increases

FINAL PHASE:

- Focus on ensuring that the requirements were met
- Sponsor approves completion of the project

Traditional Project Life Cycle Phases



Product Life Cycle
SDLC (Systems Development Life Cycle)

SDLC is a framework for describing the phases involved in developing and maintaining information systems.

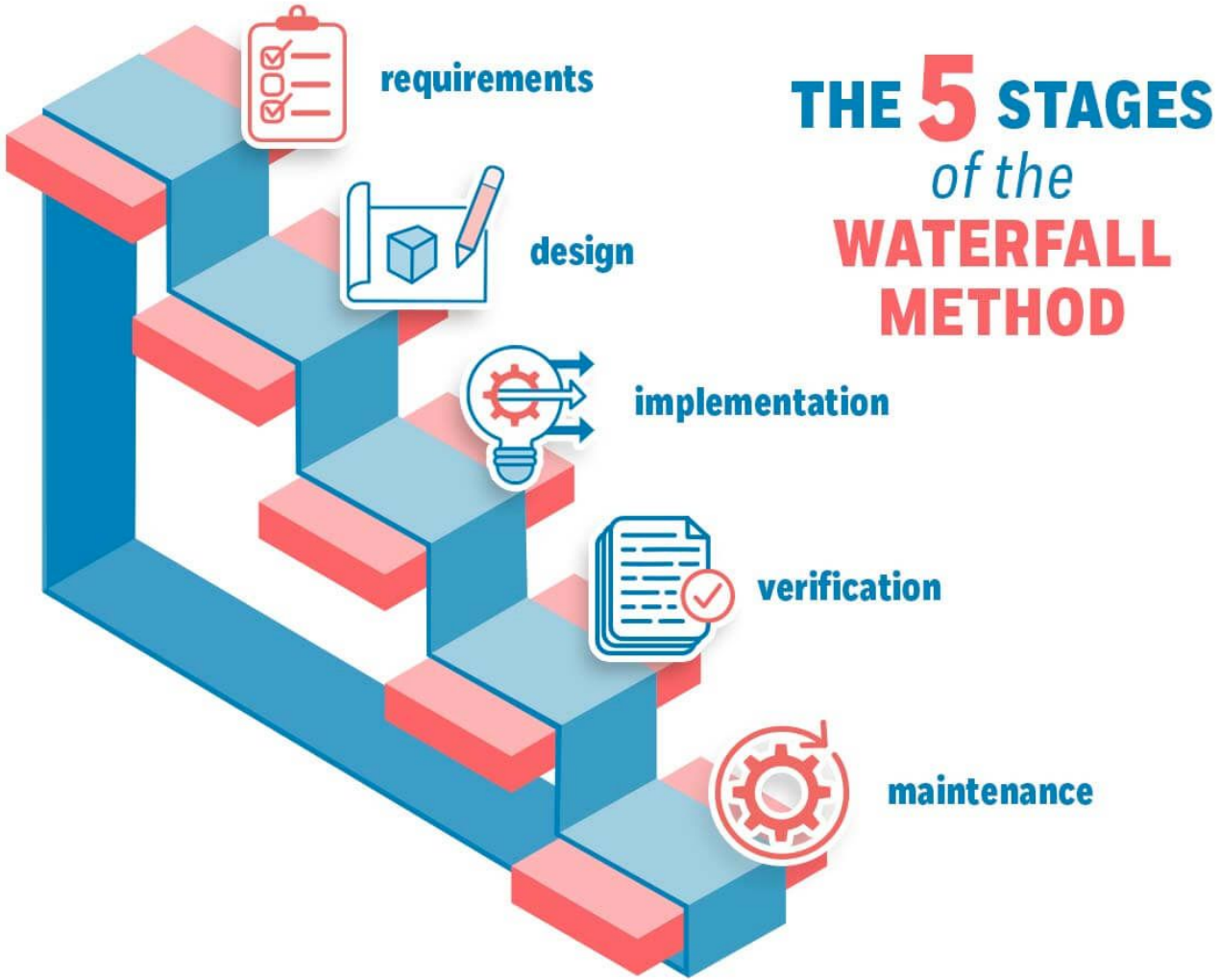
Systems development projects can follow either of two life cycle models as follows:

- PREDICTIVE Life Cycle
  - Scope can be clearly articulated and cost/schedule can be predicted

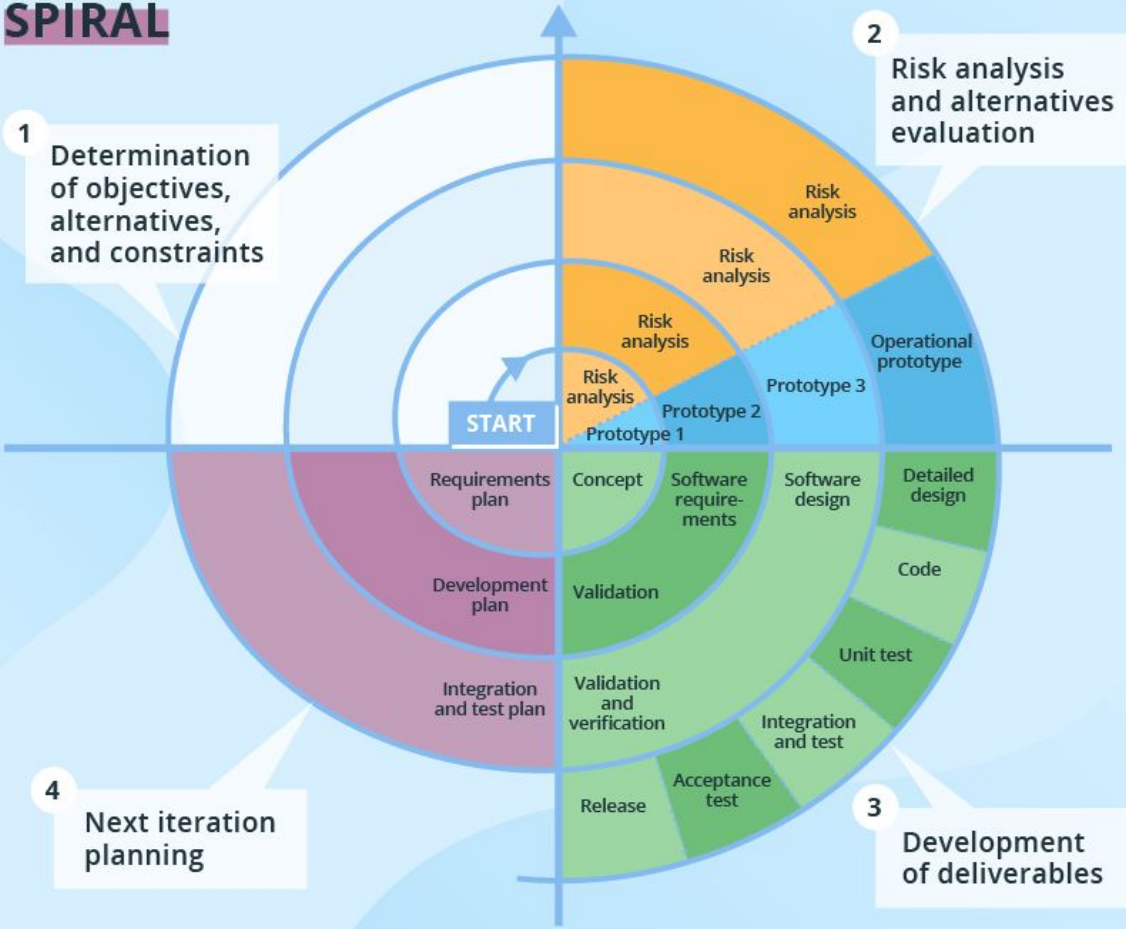
- ADAPTIVE Software Development (ASD) Life Cycle
  - Requirements cannot be clearly expressed
  - Projects are mission driven and component based
  - Follows time based cycles to meet deadlines

PREDICTIVE LIFE CYCLE MODELS

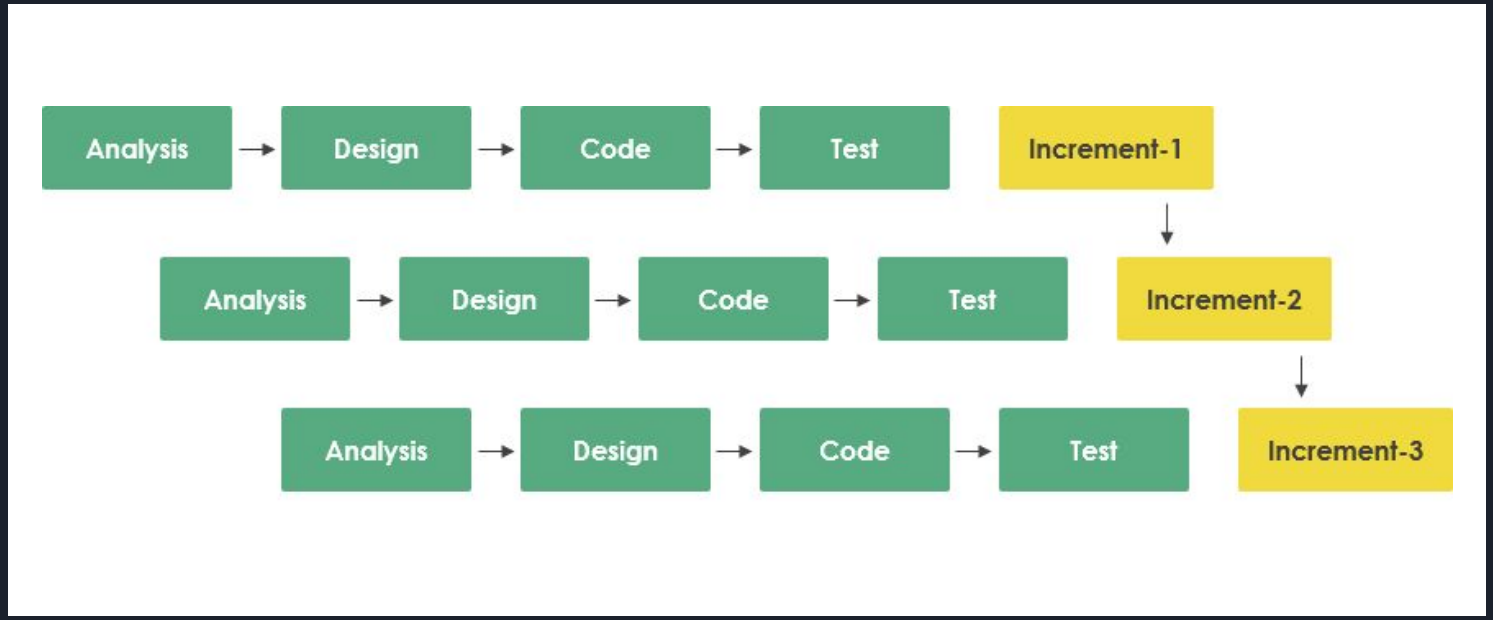
1. Waterfall Model
    - Has well defined linear stages of systems development and support
2. Spiral Model
    - Product/Software Development is done by using iterative or spiral approach rather than linear
3. Incremental Build Model
    - Offers progressive development of operational software
4. Prototyping Model
    - Used for developing prototypes for user requirement clarification
5. RAD (Rapid Application Development) Model
    - For quickly developing or producing systems without having to sacrifice system quality


requirements
design
implementation
verification
maintenance
THE 5 STAGES
of the
WATERFALL
METHOD

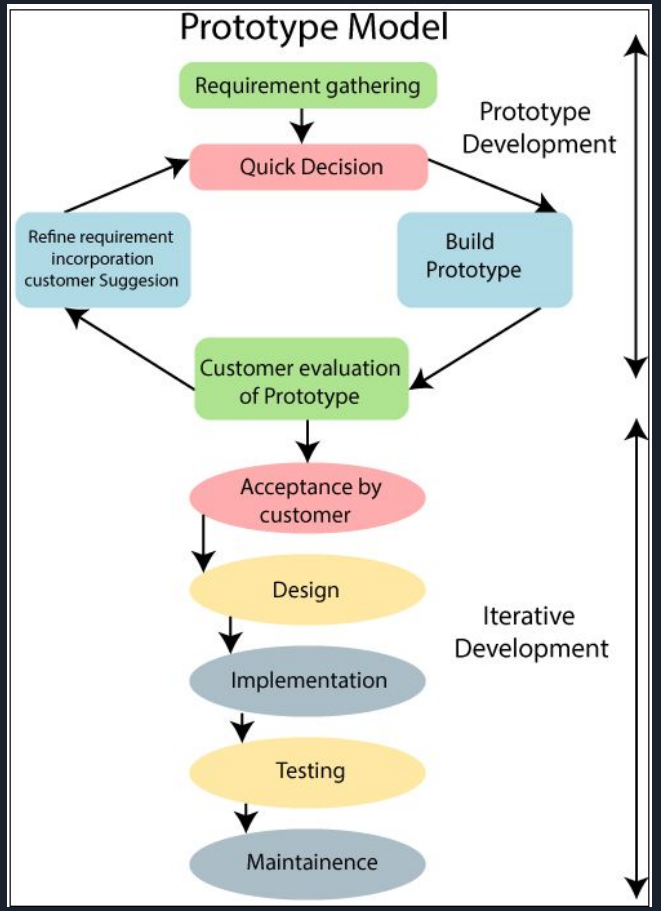
SPIRAL


1
Determination of objectives, alternatives, and constraints
2
Risk analysis and alternatives evaluation
3
Development of deliverables
4
Next iteration planning
START
Risk analysis
Risk analysis
Risk analysis
Risk analysis
Prototype 1
Prototype 2
Prototype 3
Operational prototype
Requirements plan
Concept
Software require-ments
Software design
Detailed design
Code
Unit test
Integration and test
Acceptance test
Release
Integration and test plan
Validation and verification
Development plan
Validation

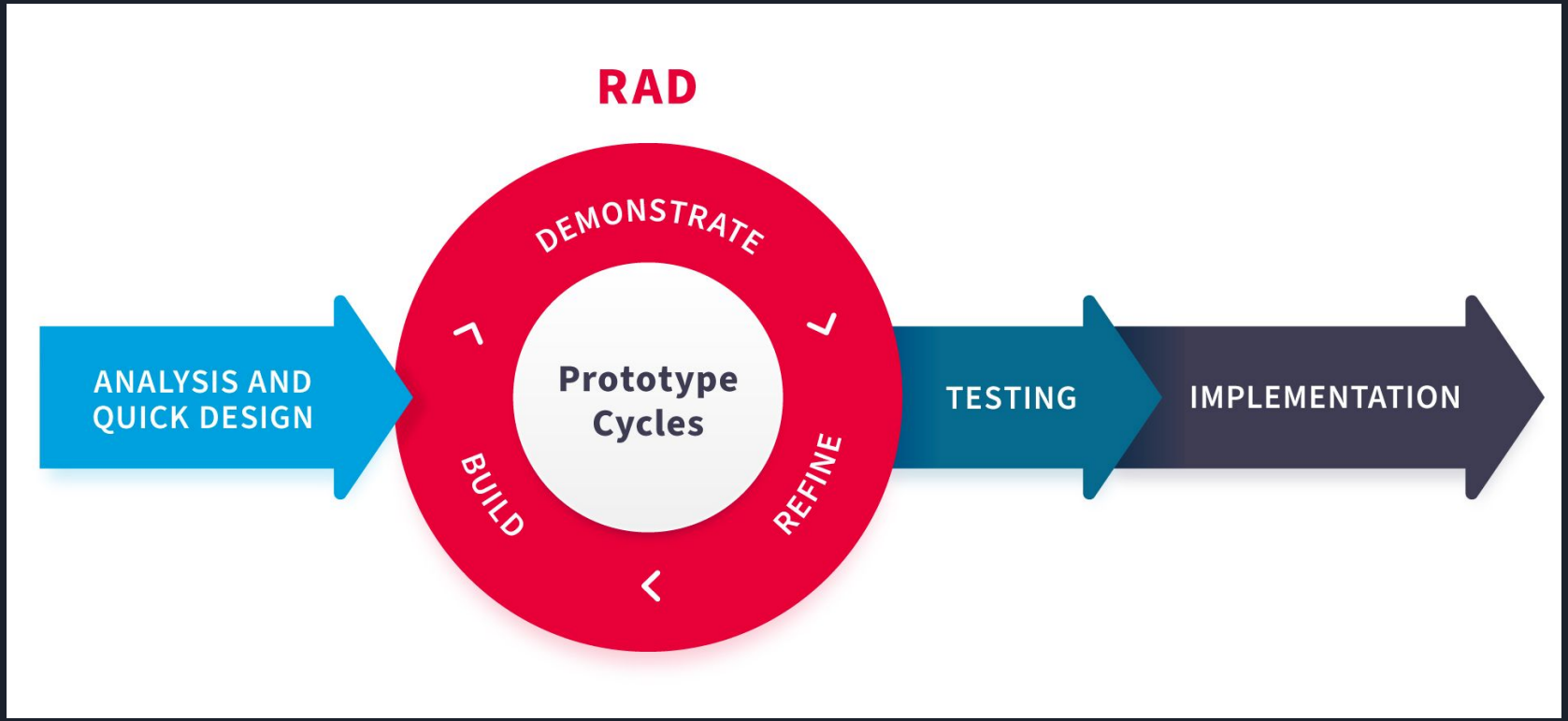
Incremental Build Model



Prototyping Model



Rapid Application Development Model

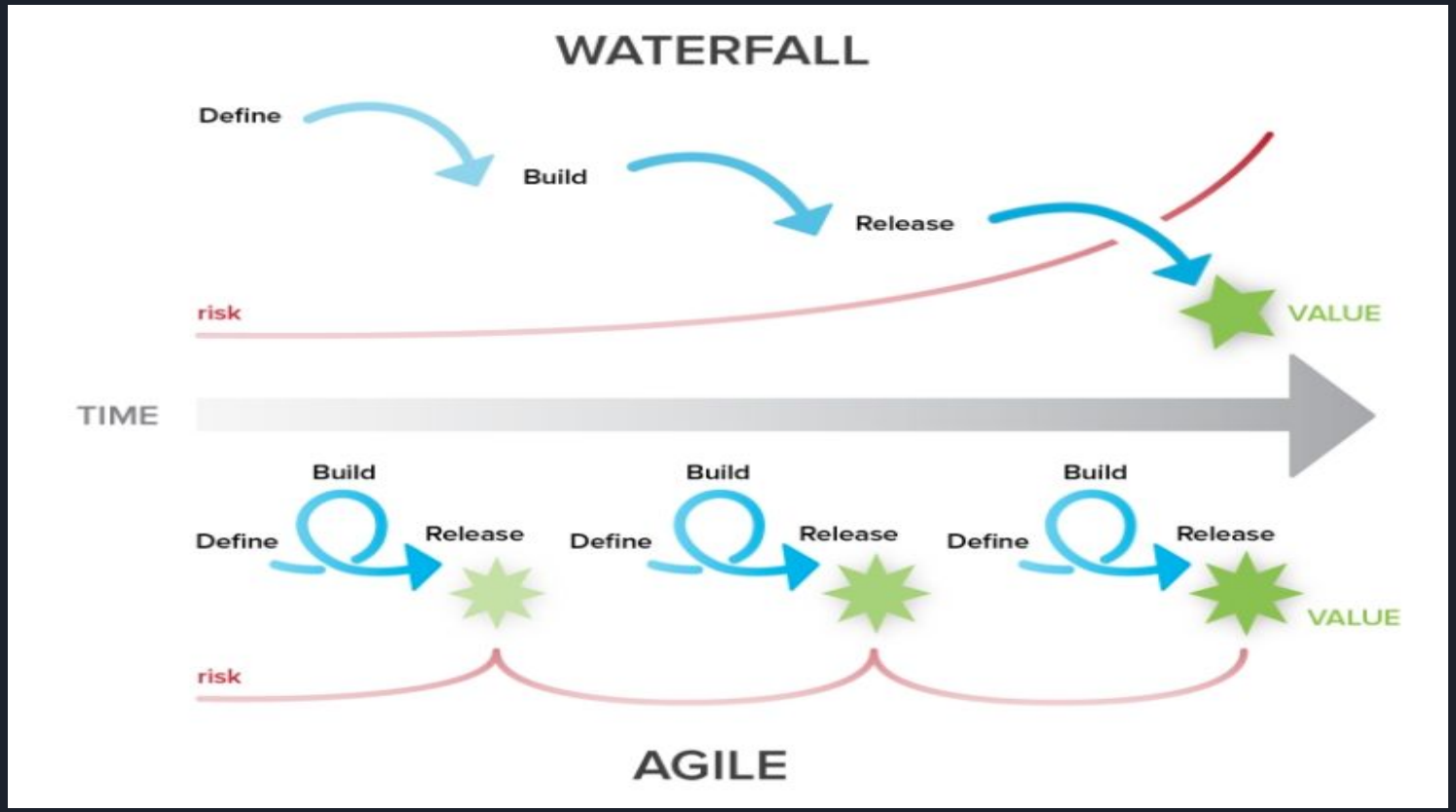


Explaining Life Cycle Models - Answer sample

In software development, Muench, et al. (2016) describes one of the Predictive Life Cycle Models as a Spiral Model with four cycles and four quadrants as illustrated in Figure(quote no.)

- Proof of concept cycle - here business requirements are captured, goals and proof of concepts are defined. This cycle produces conceptual system design, acceptance test plans, risk analysis conduction guidelines and recommendations.
- First Build Cycle - This cycle derives system requirements, defines first build goals, produces logical system design and constructs the first build along with system test plans and evaluations as well as recommendations
- Second Build Cycle - here subsystem requirements are derived, further goals for second build are defined and physical design along with second build is produced. System test plans and second built is completed.
- Final Cycle - This stage completes the unit requirements, final design, construction of final build and carries out unit, subsystem, system and acceptance tests.

Adaptive or Agile Project Management



What is Agile ?

Agile means being able to move quickly and easily.

In software project management, Agile means using a method based on iterative and incremental development, in which requirements and solutions evolve through collaboration.

Agile is a more sophisticated and modern approach and makes sense for many projects, however not for all.

For example, J. Leroy Ward (2011), Executive VP at ESI International, said that “Agile will be seen for what it is..and isn’t..Project Management organizations embracing Agile software and product development approaches will continue to grow while being faced with the challenge of demonstrating ROI through Agile adoption.”*

**J. Leroy Ward “The Top Ten Project Management Trends for 2011, projecttimes.com (2011)*

MANIFESTO for Agile Software Development

Released in February 2001 by a group of 17 people termed as the Agile Alliance, the manifesto states:

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Agile manifesto, www.agilemanifesto.org @ 2016

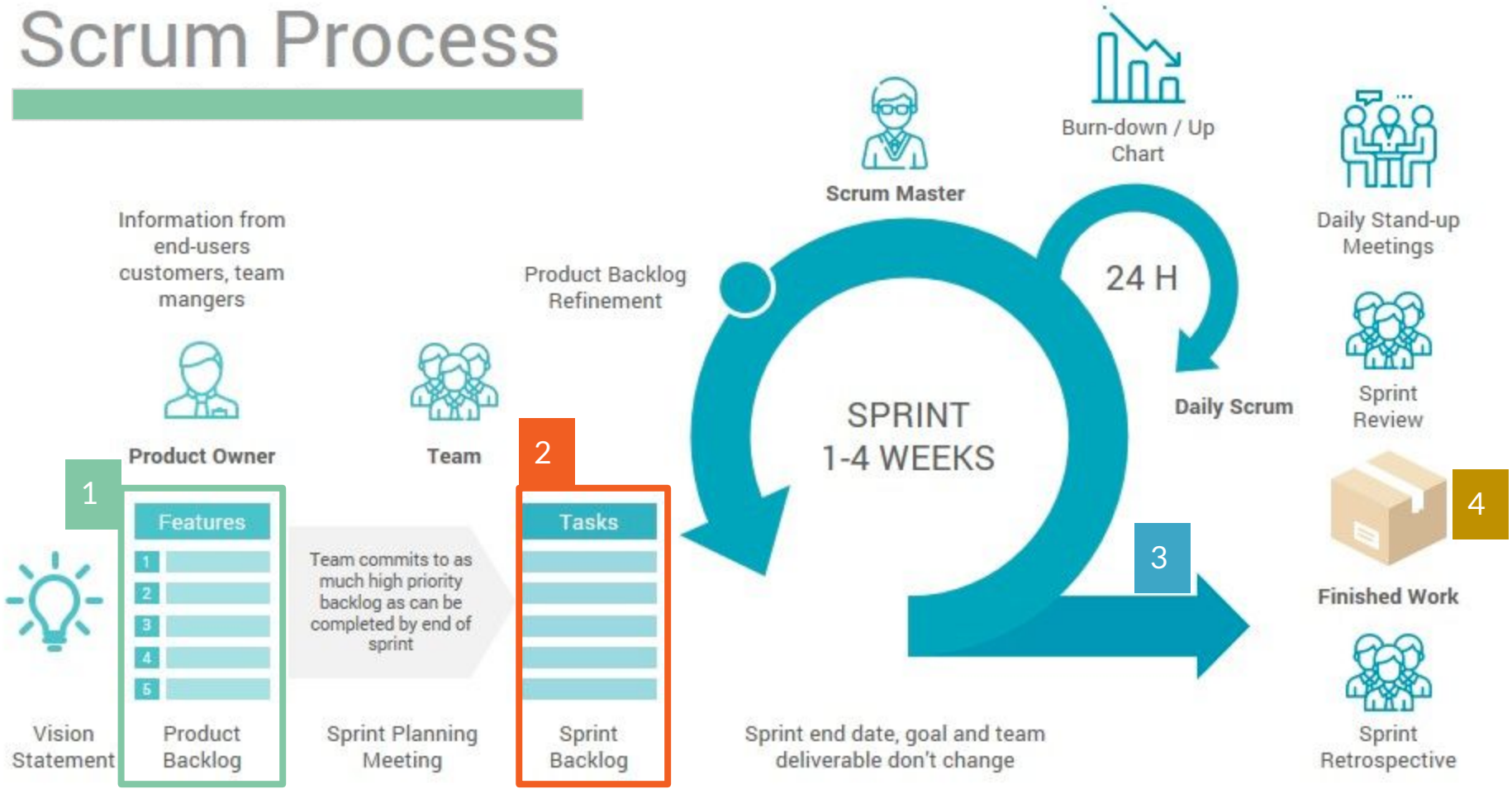
SCRUM Framework

Systematic Customer Resolution Unraveling Meeting

Term coined in 1986 in a Harvard Business Review Study

As per the SCRUM Alliance, SCRUM is the leading agile development method for completing projects with a complex, innovative scope of work. Which is often the case with Software or IT related projects.

Scrum Process



KANBAN

It’s a technique that can be used in conjunction with SCRUM

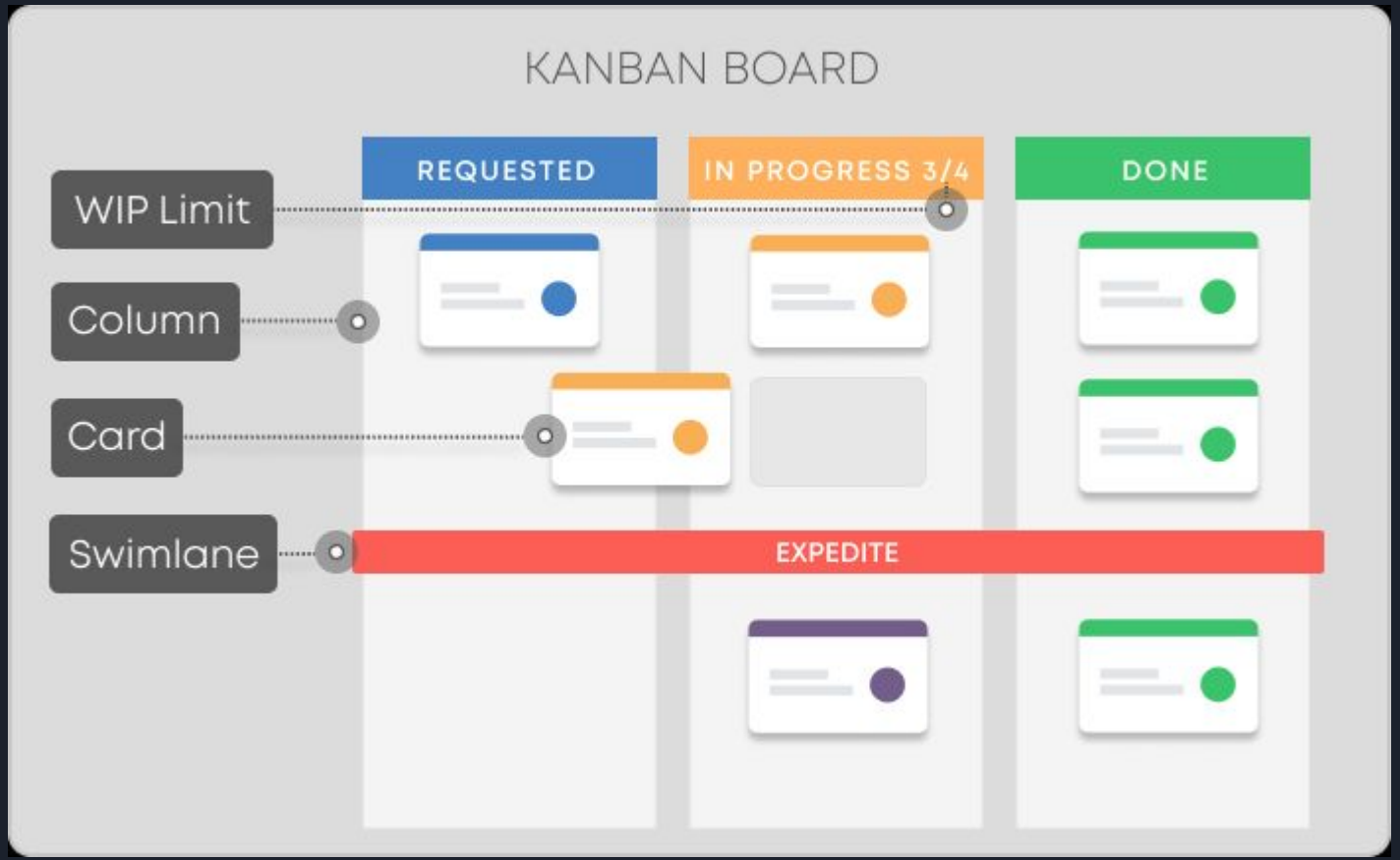
Developed in Japan by Toyota Motor Corporation

Kanban uses visual cues to guide the workflow

Kanban cards show:

- new work,
- work in progress and
- work completed

for project management


KANBAN BOARD
REQUESTED
IN PROGRESS 3/4
DONE
WIP Limit
Column
Card
Swimlane
EXPEDITE

Agile, PMBOK® Guide and Certification

PMBOK Guide describes best practices for what should be done to manage projects.

Agile is methodology that describes how to manage projects

PMI (Project Management Institute) recognized the increased interest in Agile and introduced a new certification in 2011 called Agile Certified Practitioner (ACP).

Certification related to PHI & HIPAA are also specially useful in consideration to US Markets

Seasoned/Experienced project managers understand that they have always had the option of customizing how they run projects, but that project management is not easy, even when using Agile.

Case Study - What Went Right ?

“ The real improvement that I saw was in our ability to - in the words of Thomas Edison - know when to stop beating a dead horse, Edison’s key to success was that he failed fairly often; but as he said, he could recognize a dead horse before it started to smell.

In Information Technology we ride dead horses - failing projects a long time before we give up. But what we are seeing now is that we are able to get off them; able to reduce cost overrun and time overrun. That’s where the major impact came on the success rate ! ”

- *Cabanis, Jeannette, “A Major Impact’: The Standish Group’s Jim Johnson on Project Management and IT Project Success,” PM Network, PMI, Sept. 1998, p.7*

Context of IT Projects

Extremely diverse in terms of size, complexity, products produced, application area, and resource requirements. Often rapidly changing and requiring highly specialized human resource.

Factors/Trends affecting IT Project Management

- Globalization
- Outsourcing / Offshoring
- Virtualization
- Agile Project Management

SUGGESTIONS:

- Think Global but act Local
- Keep project Momentum Going
- User Newer Tools and Technologies
- Employ greater deal of project discipline

Case Study - Global Issues

Outsourcing also has disadvantages. For example, Apple benefits from manufacturing products in China, but it had big problems there after its iPhone 4S launch in January 2012 caused fighting between migrant workers who were hired by scalpers to stand in line to buy the phones.

When Apple said it would not open its store in Beijing, riots resulted and people attacked security guards. The Beijing Apple Store has had problems before. In May 2011, four people were injured when a crowd waiting to buy the iPad 2 turned ugly.

Task for this Weekend

RESEARCH TASK

- Research any of the CASE Studies or studies similar to the ones mentioned in these slides.

Identify the key elements relevant to the Project Research Title you have selected based on topics discussed today and prepare notes.

THANK YOU

happy weekends