FIT2002 Tutorial 2 Solution

- Terminology
  - Project lifecycle is a collection of phases. Traditional project phases include concept, development, implementation, and close-out.
  - Product lifecycles:
    - Waterfall – linear, traditional lifecycle model, well understood, easier to manage than agile when working on large complex applications
    - Spiral Model – based on refinements to the waterfall model recognizing that most software is developed using an iterative or spiral rather than linear approach
    - Agile – lean approach, being able to move quickly and easily. Using a method based on iterative and incremental development, in which requirements and solutions evolve through collaboration, useful where requirements are unknown or change quickly. Time and cost goals are set, but scope is flexible.
  - Project driven vs. Non-project driven

http://www.projectmanagementlearning.com/what-is-the-difference-between-project-driven-and-non-project-driven-organisations.html

There are several **differences between project-driven and non-project-driven organisations**, including:

- Project Management in project-driven organisations is mature and respected. On the other hand, in non-project-driven organisations, Project Management is still in its infancy, and is often looked at with skepticism.
- Project-driven organisations make the lion's share of their income through projects, non-project-driven organisations mainly make their income through production.
- The Project Manager is responsible of the profitability and loss in project-driven organisations. In non-project-driven organisations, the responsibility for profitability and loss is ambiguous.
- Project-driven organisations adopt either fully projectized or matrix organisational structures. Non-project-driven organisations usually adopt a functional organisational structure.
- Project-driven organisations have flexible career paths, where one can ascend quickly to higher positions. Non-project-driven organisations have traditional career paths, where moving upwards in the company ladder is very difficult. Quite often, one has to wait for his manager to get fired/resign/retire/die to ascend the company's ladder and assume a better position.

Examples of industries where project-driven organisations are predominant include:

- Construction
- Aerospace
- Research

Examples of industries where non-project-driven organisations are predominant include:

- Manufacturing
- Services
- Farming
- Natural resources

- Organisational structure:
  - Classical – functional, traditional, departmental structure. Project manager has little authority. Individuals can specialize, focus not always on the project.
  - Pure project – Project manager has high authority. Potential under utilisation of resources, no career progression for project team
  - Matrix – Project manager has moderate to high authority. Formal project accountability, more adaptable to change, sharing of knowledge across projects. Drawback as there are multiple supervisors, budget and cost become more difficult, team members have multiple bosses.
- Systems thinking – view projects in the context of the whole environment – organisation and system

- Activity 2 & 3 - Discussion questions:
  1. Systems approach and its significance to project managers

     The systems approach involves viewing projects in the context of the entire environment including both the inside and outside of the organisation. It is important for project managers to take this approach so that projects are optimally designed and planned. It enables project managers to take many internal and external factors into consideration when planning a project, including all of the other ongoing projects in the organisation.

  2. Explain the four frames of organisations. How can they help project managers understand the organisational context for their projects?

     The four frames of organisations are summarized below:

     - *Structural: deal with how the organisation is structures and focus on roles and responsibilities. It's important to understand these roles and responsibilities when dealing with project stakeholders, especially in procuring resources.*
     - *Human resources: focuses on meeting the needs of the organisation and its people. Project managers must understand various human resources policies and procedures.*
     - *Political: addresses organisational and personal politics. Many project managers fail because they do not understand the political environment.*
     - *Symbolic: focuses on symbols and meanings. It's important to understand an organisation's culture, dress code.*

  3. How do product lifecycles differ from project lifecycles? How are they similar?

     A product life cycle is a model for common product development processes, and fits into a larger project life cycle, which includes the additional phases of project initiation, planning, controlling and closing. Each life cycle contains phases, deliverables, and decisions to be made before moving on to a subsequent phase but the focus and work product are very different.

  4. How to decide which product lifecycle to choose to complete a project?

     See previous discussions. Agile – where requirements can be quickly changed, development team is adaptable, and customer has high level of availability.

Larger complex projects, mission critical projects with very clear requirements may be better suited to waterfall. Maybe you use both.

5. Concept of delivering a project in incremental iterations.

   Delivering a project in incremental iterations allows stakeholders to review and evaluate project progress at many points throughout the project's life span. The key product development activities such as requirements definition, design, construction, and testing are performed during each iteration, and each iteration results in a more refined product. This enables stakeholders to agree on changes to requirements or product design as the project is in progress.

6. Case study (Mark, Pam and Rick). *The systems approach would have been a great benefit to Mark, Pam, and Rick because they would have addressed these issues at the onset of their individual projects. By using the systems approach, the three IT professionals would have acknowledged how their projects fit into the overall organisation and what the potential environmental impacts were. By recognizing how their individual projects fit into the organisation, they would have recognized the conflicts which only became apparent to them near the end of their projects. These mistakes proved very costly to their employer.*

7. Describe how organisational culture is related to project management. What type of culture promotes a strong project environment?

   Organisational culture is a set of shared assumptions, values, and behaviours that characterize the functioning of an organisation. Organisational culture can definitely impact project management. For example, if an organisation values project management and follows the guidelines for applying it, it will be much easier to practice good project management. Project work is most successful in an organisational culture where employees identify more with the organisation, where work activities emphasize groups, and where there is strong unit integration, high risk tolerance, performance-based rewards, high conflict tolerance, an open-systems focus, and a balanced focus on people, control, and means-orientation.

8. Agile:
   a. Advantage of using agile: Useful where requirements can be scoped during development. Lean approach, with high customer involvement. Rapid development.
   b. Is agile suitable for all projects? No. Why/why not? Larger complex projects requiring mission critical solutions may be better suited to traditional approach. Projects with very clear requirements can use traditional, agile or combination of both.
   c. Difference between Agile and Traditional. Agile is lean – only uses what is needed. Scope can be easily adapted. Agile focuses on producing deliverables quickly. Agile does cycles of development, whereas traditional does one cycle of development
   d. How to decide on when to use Agile, or traditional? Agile – where requirements can be easily changed during development. Developers are experienced and adaptable to change. Traditional – larger complex projects, mission critical where requirements are very clear; larger teams. Sometimes you can use either or both.