ISM101 – Information Systems Management

Participation Exercise #3

Name: Aldenir D Flauzino **Student No.:** CT1010383

1. What is SDLC, and why is it compared to a recipe for baking a cake?

   SDLC stands for Software Development Life Cycle. It is a structured process used by software developers to design, develop, test, and deploy software systems. The SDLC consists of several stages, typically including planning, analysis, design, implementation, testing, deployment, and maintenance. Each stage has specific tasks and deliverables that ensure the software is developed efficiently and meets the required quality standards.

   The SDLC is often compared to a recipe for baking a cake because, like following a recipe step-by-step to bake a cake, the SDLC requires following a series of defined steps to create software.

2. What is the main difference between the Waterfall Model and the Agile Model in SDLC?

   In a simple way, the difference between the Waterfall Model and the Agile Model in SDLC is how they approach the development process. While Waterfall is based on a linear and sequential approach, Agile is iterative and flexible. In the Waterfall Model, each phase (like planning, design, and testing) must be completed before moving on to the next. Once you go on can't go back once you've moved forward. Agile works in small cycles, called "sprints", allowing for continuous improvement, feedback, and changes throughout the project. It's like working in small chunks, adjusting as you go.

   In short words, Waterfall is more rigid and sequential where each phase must be completed before moving on to the next, while Agile is adaptable and focuses on flexibility and continuous feedback, emphasizing collaboration

Critical Thinking Questions:

3. Imagine you are managing a software project. Which SDLC model (Waterfall, Agile, etc.) would you choose, and why? What factors would influence your decision?

   Waterfall suits better for project that sequence is important, with well defined scope, simpler (non dynamic), where a step needs to be full completed before the next step, white Agile is better for complex, dynamic projects, delivering early and/or partial value to the client and improving the product over the time

based on the feedbacks and surveys.
In Construction or Infrastructure projects for instance, ***waterfalls*** suits well, because first we need to construct the foundation, before you can build the walls, and the walls must be finished before adding the roof.

Agile is widely used in Software development, as example when app's features and functionalities may evolve based on user feedback and market trends. Agile allows for quick iterations, releasing new features regularly, and adapting to user needs as the app grows.

4. In the Waterfall model, stakeholder involvement is emphasized early in the process. How might this benefit or hinder the project compared to models where user feedback is more continuous, like Agile? Provide examples to support your answer.

   Since Waterfall Model is a linear and sequential approach this approach can benefit projects where the scope is well-defined from the start and "immutable" such as Government or Regulatory Software or feature. These kinds of projects usually have strict regulatory requirements, with very clear specifications that don't change during the project. On the other hand, if the project has a dynamic scope, the team will need to deal with a lot of changes during the development. In this case the adoption of waterfall could be challenging, hiding the success of the project. In this case, it is most indicated is iterative and flexible approach like Agile.

5. In today's fast-paced and constantly evolving technology landscape, do you think traditional SDLC models like the Waterfall Model still have relevance, or should organizations primarily adopt more agile and iterative approaches? Explain your reasoning and provide examples of industries or projects where each approach might be most suitable.

   To choose what method or approach might be most suitable we need to consider the scope of the project. Nowadays organizations need to deal with constant change in the law and regulations. In this case, the waterfall suits well. Projects like software for flight control systems must adhere to strict regulatory and safety standards, where requirements are unlikely to change during development. Waterfall provides a structured approach to ensure compliance and thorough testing.

   On the other hand, companies are building new products, especially in competitive sectors like fintech or SaaS, which benefit from Agile's flexibility. Startups need to adapt quickly to market feedback and are often unsure about all features from the start.

   In short, the organizations should primarily adopt the approach more suitable to their context.