Assessment 1 – Individual Research

Software Project Management framework

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**Abstract**

This report shows the agile framework in the software project management focusing on its methods, framework analysis, professional and ethical consideration and moreover comparison with other framework. The report highlights famous agile methods like scrum and kanban. This report tells the importance of agile like better teamwork, adapt to the changes and high quality results. However, the report tells about the challenges while we adapt the scrum framework. The use of agile can help in reducing the risks and helps making the project more efficient.

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**Agile Software Project Management: Scrum Framework**

**1. Introduction**

Agile method is a set of rules or principles used in development of software to improve collaboration and flexibility. Agile focuses on proper planning, continuous progress and involvement from the customers whereas traditional approach which is waterfall approach lacks all those features. Agile approach targets to provide premium quality of a project in shorter time frame ensuing reduction in risk and allowing team to react in any changes. The Agile Manifesto, published in 2001 (Beck et al., 2001).

The agile values and principles are as follows:

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

**1.2 Importance of Agile Frameworks in IT Project Management**

We have different frame work in agile approach such as scrum,kanban and SAFe, which guides to get structural outcomes by implementing the guidelines of agile in development of software in project management. These guidelines improve the quality of outcomes and accelerate the efficiency by fragmentations of work onto do able parts (Beck et al., 2001)

The use of agile framework are as follows

* Necessary changes can be made based on the feedback from the customer.
* **The quality of work will be improved through the guidelines of improving little by little**
* **Implementation of user-friendly approach helps in achieving the customer satisfaction.**

**2. Analysing the framework: Scrum**

**2.1 Scrum Framework**

Scrum, a widely used framework of agile used to manage software development projects and its most important approach that helps in distributing the work and divide the the work into time boxed work called sprints.

**Key Components of Scrum:**

1. **Scrum Team:**
   * **Product Owner**: Project requirement will be define by the project owner.
   * **Scrum Master**: Team efficiency will be ensured by him.
   * **Development Team**: Team coordination and collaboration.
2. **Scrum Artifacts:**
   * **Product Backlog**: A prioritized list of features and tasks.
   * **Sprint Backlog**: Tasks selected for the current Sprint.
   * **Increment**: A working version of the product delivered at the end of each Sprint.
3. **Scrum Events:**
   * **Sprint Planning**: Team selects work items from the backlog for the Sprint.
   * **Daily Scrum**: a prestart meeting discussing the progress and to do list for the day.
   * **Sprint Review**: Reviewing on the work that we ave completed.
   * **Sprint Retrospective**: Recapping on the result that we have already done**.**

**2.2 Key Principles and Processes**

Scrum is based on the principles of:

* **Empirical Process Control**: observations and experiences are key to take the decision.
* **Self-Organizing Teams**: Team will be managing their own task without depending to others..
* **Collaboration and Transparency**: Good and open communication make sure that we are going with the project goals.

The Scrum process are as follows:

1. Product backlog will be created by product owner.
2. **Sprint Backlog** will be selected by team during the planning(sprint)
3. The work will only be started after the daily sprint.
4. At the end of sprint every minute will be noted.
5. The team conducts a **Sprint Review** and **Retrospective** for continuous improvement.

**2.3 Advantages and Disadvantages of Scrum**

**The Advantages of Scrum are as follows**

✔ Faster delivery of working software through short iterations.  
 ✔ It helps in improving the team collaboration between the team and the customers.

✔ Necessary changes can be made in regard to the demand and the customers feedback.  
 ✔ Good accountability and transparency helps in achieving the project.

**Disadvantages:**

✖ It involves high team level, discipline and commitment.

✖ Not suitable to use in a project which doesn’t have clear goals or requires strict regulatory.  
 ✖ Frequent meetings can be time-consuming.

**3. Professional and Ethical Considerations**

**3.1 Ethical Decision-Making in Project Management**

Scrum promotes ethical decision-making by adapting transparent, accountability and regular feedback. The framework encourages teams to:

* Make sure the work is distributed fairly.
* Makes a trend to report progress and challenges.
* Taking note on the customers feedback by not compromising the team capacity.
* Adhere to the security and data privacy protocols when developing the software.

**3.2 Responsibilities of Project Managers**

The project manager role may not be defined in scrum however the **Scrum Master** and **Product Owner** share responsibilities such as:

* Making sure the quality of software reached at the required standard by testing and feedback loops**.**
* Managing stakeholder expectations and preventing unrealistic deadlines.
* Make sure that we adhere to the regulations of the industry.
* Infuse and upheld the values of good teamwork.

**4. Comparison with Other Agile Frameworks**

**4.1 Scrum vs. Kanban**

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| **Feature** | **Scrum** | **Kanban** |
| Structure | Iterative Sprints (1-4 weeks) | Continuous flow |
| Roles | Product Owner, Scrum Master, | No predefined roles |
| Work Management | Sprint Backlog | Kanban Board with Work-in-Progress (WIP) limits |
| Best For | Teams needing structured processes | Teams needing flexibility in task handling |

* 1. **When to Use Scrum Over Kanban**
* **Use Scrum when:** ✔ The project requires continuous feedback.   
   ✔ The role and responsibility can be benefited to the team member.

✔ The goal continues delivery which means the progress should be given in the end of each time frame.

* **Use Kanban when:** ✔ The team likes to have a continuous delivery unlike a sprint.

✔ The priority changes depend on the situations.  
 ✔ Work scope vary in complexity and size.

**5. Conclusion**

A very strong agile framework called scrum which is important because it enhances the team colorations, improve the pace of project development and adapt to changes depending on the situation and feedback. It is suitable to use in IT project development where there is involvement from the stakeholders.

Scrum needs to follow and adhere to numerous procedures and principles and may not be idle for every project. Comparing scrum to other framework like kanban it doesn’t have privilege to choose the most suitable approach depending on the project needs.

The use of scrum can be used to get high product and improved quality of the software and give better customer satisfaction and hence make a wise choice for any project to adapt the scrum framework.

**6. References**

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