***Research Methods – Interim Report***

**Group Work Report Prepared by**

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**Chapter 1:**

***Introduction*** : The research area we have chosen for this group work report is software project development. The term software refers to set of instructions given to the computer for performing a particular task. For developing a software or application we have multiple processes or methodologies. Each and every team or organisation depending on the product or application type and end consumer preferences chooses the suitable methodologies. Some of the methodologies are Waterfall, Spiral, Agile, etc. All those methodologies have their own pros and cons depending on the type of project or application development.

In the Agile methodology we have to different methods depending on team size and project some teams or projects choose Scrum timelines with shorter duration which are known as sprints which typically lasts anywhere between 2-4 weeks but not more than 4 weeks, they also have a certified scrum master. Some teams might follow Kanban method which does not have no required roles and have a more continuous flow for development and testing. One more type of agile working is extreme programming in which the teams in smaller iterations to develop product more efficiently. No matter which type the team chooses the end goal is to give the end user a functional product to the user.

**Chapter 2:**

***Background*** : In the field of computing introduction of modern technologies or methodologies is not new. In the past 25 – 30 years a vast number of novel techniques and methods have been introduced to software development of which only very few have been in use till date. The Agile methodology has been come into existence formally in the early 2000’s. The core idea behind Agile is respond rapidly to customer change requests. Agile follows customer feedback ,welcoming change, continuous development, and testing. From business point of view Agility is an important aspect for a business to act for maximizing benefits with respect to the changes that are happening.

Bellow are the most popular agile methodologies :

1. Extreme Programming
2. Scrum
3. Feature Driven Development
4. Crystal Method

Now let us see in brief about two of those.

***Extreme programming :*** The extreme programming is test driven programming. The user gives the requirement as user story and the user story is then developed in weekly cycle or Quarterly Cycle. It also follows continuous integration as well.

***Scrum*** : Agile Scrum methodology is a project development framework which is used for incremental development. Each of the scrum iterations which are also known as sprint lasts 2-4 weeks. Where are by the end of sprint the development team is ready with functional deliverable.

**Chapter 3:**

***Research Question*** : What are the factors affecting software project planning in Agile methodology?

***Context*** : Software Development

***Population*** : Software Engineers

***Intervention*** : factors that are going to affect

***Comparison*** : several factors or variables that will affect the project planning in agile methodology

***Outcome*** : Successful Software development using Agile methodology.

**Search String**

**Step 1:**

Key Terms:

1. Software Project
2. Planning
3. Agile
4. methodology

**Step 2:**

Synonyms :

Software Project : Application, Software tool

Planning : Arranging, Organizing, Strategizing

Agile : Project Methodology

**Step 3:**

Search String for IEEE Explore:

((Software AND Software Development OR Project Development AND Project\* OR Project Planning e OR {information technology} OR {information system\*}) AND (Agile\* OR Agile Methodo\*)) AND (Factor OR Factors \* OR Factors Aff\*)

Inclusion Criteria :

1. Only written in English
2. Directly answer the research question.
3. Published from 2006 to 2022(Present)

Exclusion Criteria:

1. Do not Include Early access articles
2. Do not include Duplicates of previous works

**Bibliography**

1. K. Beck, Extreme Programming explained: embrace change. Boston: Addison-Wesley, 2000.
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5. R. S. Pressman, Software Engineering: a practitioner's approach, 7th ed. New York: McGraw-Hill, 2009.
6. R. A. Souza, F. Selleri, F. Furtado, and S. Meira, "Benefits and Limitations of Using the MPS.BR Model with Agile Methodologies: A Survey Based on a Systematic Literature Review", Proceedings of the Eighth International Conference on Software Engineering Advances (ICSEA'13), IARIA, Venice, Italy, 27-31 Nov. 2013, pp. 373-379.