Project plan for degree projects

PA2537: Research Methodology in Software Engineering and Computer Science

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| Thesis | Tentative title | Identification of appropriate method in software development life cycle : A Survey |
| Classification | Software engineering, software development life cycle |
| Student 1 | Name | Maniteja Chodapaneedi |
| e-Mail |  |
| Social security nr |  |
| Student 2 | Name |  |
| e-Mail |  |
| Social security nr |  |
| Supervisor | Name and title |  |
| e-Mail |  |
| Department |  |
| External | Name and title |  |
| e-Mail |  |
| Company/HEI |  |

# Introduction

**Any software project is dependent on software development life cycle model. SDLC model are used by the project managers during software projects. Generally the SDLC is a procedural approach. There are several SDLC models like incremental, iterative (agile, scrum, extreme programming), waterfall model, RUP. The selection of right SDLC is difficult as it is dependent on several features like cost, requirements changes, requirements prioritization, duration. Profit of the company is dependent on productivity and quality which are inter dependent on selecting right SDLC models. It is very advisable for a company to follow cost benefit analysis for project selection. The project managers are in dilemma for selecting projects due to cost and approach strategy. Small and medium enterprise doesn’t have exposures to techniques and standard procedures for selecting the SDLC. Wrong SDLC selection lead to failure**

**2 Aim and Objectives**

The main aims and objectives of this research proposal are about knowing how the software companies conduct the process of selecting a particular software development methodology for a project. Then we aim to find out the problems faced due to the improper selection and about finding out if there is any standard approach for this process.

**3 Research questions**

The research questions (derived by conducting a Systematic Literature Review) that we are going to address in the research paper are going to be:

RQ1: How do you select SDLC models in your organization?

RQ2: What are the problems faced due to improper selection of software development lifecycle models?

RQ3: Is there any selection process of software projects employed at your organization?

# Method

We have chosen to carry out a survey to know the selection of Software lifecycle models being opted in the software projects. We think that performing survey is the best possible research method to gather the data and finally analyse it and then furnish the results. Another advantage with survey is that the data is collected from a large number of respondents helping in furnish reliable results. Survey are a form of collecting data very quickly. Another reason for selecting survey over the other research methods like case study and experiments is that case study requires us to go to specific company that is carrying out similar kind of project that we are currently researching on and then we need to conduct interviews to record the data from the subjects. This is a lengthy process and is not suitable for us to complete within the timeframe available. We prefer to use a questionnaire as a medium to collect data as it is easy to execute when compare to conducting interviews with the respective officials. The respondents of the survey are the software practitioners and professionals of various firms and organizations.

For data collection we intend to use web questionnaire. This is the most basic form and cost free data collection technique taking hardly as less resources as possible. The response rate using this technique is pretty high. The questionnaire will be formed in English, it being the universal language.

Once the data is collected then they are analysed using the Grounded Theory approach. The results are compared with the data from the existing literature and then the results will be derived. Analysis can be started right after the first set of data is received by the respondents.

# Expected outcomes

The outcomes which are expected are:

* We expect through the study that the organizations select the model which are suitable to the project.
* We expect that by improper selection the project may fail or the customer may unsatisfied for the project which will be considered failure of project.
* The another outcome which we expect is that the methods used in the organizations for better selection.

# Time and activity plan

|  |  |  |  |
| --- | --- | --- | --- |
| Task name | Starting  date | Ending  date | Predecessors |
| Project proposal  submission |  |  |  |
| Conduct document review |  |  |  |
| Collect data |  |  |  |
| Review meet 1 |  |  |  |
| Analyze the data |  |  |  |
| Document the results |  |  |  |
| Review meet 2 |  |  |  |
| Submit the report |  |  |  |

# Risk management

**Experience in survey**: As we are inexperienced in conducting the survey, there may be a risk that inaccuracy in collecting information and analyzing it so the mitigation will be done by learning the survey method [4].

Probability: low as we learn it before implementing and study other articles who conducted survey.

Severity: High as it impacts in the results.

**Timeline:** The time factor is the main in conducting a study. So the time factor is a considerable risk of insufficient time. So it can be mitigated by planning correctly and having a buffer time to use in case of needed.

Probability: Medium as we plan the time for study correctly and also consider a buffer time.

Severity: High as it impacts in the results and delay in the project.

**Inaccurate responses:** As we are going to conduct a survey there may be a chance of some inaccurate responses so this is a risk which need to be considered. So it can be mitigated by coding the responses and not considering the responses which are incomplete.

Probability: High so we consider only the responses which are complete.

Severity: High as it impacts in the results and on the study.

**References**

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