

Project plan for degree projects

PA 2537: RESEARCH METHODOLOGY IN SOFTWARE
ENGINEERING

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Thesis	Tentative title	Challenges in Human Resource Management :Project Oriented Software Product Development &software Services Firm
	Classification	Project Management, Software Quality Management.
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Introduction

The effective way to achieve and reach the firm's goals can be performed by use of people in HRM. So People are the strength or backbone of firms. The software firms' HRM has a main agenda which is central to productivity and quality. HRM mainly deals with project oriented software development. The HRM works on strategies for most effective use of people or employees involved in the project for development [1]. The HRM is thus mainly involved in planning and organizing the project teams, to do so they need to follow certain procedural steps like acquiring a plan, managing and providing resources to the project teams [2]. The HRM provides the necessary inputs for the team work and the required tools and techniques for development of teams [4][1]. Normally when the word software firms are said it involves people at different levels like technical, management , administrative departmental levels that make use of Human resources which drive towards the whole project completion. It now results in the data that HRM is an important area of expertise in Software firms as it plays a crucial role in technical , management and administrative driven projects for great success level[3][1]. HRM has some rules and guidelines which help in shaping the experience level of employees and their relationships [1]. Hence there is a need for effective HRM as it plays a crucial role in project team development and certainly must be given highest priority to accomplish and to provide resources to the teams as they are involved in strategic decision making which contributes greatly towards the firm's development [1].

In the recent years the significance of Human Resource Management in software development firms has degraded globally. This results in creating so many issues and challenges in the realm of Human Resource Management in Software development firms.

Our current knowledge deals with various inefficient implementation of HRM in area of expertise like recruitment, training, discrimination and diversity, payroll, employee values. The knowledge gap in our current study is mainly observed in what is said in HRM configurations that is different from what is really in real HRM industrial practices.

The main purpose of this project is there are several challenges daunting in the field of HRM implementation like finding the challenges that are faced by HRM in project oriented development and to identify mitigation strategies that are proposed in the form of guidelines by industrial practitioners for better HRM implementation.

Aim and objectives

The main aim of this project is: “This paper aims to gather challenges and their solutions in Human Resource Management and will look into ways by which we can magnify the light on areas which worsen the whole wellbeing of HRM in project oriented software development firms (Software Product and Software Services /IT firm).”

The corresponding objectives that are associated with the aim to reach the final goal is:

- To identify challenges that are faced by HRM in project oriented software development companies”.(**Identify Challenges in Literature**)
- To identify the mitigation strategies for the identified challenges in HRM project oriented software development companies.(**Identify Mitigation strategies in Literature**)
- To explore the guidelines that are being implemented by Industrial practitioners in the realm of HRM in Software Industries.

Research questions

The following research questions are framed based on the objectives determined earlier.

1. What are the challenges that are faced by HRM in project oriented software development companies?
2. What are the mitigation strategies that are proposed for the identified challenges by HRM in project oriented software development companies?
3. What are the guidelines followed by industrial practitioners to improve the practice of HRM in present IT industry?

Method

For research question RQ1 and RQ2 we use the Systematic Literature review for our research method in deducing all the challenges present in HRM after which mitigation strategies are proposed in the research papers. The research question RQ3 will be based on survey based questionnaire (data collection tool) to obtain qualitative data. The other research methods are not chosen because in action research involves both researcher and participants , its results are both qualitative and quantitative.

The Experiment method is not involved because it is a process of investigation using test control since our research is not only dependent on researchers but also participants. The case study is not used as it involves the in-depth exploration of one single situation so it is not useful in our study. We use open ended questions because the persons responding to it are free to answer in any manner.

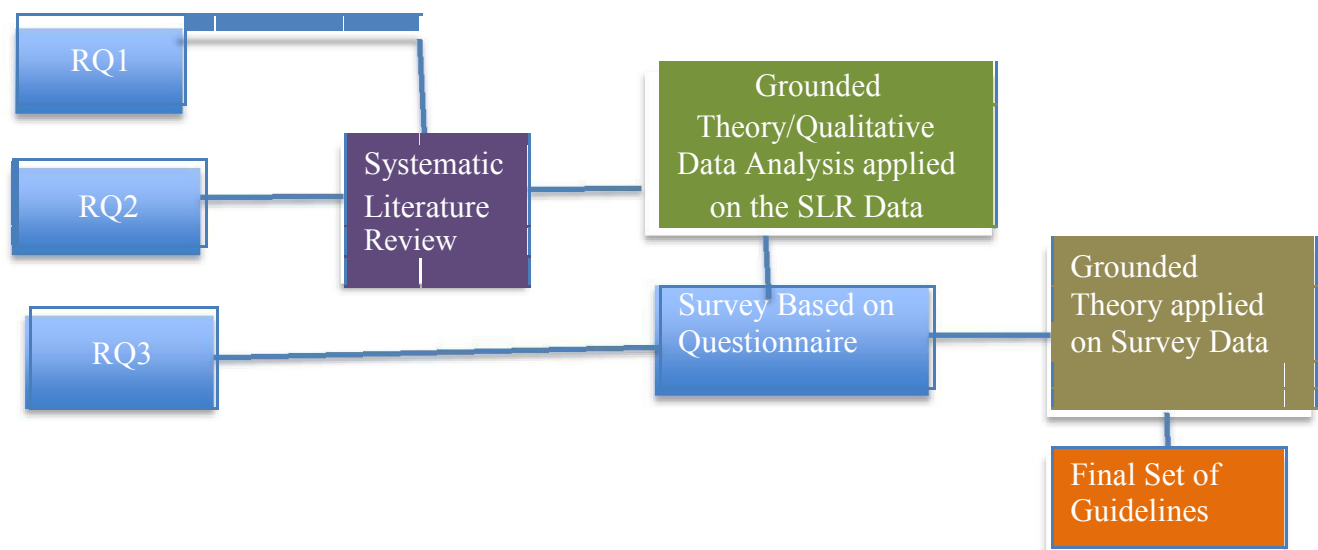
In survey based Data collection tool, questionnaire for RQ3 whose advantage is cost effective and is easy to compile data from standardized answer. Questionnaire with proper sequence that is more general and specific to help participants logically understand the flow. The software employees are well versed with usage of computers, hence they can easily respond to computerized questionnaire.

For quality based sampling of RQ3 we use purposive sampling which helps in selecting group participants according to preselected criteria based on particular research question. Keeping the sample size constant which is advantageous because we cannot consider the entire sample population who face challenges. The sample size in our experiment is selected based on the new data which no longer gives additional information about challenges in HRM. We perceive threats to interpretation validity. Theory validity are the threats that our research study prone to. The risk and mitigation methods are described in the following sections.

For qualitative research design and RQ1 we apply Grounded Theory. We apply GT for RQ2 and RQ3 as well. We perform comparative analysis for the codes that were derived in RQ2 and RQ3. Grounded theory helps in understanding new information from the participants point of view.

Data analysis is made based on constant comparative methods where we construct the themes according to the raw data that we receive from the SLR. Accordingly precise the data to tackle the common challenge which is used for coding (mitigation of challenges) and then refined considering all possible categories of theory validity criteria. Priority can be understood by using survey based on questionnaire for RQ3, which helps in searching core category by tallying with researcher guidelines and the use of industry practice guidelines for HRM in software industry, which lead to the identification and proves the core theory which defines the guidelines and which are provided for HRM is always unchangeable.

The figure depicting the research methods based on which data and research design are implemented for our research study are given below:



Expected outcomes

The expected outcomes of the research are in the form of list describing the usage level of academic HRM in employee recruitment and employee training.

1. We identify the problems/challenges in State of Art(Literature).
2. We then present the mitigation strategies/solutions to the identified problems/challenges observed in State of Art.
3. We also present guidelines that were proposed by the Industrial practitioners for effectively implementing the practice of HRM for the project success in IT industry.

Time and activity plan

The time plan for our activity throughout the course is as follow:

Work done by: MEGHANA for particular event: 1; KARTHEEK for particular event: 2

- 20150219: Start selecting Keywords and search string on the selected research study.(1)
- 20150221: Search studies based on selected search string and keywords.(1)
- 20150223: Understand and emphasize on selected studies.(2)
- 20150225: Start Writing the Systematic literature review.(2)
- 20150227: Discuss the written literature review by conducting a group discussion(1)(2)
- 20150228: Remove duplicates finalize SLR by conducting the group meeting.(1)(2)
- 20150301: Submission of final Systematic literature Review.(2)
- 20150302: Group meeting to discuss Research Proposal (area of study, context, methods to be used, identify the contributions) apply grounded theory on SLR(1)(2)
- 20150305: Intensive participation in the field setting for questionnaires(1)
- 20150307: Gaining access to select participants member for study.(2)
- 20150309: Providing the questionnaire forms to the respective participants(1)
- 20150316: Collecting and analyzing of data obtained from questionnaires.(1)
- 20150318: Synthesis and interpretation of the meanings of field data chosen, and also criteria suitable for qualitative data analysis apply grounded theory on survey data. (2)
- 20150320: Analyzing the field data(use constant comparison method) and do Final Documentation.(1)
- 20150322: Writing the research proposal final submission. (2)

Risk management

- **Vast literature Topic:** Based on the Conducted Literature Review, we found that there are vast challenges that are prone in Human Resource Management. The chance of proposing research is very low to increase the chance we confined our topic to only list the challenges for the first RQ1 and consider the criteria for mitigating challenges in HRM and list them out in RQ2. Based on the mitigating guidelines for reduce in challenges to understand whether it's in industrial practice or not helped to narrow our scope.
- **Time Constraint:** This research proposal is for the research methodology and during our experiment we choose only to find whether the guidelines in industrial practice are same as that of researcher point of view. The time constraint impact to reduce it we

used one week's time to evaluate and analyze the result by choosing only small sample of participants.

- **Sample selection:** We have to be very careful in selecting the employees for the survey of questionnaire as it helps in finding whether the guidelines that are used in industry practices are same as the researchers point of view on proposed guidelines in mitigating the challenges in HRM.

The identification of risks and its likelihood, impact, avoidance and mitigation strategies.

Risk	Why it occurs?	What are the impacts?	How to avoid it?	How to mitigate it?
Interpretation validity	It occurs due to the incorrect interpretation of what guideline for what challenge being researched.	Depending on one's own meaning of interpretation instead of actual consideration of viewpoint on data received.	In order to avoid the interpretation validity open ended question are to be posed for elaborate answers.	Interpretation and communication skills are to be improved. Questionnaire should not be confusing. Member checking can be implemented.
Descriptive Validity	It occurs when we are unable to record the data while it is told or collected.	It might result in false conclusion where the values of end results are changed.	It should be recorded and noted accurately recorded once shouldn't be the shorter form of what is proposed.	In order to reduce the descriptive validity it is necessary to keep full record of data ,even raw data during our study.
Theory Validity	The initial specific theory that he believes the data will support shouldn't be varied which results in theory validity.	It impacts the entire study and ruins the list and the industry do not rely on the false proofed tables for product quality.	We ensured that we didn't coerce the data to match the particular theory and ignore the data that doesn't suit the theory.	Each and every detail of the data that has been received should be presented even if it doesn't support initial theory.

References

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