FACTORS AFFECTING THE PERCEIVED TEAM EFFECTIVENESS OF OFFSHORE SOFTWARE DEVELOPMENT PROJECT TEAMS IN SRI LANKA

By
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Department of Computer Science and Engineering
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DECLARATION

"I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university to the best of my knowledge and belief it does not contain any material previously published, written or orally communicated by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations"

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ABSTRACT

The research work presented in this thesis focus on the perceived team effectiveness of offshore software development project teams and aims to addresses the issue of why some offshore software development teams are effective in their defined tasks while others are not.

The principle objectives of this research are to identify the demographic factors and cognitive factors which affect the perceived team effectiveness of offshore software development project teams in Sri Lanka; to establish the relationship between the demographic factors and cognitive factors with perceived team effectiveness; and to assess the relative contribution among demographic and cognitive factors to the overall team effectiveness.

The methodology for this research was partly based on literature surveys and interviews conducted with industry experts for the purpose of determining the relevant demographic factors and cognitive factors. Thereafter, a theoretical framework for the evaluation and analysis of the influence of these factors was formulated and seven hypotheses were proposed. The proposed hypotheses were; H1: There is a positive relationship between demographic factors and team effectiveness. H2: There is a positive relationship between cognitive factors and team effectiveness. H3: Cognitive factors have a more positive influence on team effectiveness than do demographic. H4: Team size moderates the relationship between cognitive factors and team effectiveness. H5: Team size moderates the relationship between demographic factors and team effectiveness. H6: Software methodology use by the team moderates the relationship between cognitive factors and team effectiveness. H7: Software methodology use by the team moderates the relationship between demographic factors and team effectiveness.

The research approach was based on a qualitative method of evaluation and a questionnaire was used to collect data from among a sample of software engineers in offshore software development companies in Sri Lanka.

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The research study found that there is a significant relationship between cognitive factors and perceived team effectiveness but no significant relationship between demographic factors and perceived team effectiveness. Furthermore, the research results showed that team size and software methodology used by a team has no impact on perceived team effectiveness of an offshore software development team as applicable in the Sri Lankan context.

In summary, the research presented in this thesis leads to the recommendation that it is more valuable to pay a higher degree of attention to team members' cognitive similarities than demographic similarities when forming offshore software development project team in Sri Lanka.

Key Words: cognitive similarities • demographic similarities • team effectiveness • software engineering project teams•

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LIST OF ABBREVIATIONS

SMM	-	Shared Mental Model
SPSS	-	Statistical Package for the Social Sciences
EDA	-	Exploratory Data Analysis
ICTA	-	Information and Communication Technology Agency
IT	-	Information Technology
R&D	-	Research and Development
SEA	-	Software Exporters Association
SLASI	-	Sri Lanka Association for Software Industry

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