The theoretical basis for studying the phenomenon of Global Software Development (GSD) draws upon one of the important research streams that is Organizational Behavior (OB) research. The focus of the thesis is about the OB research on the GSD teams’ (offshore/on-site) that reveals significance of social aspects in GSD environment. As a result, there are two research problems addressed in this thesis from the perspective of OB research: (i) Explore the influence of GSD teams’ partnership quality aspects with relation to GSD project outcome, (ii) Measuring IT service quality in the context of Team-level Service Climate (TSC) and GSD project outcome relationship. Moreover, the core concept of the thesis is to develop a comprehensive methodology for measuring partnership quality that examines the importance of social aspects of offshore/on-site teams’ with relate to GSD project outcome (product success, personal satisfaction, successful collaboration), and evaluating IT service quality in the context of TSC and GSD project outcome relationship in India.

In this thesis, the significance of GSD teams’ partnership quality and service climate aspects has been studied for GSD project outcome according to OB research and Information System (IS) literature. Further, to address the research problem, empirical study was carried out to investigate GSD teams’ partnership quality and service climate aspects. Hence, the performance and analysis of the study is performed on the basis of widely used major approaches namely: (i) Statistical and Neuro-Fuzzy approaches - Adaptive Neuro Fuzzy Inference System (ANFIS), Fuzzy Multi-Criteria Decision Making (FMCDM), and Genetic Algorithms (Hybrid Taguchi Genetic Learning Algorithm (HTGLA)). In this thesis, it should be noted that, to the researchers’ best of knowledge, there are no existing studies that investigated the OB research on GSD teams’ (i.e., partnership quality and service climate aspects) on the basis of neuro-fuzzy approach. Especially, a number of studies have focused on partnership quality, service climate aspects from service provider and service receiver point of view and evaluated on the basis of conventional statistical methodologies. As a result, this research suggests a framework based on Neuro-fuzzy approach with ANFIS model and HTGLA-based ANFIS model has a great potentiality to evaluate
and predicting the partnership quality and team-level service climate in GSD projects. The recommendations of this research emphasize that service provider companies should focus on GSD teams’ partnership quality and service climate aspects having significant impact on GSD project outcome. Moreover, case study results provide a vivid picture the significance of GSD teams’ partnership quality and service climate aspects. Thereby, OB research on GSD teams’ can facilitate the organization to improve the project outcome/success in GSD environment.

**Keywords:** Global Software Development, Organizational Behavior, Partnership Quality, Service Climate, Service Quality, Statistical Approach, Neuro-Fuzzy Approaches, and Genetic Algorithm.