Customer Team Effectiveness through People Traits in Information Systems Development:
A Compilation of Theoretical Measures

Carlo Gabriel Porto Bellini, Universidade Federal da Paraíba, Brazil
Rita de Cássia de Faria Pereira, Universidade Federal da Paraíba, Brazil
João Luiz Becker, Universidade Federal do Rio Grande do Sul, Brazil

ABSTRACT

This article introduces measures to improve theoretical knowledge and managerial practice about the participation of teams in customized information systems software (CISS) projects. The focus is on people traits of the customer team (CuTe), that is, professionals from the client organization that contracts CISS projects who assume specific business and information technology roles in partnerships with external developers, given that both in-house and outsourced teams share project authority and responsibility. A systematic literature review based on a particular perspective of the socio-technical approach to the work systems enabled the compilation of measures that account for people traits assumed to improve CuTe performance. The resulting framework contributes to a much needed theory on the management of knowledge workers, especially to help plan, control, assess, and make historical records of CuTe design and performance in CISS projects.

Keywords: Customer Teams, Information Systems Development, Knowledge Work Management, Personal Traits, Socio-Technical Design, Team Performance

INTRODUCTION

Studies on software quality and engineering, including information systems (IS) development, used to focus on the technical domain (Kotlarsky & Oshri, 2005). In particular, the social aspects of the co-development between outsourced and customer teams deserve more research investment (Bellini et al., 2004). As a matter of fact, projects of customized information systems software (CISS) – whose source code is built according to specific demands from the client company when implementing its core business processes on an IS infrastructure – require special attention to issues like business principles, organizational culture, industry

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knowledge, resource availability, and strategy of the contracting firm. Starting from the general lack of studies on IS professionals’ traits in team contexts (Siau et al., 2010), there is also a need to better understand the role and the social aspects of customers in CISS development.

This article addresses the participation of customers in CISS projects by developing a set of people-oriented measures to design and manage that participation. We adopt Leavitt’s (1965) socio-technical model, that takes people traits as a dimension of the social subsystem, and apply it to the customer team (CuTe). A CuTe is formed by professionals from the client organization of CISS projects who are assigned special business and information technology (IT) roles for partnering with outsourced developers (the XTeam, named after the external team). Both XTeam and CuTe developers share project authority and responsibility, so we devise performance criteria to be complied with by CuTe personnel in CISS projects.

Leavitt’s (1965) model, that include technology, tasks, structure and people as the key interdependent dimensions of any work system “displays the virtues of a good classification: it is simple, extensive, sufficiently well defined, and anchored in the extant theory” (Lyytinen & Newman, 2008, p. 594). Based on that, we searched for the following research question in a systematic literature review: What are the theoretically relevant cognitive and behavioral traits of CuTe members in CISS projects? Expected benefits from answering this question cover a wide range of academic and industry interests, such as in hiring professionals, in promoting the transparency of personnel assessment, and in unifying theoretical areas of great interest to the IS field, including customization, seller-buyer interaction, quality management, workforce management, and the effectiveness of teamwork. The research adds to the socio-technical and the IS development literatures by addressing the people dimension of the social subsystem for managing CuTe work in CISS projects.

The article is organized as follows: the first section presents the systematic literature review that was effected in order to compile CuTe members’ personal traits needed in CISS projects; the second section assembles the traits into measures, metrics and indicators according to their nature; the third section synthesizes the assembly according to the expected influence of each people indicator on CuTe performance and discusses some implications on the deployment of professional knowledge; and the last section reinforces the unique contributions of this review and makes suggestions for future research.

THE SYSTEMATIC LITERATURE REVIEW

Systematic literature reviews (SLRs) are the recommended method for aggregating empirical studies (Kitchenham et al., 2010b). An SLR is an evidence-based method to produce and reproduce literature compilations of empirical findings, since it is assumed to be unbiased, auditable and repeatable (Kitchenham et al., 2010a). In the software engineering and IT fields, SLRs are increasingly popular, thanks especially to the efforts of Dr. Kitchenham and colleagues in spreading the word about the method by means of published guidelines and illustrative cases. SLRs are secondary studies that aggregate the findings of more basic research known as primary studies, with a special audience formed by practitioners (Kitchenham, 2010). Therefore, SLRs are a rigorous way to compile and communicate relevant academic findings to the professional community.

Our research can be conceived as a mapping study. Mapping studies are a form of SLR that aims to identify and categorise research on a broad topic (Kitchenham et al., 2011), thus addressing more general research questions (Kitchenham, 2010). In a previous mapping study, Bellini et al. (2008) discussed the fundamentals and trends in the domain of software engineering and IT measurement, as well as the implications for research and practice in a general sense; our study reproduces much of their methodological procedures and primary
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