컴퓨터 협업환경에서 관계특성요인들이 업무성과에 미치는 영향에 관한 연구

The Effects of Relationship Characteristics on Task Performance in Computer-mediated Collaborative Environments

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Abstract

이 연구에서는 정보시스템을 활용한 협업환경에서 업무성과를 조직 구성원의 개인 관점에서 살펴보고자 하였다. 선행연구를 바탕으로 조직 구성원의 관계특성 요인들이 업무성과에 미치는 영향을 연구하면서 정보시스템을 바탕으로 하는 협업환경에서 업무성과를 높이기 위한 시스템의 효과적인 활용 방안에 대해서도 살펴보았다. 이 연구에서는 사회-기술적 관점과 사회자본론을 토대로 조직 구성원의 관계특성요인으로 커뮤니티 지향성, 의사소통성, 정보공유성, 협업성을 제안하고, 정보시스템을 활용한 협업환경에서 조직 구성원들의 관계특성요인들이 지각된 유용성과 사용자 만족도, 개인 성과에 미치는 영향을 실험분석을 통하여 파악하였다. 조선산업 분야를 대상으로 같은 정보시스템을 사용하고 있는 구성원을 대상으로 설문자료를 분석한 결과 첫째, 조직 구성원의 관계특성 요인과 각각의 유용성, 사용자 만족도 합계의 관계에서 커뮤니티 지향성과 의사소통성이 지각된 유용성에 유의한 영향을 미치는 것으로 나타났으며, 정보공유성과 협업성은 사용자 만족도에 유의한 영향을 미치는 것으로 나타났다. 둘째, 각각의 유용성과 사용자 만족도와 업무성과의 관계에서 유의한 영향을 미치는 것으로 나타났다. 셋째, 정보시스템 사용경험과 각각의 유용성과 사용자 만족도, 업무성과 간의 관계에서는 지각된 유용성과 개인성과에서 정보시스템 사용경험에 따른 점수 간의 차이가 있는 것으로 나타났다. 마지막으로 이 연구결과를 토대로 정보시스템을 활용한 협업환경에서 정보시스템의 활용성과를 높이기 위한 방안을 제언하였다.

주제어: 관계특성, 컴퓨터기반 협업, 업무성과, 시스템성공

This study examines task performance in computer-mediated collaborative environments from the perspective of interpersonal characteristics by considering the application of information systems (IS). Based on previous research, this study investigates the effects of relationship characteristics of members of an organization on their task performance. In addition, the study explores the ways in which IS can be applied effectively to improve the task performance in collaborative environments mediated by IS. From a socio-technical perspective, we defined community orientation, communicativeness, information sharing, and collaboration as relationship characteristics and performed regression analysis of their effects on perceived usefulness, user satisfaction, and individual performance through a survey of organizational members sharing the same IS. Based on the collected empirical data from the shipbuilding industry, the statistical results indicate that community orientation and communicativeness had significant effects on perceived usefulness, also indicate that information sharing and collaboration had substantial effects on user satisfaction. Both perceived usefulness and user satisfaction also had positive effects on task performance in the context of collaboration.

Keywords : Relationship Characteristics, Computer-mediated Collaboration, Task Performance, IS Success
I. Introduction

With major advances in information technology and the growth of the Internet, organizations have started to adopt information systems (IS) to strengthen their competitiveness and improve task performance in the context of collaboration, which was based on an expectation for improved efficiency and user satisfaction, and enhanced organizational performance at last[37]. However, such expectations are not always met[28]. For example, organizations typically pay more attention to the introduction and development of IS than to how IS can be used by their members. From a socio-technical perspective, social considerations as well as technical aspects may determine the success of IS and the enhancement of task performance[7][18]. In this regard, this study examines the socio-technical factors that can influence the application of IS.

From the socio-technical perspective, relationships among individual members, which represent an essential component of the social system, can have considerable influence on the performance of IS. The characteristics of such relationships can also have substantial effects on task performance in the application of IS. In this study, we focus on the application of IS in the context of collaboration. Collaborative efforts by internal members as well as organizations are essential in the modern business environments, in which most business processes are typically conducted based on IS. From the information system perspective, we believe that collaboration should be considered importantly not only during the construction of systems but also during the development and management of IS in order to streamline cooperation among members of an organization through the exchange of information beyond the simple flow of data.

Despite the increasing importance of the effective development and the use of IS in this collaborative context for organizational performance, few studies, however, have examined the effects of relationship characteristics of an organization’s members on their task performance in the application of IS in the context of collaboration. In this study, we investigate various relationship characteristics and their effects on task performance using the IS success model. Based on previous research, we consider community orientation, communicativeness, information sharing, and collaboration as relationship characteristics and investigate their effects on perceived usefulness, user satisfaction, and task performance.

II. Theoretical Background

2.1 Information System Performance and IS Success

An organization’s IS supports its operations, decision-making processes, and efforts to achieve competitiveness. Here the organization’s operations refer to those processes facilitating its relationship with customers and trade partners, and its decision-making processes include the processing of information obtained from production, assembly, sales, and after-sales service. From a strategic perspective, IS can present various options for organizational survival and provide strategic advice for reasonable profits. Such multifaceted aspects of IS make it difficult to measure and determine the effectiveness of the implementation and application of IS.

IS performance is typically evaluated based on two factors: economic effects and human effects. Because of the difficulty in determining appropriate quantification measures, this evaluation often relies on human effects[14]. Among various measures and operational definitions presented in previous studies, user satisfaction, system use, and the value produced through IS are generally considered for the evaluation of IS performance[4][51]. On the other hand, previous studies have examined the factors influencing IS performance. In particular, DeLone and MacLean[9] examined IS success to suggest the fundamental concepts of perceived usefulness. They considered information quality, system quality, system use, user satisfaction, individual effects, and organizational effects as six factors influencing IS success and rationalized the processes and causal relationships among these factors. Since then, a number of studies have extended or criticized this IS success model[15][31][30][45][52][53].

Seddon[44] refined the IS success model by incorporating the non-voluntary use of IS and removing the contradictory aspect of the simultaneous use of both the process model and the causal model. In addition, Pitt et al.[15] suggested that Delone and McLean’s model focuses on product-oriented factors without considering the human aspect and insisted that the service quality of IS be the model’s most important factor. In this regard, this study tries to explain IS success by combining socio-technical aspects and emphasizing human effects from the social capital perspective.