

Millennial's Virtual Teamwork and Technical Proficiencies Impact on Project Quality: Is Commitment Required in Virtual Team Projects?

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ABSTRACT

The development of information systems continues to be a difficult process that frequently ends in failing to meet the projects goals. The processes involved in developing information systems are now compounded by the use of virtual teams. The goal of this study was to determine whether technical proficiencies, project skills in using database development software and technical skills in using the virtual environment, contributed to higher quality projects. The study attempted to address two hypotheses: 1) that increased proficiency in projects skills (Database Software skills) will contribute to greater project quality and 2) that increased proficiency within the virtual environment will contribute to greater project quality. Findings suggest that technical proficiencies in projects skills do contribute to greater project quality however the technical proficiency in the use of virtual environments does not. The relationship between proficiency in project skills and the quality of project outcomes is weak; suggesting that other variables not investigated in this study may exert a more powerful influence on project outcomes.

KEYWORDS

Commitment, Database Management Systems, Millennials, Project Quality, Technical Proficiency, Virtual Environments, Virtual Teams

INTRODUCTION

This article represents the continuation of a stream of articles published in the International Journal of e-Collaboration, exploring the antecedents to quality outcomes and effectiveness in virtual team projects. The first paper published titled "Millennial Leadership: The Oppositional Relationship between Leadership Type and the Quality of Database System's Development in Virtual Environments" (Graham, Daniel, and Doore, 2015) investigated leadership's impact on the quality of database systems developed, finding that transformational and transactional leadership negatively impacted the quality of completed team projects. The second paper accepted in 2016 titled: "Millennial Teamwork and Technical Proficiency's Impact on Virtual Team Effectiveness: Implications for Business Education" (Graham, Daniel, and Doore, 2016) investigated whether or not technical proficiency in the project-based skills, facility with database management systems development, and greater

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technical proficiency in coping within the virtual environment contributed to the development of greater virtual team effectiveness. Its findings suggested that increased proficiencies in project skills will contribute to greater team effectiveness and more importantly, increased proficiencies within the virtual environment also contribute to greater virtual team effectiveness. This article, continues that research by investigating two types of technical proficiencies impact on the quality of virtual team projects.

Businesses large and small are turning to virtual teams to assist them in accomplishing their business goals. Kayworth and Leidner (2002) stated that the popularity of inter-organizational alliances coupled with a move towards flatter organizational structures are primary drivers of the push towards greater use of virtual teams. According to Baungaard-Rasmussen and Wangel (2007), many firms are now outsourcing key organizational functions and downsizing their own employees to remain competitive in an increasingly global economy and marketplace. Baungaard-Rasmussen and Wangel further stated that this downsizing and outsourcing is partially due to advancements in communication technology.

The convergence of flatter and leaner firms and advanced communication technologies have created an environment that is beneficial to the formation of virtual teams. Virtual teams, according to Green and Roberts (2010), are geographically separated teams that have negligible physical contact and are dependent upon computers, smart phones, Internet-enabled tablets, and telecommunication technologies to communicate with each other. Commonly used examples of telecommunication technologies used in virtual teams include: The Internet, videoconferences, email, instant messaging, short-message-services (SMS) text messaging, and virtual environments. Green and Roberts further stated that virtual teams are usually comprised of talented people and technical experts who are brought together to complete specific assigned tasks and short-term projects. This study sought to increase our understanding of virtual teams by examining technical proficiency and its impact on the quality of completed team projects among millennial business students at the University of Maine.

TECHNICAL PROFICIENCY IN VIRTUAL TEAMS

Skills Proficiency

Technical proficiency of workers is a real problem. Evans and Reeder (2010) when discussing the problems associated with a lack of cyber security professionals stated that “we not only have a shortage of highly technically skilled people required to operate and support systems we have already deployed, we also face an even more desperate shortage of people who can design secure systems, write safe computer code, and create the ever more sophisticated tools needed to prevent, detect, mitigate, and reconstitute systems after a (cyber) attack.” (p. 2). This is not only true of cyber security, but true of many information technology (IT) jobs globally. Capelli (2000) found that while at the time it was difficult to measure how much of a shortage existed in the field of IT, anecdotal evidence suggested significant shortages of skilled IT workers existed. Today, the discussion of whether or not a shortage of skilled IT workers exists is up for debate. For example, Camarota and Zeigler (2014) stated that little evidence exists today that supports the idea that there is indeed a shortage of IT workers. Camarota et al stated that there are more than five million native born Americans with science, technology, engineering, and math (STEM) degrees in the United States alone. Prior research supports this. Freeman (2006) stated that despite an assumption that there will be shortages in all fields of work, historically, demographic changes have not been consistently associated with changes in the labor market.

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