The Effect of End User Development on End User Success

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ABSTRACT

End user development of applications forms a significant part of organizational systems development. This study investigates the role that developing an application plays in the eventual success of the application for the user developer. The results of this study suggest that the process of developing an application not only predisposes an end user developer to be more satisfied with the application than they would be if it were developed by another end user, but also leads them to perform better with it. Thus, the results of the study highlight the contribution of the process of application development to user developed application success.

Keywords: user satisfaction; measuring IS success; user development; end user computing; end users

INTRODUCTION

An end user developer is someone who develops applications systems to support his or her work and possibly the work of other end users. The applications developed are known as user developed applications (UDAs). So, while the technical abilities of user developers may vary considerably, they are basically required to analyze, design and implement applications. End user development of applications forms a significant part of organizational systems development, with the ability to develop small applications forming part of the job requirements for many positions (Jawahar & Elango, 2001). In a survey to determine the types of applications developed by end users, Rittenberg and Senn (1990) identified over 130 different types of applications. Over half of these were accounting related, but marketing, operations and human resources applications were also heavily represented. The range of tasks for which users develop applications has expanded as the sophistication of both soft-

ware development tools and user developers has increased, and this has led to a degree of convergence with corporate computing, so that the tasks for which UDAs are developed are less distinguishable from tasks for corporate computing applications (McLean, Kappelman, & Thompson, 1993). In addition to the traditional tasks that UDAs have been developed to support, Web applications are becoming increasingly common (Nelson & Todd, 1999; Ouellette, 1999).

Much has been written in the end user computing literature about the potential benefits and risks of end user development. It has been suggested that end user development offers organizations better and more timely access to information, improved quality of information, improved decision making, reduced application development backlogs and improved information systems department/user relationships (Brancheau & Brown, 1993; Shayo, Guthrie, & Igbaria, 1999). In the early UDA literature, the proposed benefits of UDA were seen to flow mainly from a belief that the user has a superior understanding of the problem to be solved by the application (Amoroso, 1988). This superior understanding should then enable end users to identify information requirements more easily and to thus create applications that provide information of better quality. This in turn should lead to better decision making. Other proposed benefits should also flow from this: user development of applications should allow the information systems staff to focus more on the remaining, presumably larger, requests and hence to reduce the application development backlog. This, in turn, should improve relationships between information systems staff and end users.

Despite the potential benefits to an organization of user development of applications, there are many risks associated with it that may lead to potentially dysfunctional consequences for the organization's activities. These risks result from a potential decrease in application quality and control as individuals with little information systems training take responsibility for developing and implementing systems of their own making (Cale, 1994), and include ineffective use of monetary resources, threats to data security and integrity, solving the wrong problem (Alavi & Weiss, 1985-1986), unreliable systems, incompatible systems, and use of private systems when organizational systems would be more appropriate (Brancheau & Brown, 1993).

As end user development forms a large proportion of organizational systems development, its success is of great importance to organizations. The decisions made by end users using UDAs influence organizational performance every day. Organizations carry out very little formal assessment of fitness for use of UDAs (Panko & Halverson, 1996); they therefore have to rely very heavily on the judgment of end users, both those who develop the applications and others that may use them, as end user developers are not the only users of UDAs. Bergeron and Berube (1988) found that 44% of the end user developers in their study had developed applications that were used by more than two people, and Hall (1996) found that only 17% of the spreadsheets contributed by participants in her study were solely for the developer's own use. Therefore, it is essential that more is known about UDA success, including whether end users are disadvantaged when they use applications developed by other end users. This paper explores the contribution of the development process to UDA success, and hence highlights differences between the success of UDAs when used by the developer and when used by other end users.

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