Chapter 17
Evaluation of IT Projects in the Context of Human Performance Technology: Principles, Processes, and Models

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ABSTRACT

Accelerated competition, increased economic issues, and rapid technological improvements force organizations to implement IT projects to survive. Although organizations' enormous dependence on IT has increased, failure risks have also been synonymous with IT projects over the years. A better understanding of its usages and approaches, tools and models of HPT as a growing field may offer different angles and help improve the success of implementation of IT projects. The purpose of this chapter is to explore the role of evaluation methods in IT projects from the HPT perspective. In that sense, formative, summative, confirmative, and meta evaluation models are presented, and then the connection between these models in IT involving specific strategies that can be used when IT projects are established. The chapter is finalized with practical and methodological implications pointing out recommended actions to overcome the reliability and the validity issues encountered through evaluation processes, and future research directions.

INTRODUCTION

Information technology (IT) has long been considered as a vital initiative in the delivery of the utilities which we depend on in our daily lives. In general, IT plays also an instrumental role for organizations to create and sustain their competitive advantage (Xu, Zhang, & Barkhi, 2010). Management of the IT projects is therefore crucial for organizational success. Indeed, with the progress telecommunication along with the computer and Internet technologies, all business environments have valued the IT projects at an ever-increasing level (Rosacker & Olson, 2008). It is apparent that successful implementation

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of any project is an enabler for improving products and enhancing services which organizations offer so as to survive in accelerated competition era. Besides these advantages, organizations implement IT projects for reducing cost, increasing the quality of the products and services, gaining productivity, and improving performance (Legris & Collerette, 2006).

Like other benefits expected from the implementation of IT projects, performance as a paradigm has become so important for the organizations in order to keep up with the pace of change. To provide effective and efficient services and activities, management and execution of performance concerning evaluation of the systems and interventions have been vital to the organizations. The Human Performance Technology (HPT) as a growing field offers organizations many options to compete in today's environment of complex performance needs and demands. In the literature many concepts, methodologies and models have been developing in HPT field for fifty years. Pershing (2006) states that HPT as a field of practice should have domination over all parts of the world.

The purpose of this chapter is to explore the role of evaluation methods in IT projects from the HPT perspective. The chapter starts with the definition, the goal of the field and the concept of evaluation in HPT. After this theoretical base, all four types of evaluation methods (formative, summative, confirmative, and meta evaluations) are explained in the context of HPT. Then, when, how, and why each evaluation method should be conducted in IT projects is scrutinized. The connection between successful implementation of IT projects and these evaluation methods is also closely established in this phase of the paper. The chapter is finalized with recommended actions to overcome the reliability and validity issues encountered through evaluation processes, and future research directions.

BACKGROUND

Human Performance Technology (HPT)

In general, human performance and the nations' productivity can be improved with the help of fast advances in convergent technologies (Roco & Bainbridge, 2002). Indeed, the processes of doing the job by the workers and the management styles of the organization have been changed with advances in the telecommunications and computer technology (Van Tiem, Moseley, & Dessinger, 2001). Therefore, organizations should integrate computer and information technologies into their daily operations to improve efficiency and effectiveness of their end products or services (Marthandan & Meng, 2010). Advanced technology can be used for dealing with the complication of the organizations and expanding quality of using and mining data for performance related insights (Spitzer, 2007). With new advances in technology, Rosenberg (2006) makes a point of forming new and ample opportunities for blending learning and performance solutions in today's workforce productivity. Therefore, organizations should make large investments in IT. In doing so, performance and human factors should also be taken into consideration to improve success rates for these investments and projects.

The Human Performance Technology (HPT) as a field of practice and study has evolved mainly from the IT, general systems theory and behavioral psychology fields (Chyung, 2008; Main, 2000; Van Tiem, 2004). HPT has evolved over time with the work of a number of academic and professional practitioners (Chyung, 2008; Ferond, 2006). Today, all sizes and types of organizations use the models and understandings of the HPT to solve performance challenges and problems (Pershing, 2006). The researchers and practitioners have regarded the HPT as a field of practice since 1970s (Chyung, 2008;