An Innovative Design Approach to New Service Development Learning Processes

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ABSTRACT

The new service development discipline is expanding within many business activities. This discipline can facilitate strivings toward successful accomplishment of a sustainable entrepreneurship. Therefore, many academic institutes teach courses within this domain. This study presents a novel approach that educates engineering students to become successful entrepreneurs based on contextual learning. This approach embeds a practical project within the academic program. The student has to implement the academic know-how into the embedded project. The study utilizes a quantitative tool to measure the students' response to the approach. The results indicate that the students were satisfied with the approach.

Keywords: Active Learning, Contextual Learning, Engineering Education, Hands-On-Experience, New Service Development, Service Engineering, Service Management

1. INTRODUCTION

Service can be defined as “a time-perishable, intangible experience performed for a customer acting in the role of a co-producer, where, service enterprises are organizations that facilitate the production and distribution of goods, support other firms in meeting their goals, and add value to our personal lives” (Fitzsimmons & Fitzsimmons, 2007).

New service development (NSD) has been defined as the development of new services using suitable models, methods and tools (Bullinger et al., 2003), and can therefore be seen as an approach to the development of service systems, including the service concept and service delivery. In order to manage projects and NSD processes successfully, a training process is needed (Rozenes & Vitner, 2009).

The purpose of this paper is to highlight the need for a methodological academic training framework for NSD teams during undergraduate studies. The study reveals an embedded real-life project that enables the students to gain both profound know-how and experience during their studies. The paper introduces a literature

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review, followed by a description of the analytical methods. Furthermore, the study presents supportive results of the training process.

This article is based on experience with the NSD program in the Industrial Engineering Department of a large college. It starts with the learning environment, and then presents the aims and objectives of the program. The program methodology, scope of work and requirements are detailed and the project assessment process is discussed. The students’ attitudes to the program at the beginning and at the end of the learning process are shown. We conclude with a discussion, summary and conclusions.

2. LITERATURE REVIEW

In the complex business world, service is increasingly gaining centre stage in economies across the world. The exponential necessity of innovative service provides excellent opportunities on one hand, and on other hand, poses a number of challenges for firms (Sohel-Uz-Zaman & Anjalin, 2011). NSD is needed worldwide. Ma, Xu & Li (2010) conducted a study in a large bank in China. Their conclusion was that NSD concerns not only the bank’s survival, but also its future development. Therefore, accelerating new services development based on their location is the source of competitive edge. Another study (Meyer, 2011) presented the theoretical and practical background that is necessary to form a classification of NSD process models in order to be able to judge their adequacy for a given development effort. Palma and Dobes (2010) described the challenge of assisting enterprises more effectively within industrial hot spots of the Danube River Basin in order to meet environmental standards while enhancing their competitiveness, which was addressed by the Transfer of Environmentally Sound Technology (TEST) project. The TEST approach has proved to be an effective learning process for addressing complex challenges that the companies had been facing. It helped them to improve their economic and environmental performance by integrating the bottom-up and top-down learning perspectives. Tatikonda & Rosenthal (2000) investigated project management methods used during the execution phase of new product development. The findings showed that companies could indeed balance firmness and flexibility in product development projects. Another result is that companies could manage a variety of projects using broadly similar project execution methods.

NSD is tremendously important within micro, small and medium-sized enterprises (SMEs) which are the engine of economies in developed and developing countries.

Following Katz et al. (2000) they are the major type of organizations and their performance is critical for the economic and social development of each country. SMEs are attractive to researchers, since they “live and die quickly” (Katz, et al., 2000; Abouzeedan & Busler, 2004). The role of small and medium size businesses in providing productive employment and earning opportunities has emerged as an important concern among researchers and policy makers, because SME’s are considered an effective way to foster economic and societal development. They establish the vanguard of the modern enterprise sector and present the most prominent force of modernization and growth in developing economies. Thus, for example, in the 25 countries of the enlarged European Union, about 23 million SMEs provide about 75 million jobs and represent 99 percent of all enterprises (European Commission, 2005). Following the European Commission’s new SME definition, enterprises are categorized in terms of headcount, turnover or balance sheet total, with medium-sized enterprises having less than 250 employees, a turnover of 50 million Euro or less, or a balance sheet total of 43 million Euro or less; small enterprises having less than 50 employees, a turnover of 10 million Euro or less, or a balance sheet total of 10 million Euro or less; and micro enterprises having less than 10 employees with a turnover of 2 million Euro or less, or a balance sheet total of 2 million Euro or less (European Commission, 2005).

In Europe, about two-thirds of employment in the private economy is located in SMEs, and
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