Quality Function Deployment in Higher Education: A Literature Review

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ABSTRACT

Quality has always been a key concern for product and service operations. Decades have been spent in research for quality measurement and enhancement techniques. Various models have time and again been proposed by researchers around the globe. Despite the constant rigor in the study of this concept, very few tools devised and defined by researchers and academicians have been successfully put to practice. The underlying phenomena in service quality measurement are indeed complex to understand, interpret and measure. Through this paper the authors intend to present the developments of one such quality tool which has the ability to generate creative and novel solutions is Quality Function Deployment (QFD). This paper presents a detailed literature review on the topic and application of QFD in higher education. This literature review is based on publications and web sources.

Keywords: Higher Education, Quality Function Deployment (QFD), Service Operation, Service Quality, Web Sources

INTRODUCTION

Service quality has become a key concern in higher education. Quality is one parameter that sets one institution apart from the rest and forms the basis of their survival (Aly & Akpovi, 2001; Jasmina et al., 2013). Defining a way to measure quality in higher education is a complex issue (Parri, 2006). As services offered by education are intangible and difficult to measure, there is no specific definition of quality for management education sector (Michael, 1998). Education being a service industry, researchers have tried to measure the service quality by applying models such as SERVQUAL (Ali & Zairi, 2005; Yeo, 2008; Khodayari & Khodayari, 2011) and SERVPERF (John & Senith, 2012). Over the years, many academicians and scholars have taken advantage of the versatility of QFD and applied it in the fields of education. Students and faculty members find mention in most of the studies whereas other stakeholders such as industry and society have rarely been mentioned. “Education” being a very unique...
service in every form, the service operations have been of interest to many researchers. McAlevey (2003) published a study emphasizing the need of quality perspective in higher education. Chen et al. (2012) stressed the need to enhance the quality in teaching. Garcia and Lorente (2012) studied the most important dimensions of quality in education. Mehta et al. (2013) brought out the role of the vision and mission of top management in building the quality in education. Asif and Searcy (2013) pointed out for such a quality improvement assessment of capabilities is a must. Dahlgaard et al. (2013) have presented a review of the quality movement and stated that quality management is the need of the hour.

The concepts and framework of Quality Function Deployment have been discussed in the paper followed by its utility and effectiveness in various situations, processes and product development. The extensions of QFD like fuzzy logic, analytical hierarchy process, goal programming, etc have been then presented in the paper. The focus of this paper is the application of QFD in higher education and hence the literature about the QFD in service industry finds relevance in the paper. To understand the dimensions of service quality in higher education and the way it has been measured by various means has been presented. As there are different views on stakeholders of higher education, literature search has been done and presented on this perspective. After underlining the service quality factors and the stakeholders, QFD implementation in various facets of higher education by researchers around the globe has been presented in detail. The need for a comprehensive structured model has been found on studying the literature.

The paper presents the definition and explanation for Quality Function Deployment model followed by the QFD framework adapted for collection and analysis of customers’ requirements. The associations and extensions of the model are presented after this section followed by the application of QFD model in service industry. As the focus of the paper is to present literature specifically regarding the application of QFD model in higher education the next sections highlight this aspect namely service quality, stakeholders and utility of the model in higher education.

QUALITY FUNCTION DEPLOYMENT

Quality Function Deployment is a system for translating customer requirements (government regulations, operating conditions and buyer expectations) into suitable technical characteristics and ensuring that important ones are prioritized in the design. Thus Quality Function Deployment provides the systematic method to support the process of decision making (Yang et al., 2003). Quality Function Deployment is a way to assure the quality while the product is still in the design stage. Cohen (1995) defined it as ‘a method for structured product planning and development that enables a development team to specify clearly the customer’s wants and needs, and then to evaluate each proposed product or service capability systematically in terms of its impact on meeting those needs’. The method has been successfully applied in the manufacturing sector; however, its benefits have not yet been fully realized in service industry. Quality Function Deployment is a technique introduced in Japan by Yoji Akao in 1966 and initially used extensively by Toyota. Quality Function Deployment was first used in the Kobe shipyards during the 1960s by Mitsubishi Heavy Industries. Some major contributions of Quality Function Deployment in manufacturing are in product development of an endotracheal tube for laser surgery (Mazur, 1993), software development (Haad, 1996), product service systems representation (Yang et al., 2013) product development (Cristiano, 2000), mechanical systems (Dimsey, 2002), new product design (Pullman, 2002), etc. Ozgener (2003) defined Quality function deployment as
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