The Role of Value Engineering in Providing Digital Information Resources: Case Study of Faculty Members at Shahid Bahonar University of Kerman

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Abstract

Introduction: Value engineering is a systematic method used to enhance the value of a project's product by analyzing a service, system, or product to manage important functions while reducing costs. It encourages using alternative methods and materials that are cost-effective without compromising functionality. The concept was pioneered by Larry Miles at General Electric in 1947 after World War II, when substitutes were needed due to shortages of raw materials, components, and manufacturing labor. This evolved into a systematic process of finding alternatives that provide more value while reducing costs and maintaining quality. The benefits of value engineering can be applied in various fields, including academic libraries, where it can be used effectively in providing digital information resources. This study aims to explore the relationship between value engineering and the provision of electronic resources at the Central Library of Shahid Bahonar University of Kerman.

Methodology: The research method used is descriptive-survey. The study population consists of faculty members of the university who are Central Library members and regularly use electronic resources. Selection criteria were based on their role in providing electronic resources. A total of 240 individuals met the criteria, with 140 selected as the research sample using the Morgan table. Data was collected through a researcher-made questionnaire consisting of 23 questions designed on a 5-point Likert scale. The questionnaire was validated using the AVE index, and reliability was assessed using the composite validity criterion. The results confirmed the reliability of the research tool. The PLS method uses a newer measure than Cronbach's alpha called composite reliability, and its advantage over Cronbach's alpha is that the reliability of the constructs is not calculated in absolute terms, but in terms of the correlation of their constructs with each other. For this reason, both measures are used to properly measure reliability in the PLS method. In addition, convergent validity indicates that the indicators related to the construct under study have a high correlation with each other and measure that construct appropriately. For this reason, we use the mean variance extracted (EVA) measure for convergent validity analysis, and using all of these methods strengthens the validity of the reliability measurement.

Main findings: The findings indicated that all latent variables impact the value engineering variable, with "providing high-quality electronic resources" having the greatest effect and "providing more

electronic resources at a lower cost" having the least effect. The t-value test statistic confirmed the significance of the relationship between the variables, supporting the research hypotheses. Value engineering was found to reduce costs associated with providing electronic resources, enabling the provision of more resources for users and enhancing user satisfaction. It also accelerates the delivery of necessary scientific resources from electronic sources and boosts scientific production, inventions, creativity, and innovation. The study concluded that the quality of electronic resources is closely linked to value engineering. The research findings also showed that value engineering has a significant relationship with improving the quality of digital information resources, which can play an effective role in determining the accuracy, credibility, and value of digital resources. Selecting reliable resources among the various types of digital information resources produced prevents the dissemination and spread of low-value resources, and subsequently creates added value in the library. Additionally, increasing the speed of providing digital resources is directly related to offering up-to-date resources and also increases user trust. The use of standards in this field is deeply connected to the implementation of value engineering processes, which is of great importance in evaluating digital resources. Determining a framework of specialized activities for the purpose of providing electronic resources is also considered to be another beneficial factor. All of these factors contribute to improving the scientific status and standing of the library.

Discussion and conclusions: The results indicate that the components studied, based on value engineering and its relationship with the provision, ordering, and distribution of digital resources, should be implemented in the Central Library of Shahid Bahonar University of Kerman. It is recommended to periodically distribute a standardized questionnaire on electronic resource provision among the faculty members of the university, and utilize the results for library resource planning. Furthermore, organizing training sessions or workshops on value engineering for the library managers and staff at the Central Library of Shahid Bahonar University of Kerman will enhance their professional skills in this area. A detailed examination of each value engineering component should be conducted across various departments of the Central Library. Strengthening the connection of the Central Library with the university library network to enhance access to digital information resources is crucial. Additionally, digital information resources should be acquired through different channels such as digital sales platforms, specialized agents, library exchanges, and other means. Lastly, faculty feedback from Shahid Bahonar University of Kerman should be utilized for the analysis and evaluation of digital information resources, with the use of standardized forms for this purpose.

Keywords: Shahid Bahonar University of Kerman; Central Library; Digital Information Resources; Value Engineering