A VALUES AND THE BUSINESS INFORMATION SYSTEMS CLUB: APPLYING THE SYSTEMS APPROACH TO UTILIZE VOCATION FOR THE BENEFIT OF SOCIETY

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ABSTRACT

Business information system (BIS) student clubs are student groups that involve their members in activities to enhance student knowledge, marketability, and potential employment opportunities. One method, which is not common, is to incorporate service learning in the spirit of Franciscan values. This paper, therefore, presents a systems model and subsequent procedural description of how to accomplish this goal of conceiving, implementing, and evaluating a substantive student-centered technology service project that benefits society.

INTRODUCTION

Business information systems (BIS) clubs are student organizations found primarily at institutions of higher learning that have a BIS, information systems (IS), management information systems (MIS), or information technology (IT) major. BIS club missions generally are to involve its club members in activities that enhance student knowledge, marketability, and potential employment opportunities. A review of club web pages, for example, illustrates that the IS club at Xavier University and the MIS club at the University of Vermont utilize activities such as invited speakers (2010). The Illinois State University club hosts professional events (2010). The Kansas State University club utilizes technology tours (2010).

One aspect that is visibly absent from many club web pages is the incorporation of service learning, more specifically, service that is in the spirit of tradition of Franciscan values. According to Learn and Serve, the U.S. national service learning clearinghouse, service learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities (2010). Service learning is similar to corporate employee volunteer programs. Both types of programs involve participants in mutually beneficial endeavors to assist their communities while achieving desirable institutional outcomes such as leadership and communication skills (Bowen, Burke, Little, and Jacques, 2009). In addition, programs enhance the images of their respective institutions dramatically and participants report positive results in terms of their perceptions of personal and professional growth.

Franciscan values includes encouraging individuals to manifest values through lives that include committed citizenship and community involvement evidenced through service to society to those in need (wikipedia, 2010). Franciscan values help guide individuals to be better able to understand the "common good" and as a result, develop a greater sense of moral commitment.

In this spirit and to support these ideals, this paper was written for the purpose of developing a theoretical model and procedural description of the technology service activities of a BIS club. The results are

available as a resource that illustrate step-by-step how a student-centered substantive service project may be conceived, developed, implemented, and evaluated.

THE TECHNOLOGY SERVICE MODEL

This paper suggests that the general system model (Figure 1) provides a useful framework for a technology service project (Stair and Reynolds, 2008). The model serves as an effective framework for operationalizing project outputs, selecting inputs, implementing processes, and obtaining feedback. An appropriate methodology is to first identify the project outputs or deliverables. In other words, the club members need to detail in specific and measurable terms the objectives of the project. This serves to provide direction and a basis for evaluating the success of the project.

FIGURE 1. GENERAL SYSTEM MODEL

Input ⟶ Processing ⟶ Output
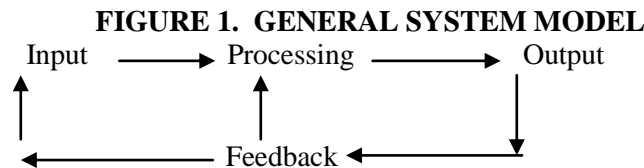
Feedback

Second, the primary project inputs may be defined. Third, the process component of the system model is detailed. Finally, the feedback mechanism is specified to provide valuable information so that appropriate adjustments can be implemented to improve future projects.

PREVIOUS RESEARCH

Prior research has demonstrated that the general system model can be applied for pedagogical purposes in technical, freshmen experience, and international business curriculum. One study, for example, examined a technology-based team project course (Case, 2001). The system model was used to develop the course curriculum, select projects, and formulate teams in an interdisciplinary team-instructed Accounting Information Systems class. A second study demonstrated that the model could be applied to a non-technical course. The model was used to develop and implement a School of Business "Business and Beyond" Freshman Experience course (Case, 2006). Written student evaluations, anecdotal student comments, correlation statistics, grade point average, and retention figures suggest that the system approach and course were successful. A third study examined how the general systems model can serve as the basis for decision support with regard to an international business course in China studies. (Case, 2008). Survey results demonstrated that the model provided a useful and simple quantitative decision support framework for educators.

APPLICATION OF THE MODEL

To demonstrate the use of the model, a technology service project is empirically examined. In terms of outputs, there are three potential objectives or outcomes for the service project. The first is to provide an opportunity for students to experience the satisfaction and benefits associated with community service. The second purpose is to enable BIS club members to apply their learned knowledge in a real-world situation. Third, the project provides underprivileged members of society access to information technology.

The inputs needed to achieve the objectives include computer equipment, student time and knowledge, advisor time, and funds. The process involves several experiential learning steps for the BIS club participants. These processes include brainstorming, scavenging, refurbishing, logistical planning, and installation (Table 1).

TABLE I. PROCESS METHODOLOGY

Process	Outcome	Methodology
Brainstorming	Establish relationship with organization in need	Survey university community and/or area religious leaders
Scavenging	Locate used equipment and fund raising	Collect equipment from sources such as the technical services department at the university and local businesses, hold fund raising activities and/or write grant proposals
Refurbishing	Refurbish equipment	Perform system diagnostics, format hard drives, erase existing data, install software, test system functionality, clean equipment
Logistical Planning	Plan travel logistics	Contact transportation companies and hotels to optimize funds usage
Installation	Deliver, install hardware and software, test system	Assemble and test system components on site; install additional hardware as needed by the organization; install software such as firewall, virus protection, job service, Internet access, spyware detection, printer drivers for network sharing, typing tutor, office productivity software, and so on as needed by the organization

Brainstorming entails locating and establishing a relationship with an organization in need of computer equipment. This can be achieved by utilizing technology such as email to survey members of the university community and/or area religious leaders. It is important to locate an organization that has supportive management, clear computing needs, and a support staff to maintain delivered equipment and software.

Scavenging involves locating usable used computer equipment (microcomputers, monitors, cables, scanners, routers, network interface cards, and so on) and fund raising. Used equipment may be available at the university technical services department (computers that were replaced in labs or offices) or by contacting local businesses or community members. It is critical that the hardware has the minimum speed and capacity required to run the end-user software. If equipment is problematic and excessively dated, long-term maintenance will be challenging and may jeopardize the success of the project. In terms of fundraising, funds will be needed to ship the equipment and to cover the travel, hotel, and per diem costs of club members who will be performing the site installation. Funds may be obtained through general club fund raising activities and/or by submitting grant proposals.

Refurbishing ensures that the equipment meets standard requirements for basic keyboarding, word processing, presentation, electronic spreadsheet software, and Internet access. In addition, it may be necessary to reformat hard drives to erase previously stored data and to physically clean the equipment.

Logistical planning is important so that funds are efficiently spent prior to and during the site visit. In addition, members may need to package and mail equipment if the equipment will not be transported with the club members. The Internet may be used to locate transportation systems, hotels, and restaurants that will be needed by club members during the visit.

Installation involves on-site activities such as assembling equipment, testing the hardware, installing additional hardware (e.g., wireless cards) as needed by the organization, and installing needed software.

This software could relate to firewalls, networking, virus protection, Internet access, spyware detection, printer drivers for network sharing, typing tutors, office productivity software, job training, and so on.

The final component of the project system model is feedback. Feedback can be formative and summative (Brookhart, 2008). Formative feedback occurs during the project and summative would be utilized at its completion.   In-project feedback could be obtained with meetings with end users and with the organization's executive staff. Such meetings would assist in determining system usability.   Upon completion of the trip, a reflection or summative session can be conducted to discuss student learning and further reinforce Franciscan values.

A SUCCESSFUL SERVICE LEARNING EXPERIENCE
This system model has been successfully utilized by a northeastern U.S. university BIS club. Students from the BIS club have participated in multiple IT service projects to the CREATE Young Adult Center in Harlem, New York. The organization, the CREATE Young Adult Center in Harlem, is a not-for-profit community organization that was founded by the Franciscan friars from the Holy Name Province to serve the homeless and disadvantaged of Harlem. The service projects were conceived by club members to support the Franciscan heritage of service to those in need and provide an opportunity for students to understand how Franciscan values can be integrated into and be an important factor in his/her career pursuits. The genesis of the project was a firm belief by group members that it is important to utilize one's skills and time to help those in need.

The club members followed the system model and ultimately provided assistance at the CREATE Young Adult Center on West 128th Street (a transitional housing program for homeless young men ages 18-25 years old) and the Medically Supervised Outpatient Program Center. Both locations were in need of computers that could be utilized to train basic job skills, search for employment opportunities, provide tutorial instruction, and support vocational services. Students installed a variety of software (Microsoft Office, virus protection, Windows updates, Open Office, firewall protection, typing tutor, job search software, and so on), a wireless network, printer drivers, and IP addresses (for high speed Internet access). Most important, the systems permit the homeless shelter staff to provide computer training, permit Internet job searching, and offer hands-on job skills for their residents.

Overall, the project encouraged students to develop a sense of service. In addition, club members were be able to apply educational knowledge into a practical experience. Moreover, members were given an opportunity to plan and implement a service project. Finally, the project assisted underprivileged individuals.

All trips were excellent learning and troubleshooting opportunities for the students in that installing IT may be challenging and require considerable real-time problem-solving. Moreover, the projects demonstrated to the students the importance and satisfaction of "service." During each trip, students met with the executive staff and clients at CREATE. Students learned about the clientele's daily challenges (such as tuberculosis, drug addiction, criminal behavior, and so on) and what a tremendous impact that the computer systems would have upon the clientele's life and chances for success. The clients were awe-inspired that others (outside of the CREATE Center) cared about them and their future. The students also participated in reflection sessions which were extremely beneficial in further reinforcing the concept of life-long service to those in need. The projects have been so successful that the projects garnered local and national media attention and that the members of the CREATE executive staff have asked the BIS club to return on an on-going basis to further assist CREATE.

There are three important implications. First, although this model is detailed with regard to the BIS club, it is also applicable to any student club that desires implementing a Franciscan-values service learning experience. Second, the advisor has anecdotally observed considerable student growth and read student

reflection narratives about the significant positive impact that the projects have had upon the students. Students have found that there is more to life fulfillment than earning a wage. There is great satisfaction in using one's skills to help others. Finally, the students indirectly gain hands-on information technology and volunteer experience that can be listed on their resume, thus helping to differentiate them from other graduates.

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