INTEGRATING SAP INTO THE CURRICULUM AT A BUSINESS SCHOOL: EVALUATING THE STUDENTS' PERSPECTIVE REGARDING AN ERP SYSTEM

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ABSTRACT

In 2013 the Craig School of Business integrated SAP into our curriculum through a cloud-based service hosted by California State University at Chico. Our school also joined the SAP UA program. This cloud-based academic approach uses a fictitious company called Global Bike, Inc. (GBI). This is a mostly comprehensive database that helps trainees interact with the key modules of SAP. We then sought to determine if the new approach was successful in improving the student's attitude toward an ERP such as SAP, while also increasing their confidence in working with that technology.

OVERVIEW

Background

From its inception, the SAP ERP system was targeted toward very large companies such as those in the Fortune 500 since it required a significant investment for data conversion, business process re-engineering, and ongoing technical support. However, through the utilization of cloud-based technology, the SAP system is becoming practical for smaller organizations [2]. In seeking to provide an integrative experience for our students in using technology to assist in making business decisions, we took advantage of this opportunity to include SAP exercises in our curriculum. Those SAP-based exercises would allow the students to observe the impact that an action or a decision within one business function has on another business function.

This paper focuses on the perception of students toward an ERP system before and after using SAP. To explore the student's perception on the usefulness and ease of use of this technology, we developed a questionnaire based on the Technology Acceptance Model (TAM) developed by Davis [1] that models how users come to adopt and use a technology. We also added a few questions pertaining to the appropriateness of the training that was provided.

Methodology

The data was collected from eight sections of an upper division undergraduate Management Information Systems course that was taught by three different faculty members. We conducted a pre-test survey before we presented the SAP Exercises, then we conducted a post-test survey afterwards. The survey results were examined, and several cases were removed where there was a pre-test without a related post-test or vice-versa. This ensured that we only utilized matched pairs of surveys for this analysis.

Points were awarded for the completion of both surveys and that helped obtain a high level of participation (78%). This resulted in 230 valid paired cases where we sought to compare our students' perception on the functionality of the SAP ERP software. Both surveys were the same, and they contained 21 questions. The first seven questions related to demographic data and the remaining 14 questions collected responses on a five-point Likert scale related to the students' perceptions of the SAP ERP. The responses to the 14 questions were re-keyed so that Strongly Disagree was scored as a "1" and Strongly Agree was scored as a "5". Frequencies were calculated for the demographic questions. For the numeric (Likert Scale) results, a Matched Pair T-test was calculated to examine the difference between the means of the paired data sets. This was a two-tailed test so one half of the significance values was considered as related to the positive tail of the distribution.

Preliminary Results

While some of the responses indicated that there was very little change in perceptions between the pre-test and the post-test, several of the questions appeared to indicate a positive change. This would indicate the likelihood that this change was produced as a result of the treatment (the SAP exercises). We examined those questions where there was a reasonable level of positive change (0.26 or more) between the means for the pre-test and the post-test. We then considered those questions where the significance (the *"p"* values) was 0.005 or less within a 95% confidence interval.

- For our question number 8 "SAP ERP is functional" the results were as follows: the pre-test mean was 3.68 on the 5 point Likert scale and the post-test mean was 4.06. This increase of 0.38 points could be considered as an actual difference in the means of the two distributions within a 95% confidence interval since the two-tailed significance was less than 0.000.

- In a similar fashion, question number 11 "Overall, I find SAP ERP useful" increased from 3.72 to 3.98 with a significance level of 0.003 (two-tailed).

- Question number 12 "I find SAP ERP easy to use" changed from 3.11 in the pre-test to 3.39 in the post-test. This increase of 0.28 had a significance level 0.005.

- The 13th question was "My interaction with SAP ERP is clear and understandable" and that result increased from 3.15 to 3.57 and this difference of 0.42 had an associated significance of less than 0.000.

- Question 19 "The SAP ERP tutorials help me understand how to work with SAP ERP" had the largest increase of 0.45 (from 3.67 to 4.12) with a significance of less than 0.000.

All of the other questions had a small change between the pre-test and the post-test and those differences were not considered as statistically significant.

REFERENCES

[1] Davis, F. D. Perceived Usefulness, Perceived Ease of Use, and User Acceptance*, MIS Quarterly,* 1989, 13(3), pp 319-339.

[2] SAP, SAP Software & Solutions, retrieved from http://www.sap.com/solution/sme.html, December 28, 2014.