Over the last few years significant effort has been extended to bring service-learning opportunities to the classroom, and extensive research has been conducted, examining impacts of service-learning on a wide range of outcomes (Eyler, 2000). Among social and attitudinal outcomes, Osborne, Hemmerich, and Hensley (1998) reported a positive impact of service-learning on student social development, including social competency and perceived ability to work with adverse others. Kendrick (1996) demonstrated that involvement in service-learning resulted in increased social responsibility and personal efficacy. Other studies examined service-learning’s impact on the sense of commitment to future service, and found that projects with a substantive link between course work and service had a stronger impact on students (Gray et al., 1999).

With the increased interest in cognitive outcomes of service-learning (Steinke & Buresh, 2002), a number of studies examined the impact of participation in service-learning projects on students’ analytical skills and academic performance. Kendrick (1996) found that students involved in service-learning demonstrated a higher ability to apply course concepts to new real-world situations. Other studies suggest that participation in service-learning is associated with better self-reported learning outcomes (Eyler & Giles, 1999), higher academic performance (Strage, 2000), and higher satisfaction with the course.

Two important general outcomes of learning are the students’ attitude to the subject matter after completing a course, and their willingness to apply the skills and the knowledge acquired in their future life and career. These outcomes are particularly important in the case of courses required by the curriculum, since students often perceive such courses as not directly related to their area of interest or academic major. Examples of such courses might include general education science courses for non-science majors, or math and statistics courses for business students.

In spite of the growing number of research studies in service-learning, there is still insufficient knowledge—both theoretical and empirical—about service-learning’s ability to produce more positive attitudes toward subject matter and to motivate use of acquired skills and knowledge in one’s future life and career (Eyler, 2000). This paper attempts to shed some light on these issues. Because research in psychology suggests that intentions for future behavior are strong predictors of actual future behavior (Fishbein & Ajzen, 1975),

Can Service-Learning Help Students Appreciate an Unpopular Course?: A Theoretical Framework

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A theoretical model is presented that proposes a mechanism through which service-learning can improve students’ attitudes toward a course. The model suggests that service-learning projects have an effect on students’ perception of the course material’s usefulness, and that higher perceived usefulness, along with higher perceived ease of subject, leads to more favorable attitudes toward the course and stronger intentions for future use of its material. In order to test the model, a longitudinal study involving undergraduate students enrolled in a business statistics course was conducted. The results of the study provided full support for the proposed model and suggested that students involved in service-learning projects experienced significantly higher increase in their perception of the course material’s usefulness relative to a comparison group, which resulted in improved attitudes toward the course and in stronger intentions for future use of the course material.
we focus on intention for future use of course material rather than the actual future use. Hence, the purpose of this paper is to develop and empirically test a theoretical model that explains the relationship between participation in service-learning projects and such learning-related outcomes as perceived usefulness of course material, attitude toward the course, and intention for future use of course material.

The rest of the paper is organized as follows: First a theoretical model is developed based on the Technology Acceptance Model and prior research on service-learning. Then, a longitudinal study used to test the theoretical propositions is described and the study results are presented. Finally, implications of the study, as well as its limitations and conclusions are discussed.

Theoretical Model

Existing Models Explaining Behavioral Intentions

A number of theoretical models explain behavioral intentions as well as future behavior, e.g., the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), the Theory of Planned Behavior (TPB) (Ajzen, 1985), and the Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). As the starting point in our theory development we will use the TAM, which was developed to explain individual acceptance of information technology.

In short, the TAM suggests that individuals’ beliefs about the usefulness of an information system and the ease of use of this information system affect the attitudes toward the information system, with perceived ease of use of an information system positively affecting the perceived usefulness of the information system. Further, the model suggests that attitudes toward an information system influence individuals’ intentions for future use of the system; in addition, beliefs about the usefulness of an information system have a direct effect on the intention to use the information system. Finally, intentions to use an information system fully mediate the effect of other variables on the actual use of the system. A number of empirical studies provide support for the TAM (Davis et al., 1989; Taylor & Todd, 1995).

Recently, the TAM was expanded (TAM2) to include a number of contextual factors (Venkatesh & Davis, 2000). In particular, it was proposed that perceptions of usefulness of an information system are affected by subjective norms, result demonstrability, output quality, image associated with the use of an information system, and job relevance.

Subjective norms are defined as a “person’s perception that most people who are important to him or her think that he should or should not perform the behavior in question” (Fishbein & Aizen, 1975, p. 302). Result demonstrability is experiencing positive outcomes from an activity. In TAM2, Venkatesh and Davis suggest that output quality goes “over and above considerations of what tasks a system is capable of performing and the degree to which those tasks match job goals (job relevance)” (p. 191), and define it as a perception of how well the system performs those tasks. In addition, such factors as voluntariness and experience were pro-
posed to moderate the relationship between subjective norms, perceived usefulness, and intention for future use. Propositions of the TAM2 are presented in Figure 1.

The Course Acceptance Model

The TAM is particularly appropriate for providing insights into students’ attitudes toward course material and intentions to use it in the future, due to several commonalities between information technology and techniques, and knowledge learned in class. First, similar to information technology, knowledge, skills, and techniques taught in universities are intended to help individuals make more effective and well-informed decisions in their professional and personal life. Further, as with information technology, individuals are free to rely on these skills and this knowledge, or to ignore them. For example, in making a personal investment decision, a recent university graduate may use their knowledge about time value of money once acquired in a finance class, or to ignore this knowledge. Secondly, and most importantly, there exist knowledge barriers that an individual needs to overcome in order to be able to successfully apply skills and techniques taught in universities, such as with information technology (Attwell, 1992). In other words, in order to use skills or techniques, or to apply theoretical knowledge, one first needs to invest time and effort in learning skills and techniques, and acquiring knowledge.

Considering these important similarities, students’ attitudes toward a course and the learning in the course—and their intentions to use acquired skills and knowledge—are likely to be influenced by similar factors that affect individual attitudes toward, and intentions to use, information technology. Therefore, drawing on the TAM, we introduce a Course Acceptance Model (CAM), which is described in the following propositions:

**Proposition 1.** Perceived ease of course material will have a direct positive effect on the perceived usefulness of course material.

**Proposition 2.** Perceived usefulness and perceived ease of course material will have a direct positive effect on favorable attitudes toward the course.

**Proposition 3.** Favorable attitude toward the course will have a direct positive effect on intentions to use the course material in the future.

**Proposition 4.** Perceived usefulness of course material will have a direct positive effect on intentions to use the course material in the future.

Service-Learning and Perceived Usefulness of the Course

The CAM proposes that perceived usefulness of the course material leads to more positive attitudes toward the course and stronger intentions to use the course material in the future. This suggests that improving perceived usefulness of the course is an important educational objective. Drawing on the theoretical base of the TAM2 (Venkatesh & Davis, 2000), we propose that participation in service-learning projects can improve perceived usefulness of course material in two ways: through subjective norms and through result demonstrability.

One of the critical components of service-learning is building a close relationship with community partners and working together with them on identifying problems (Porter & Monard, 2001). Such close reciprocal collaboration helps to ensure that community partners benefit from student pro-

---

**Figure 2**

Course Acceptance Model (CAM) as Applied to Statistics and the Effect of Service-Learning

[Diagram with nodes labeled: Service-Learning, Usefulness of Statistical Techniques, Ease of Use of Statistical Techniques, Attitudes toward Statistics, Intentions to Use Statistics in the Future, Use of Statistics]
projects, and therefore, that students receive positive feedback on applying the course material. Such positive feedback (subjective norms) is likely to lead to increased student perceptions of usefulness of the course material.

In addition, by participating in service-learning, students get a chance to help their community partners solve existing problems. Seeing positive outcomes of applying course material to real life (result demonstrability) is also likely to increase perceived usefulness of course material. This leads us to the following proposition.

**Proposition 5.** Participation in service-learning projects will have a positive effect on the perceived usefulness of course material.

Because research related to acceptance of information technology showed that subjective norms have a direct effect on intentions only in case of involuntary adoption, and because application of course material in the future is voluntary, we do not hypothesize a direct effect of participation in service-learning projects on intentions. The CAM and the effect of service-learning are graphically presented in Figure 2.

**Method**

In order to test the theoretical model described above, a longitudinal study was conducted, which involved undergraduate students at a medium-size public university in the Western United States. The students were enrolled in six sections of a business statistics course taught by three instructors. The course was mandatory for business administration majors and the syllabus included common statistical techniques, such as statistical quality control, simple regression, multiple regression, and analysis of variance.

In order to investigate the effect of service-learning on their perceptions of usefulness, students were given an opportunity to either participate in a service-learning project, or to do a research-oriented project on a subject of interest to the students. Projects were classified as service-learning projects if a community partner, such as a non-profit organization, a state or city office, or a local small business, offered an existing situation, problem, or issue of interest, along with data, and if students could help to address the problem by applying statistical analysis. Projects were defined as research projects if they investigated a current socioeconomic issue, without the involvement of a community partner, using data available from public sources.

The business statistics course used for this study was traditionally offered without any service-learning component. After a pilot introduction of service-learning during Fall 2000, the course was offered with a service-learning component in Spring 2001, when the present study took place. It is important to note that the major goal of this study was to provide a valid comparison between service-learning and other types of projects involving application of the course material. In order to allow for such valid comparison, we wanted to ensure equal treatment of service-learning and research projects. At the risk of weakening the effect of service-learning, course instructors avoided emphasizing the benefits of one type of project over the other. Workload and format of all graded project components were also kept equal for both types of projects. While our goal of ensuring the comparability between the two project types imposed certain constraints on our ability to literally comply with service-learning guidelines, we made an effort to incorporate the most important characteristics usually associated with service-learning: high quality service, high quality learning, reciprocity (Furco, 1996; Porter & Monard, 2001), and reflection (Hill & Pope, 1997; Kendall, 1990). To that end, the instructors made contact with community partners before the beginning of the semester, and a number of possible projects were identified. During the first half of the semester, two community partners were invited to give brief (15-minute) presentations. During the second half of the semester, all students taking the course—regardless of the type of project with which they were involved—submitted a written proposal stating, among other things, why they found their suggested topic interesting. Regarding reflection, while no weekly journal entries were required, because students were working in small groups, team members communicated frequently about the project to each other, mostly over e-mail, and we believe that this served as an imperfect reflection mechanism. Toward the end of the semester, students made a 10-minute class presentation, sharing their findings and their experiences. A week later, the students submitted a written project report of term paper length. Oral and written presentations were graded separately, with the written report carrying greater weight.

Examples of service-learning projects included one involving the local branch of the American Society for the Prevention of Cruelty to Animals (ASPCA). The students developed a time series model that predicts the number of dogs adopted every month, enabling the Society to better plan and manage sheltered animals. Another service-learning project involved the local Community Services Planning Council (CSPC). The students
developed a regression model to explain average home prices of the various city neighborhoods, using socioeconomic factors as explanatory variables. Such a model would be helpful in the city’s community planning and budget prioritization efforts. A few cases of service-learning projects were actually proposed by the students, such as a project related to the city Waste Management Plan.

In order to overcome threats to internal validity generally associated with quasi-experimental designs, a control group design with a pre-test and a post-test was used (Cook & Campbell, 1979), with the students working on research projects acting as the control group. Perceived usefulness was measured using a part of the Course Acceptance Survey, described below, before the project began and again after the project was completed among students working on service-learning and research projects. While one may argue that students working on research projects cannot be technically considered a no-treatment control group because they are exposed to an alternate treatment, such design allows effects of service-learning to be isolated from effects of other types of assignments requiring application of course material.

In order to test propositions of the CAM (Propositions 1 through 4), perceived usefulness and ease of the course material—as well as attitudes toward the course and the intentions for future use—were measured using a Course Acceptance Survey developed on the basis of the survey used to measure corresponding constructs in the TAM (Davis, 1989). The questionnaire was tailored to the course specifics and included references to particular techniques taught in the course. The full text of survey questions is presented in Appendix A. In order to capture the change in the students’ perceptions and attitudes over time, the survey was administered twice, in the middle of the semester (before the group project) and at the end of the semester (after completing the project). A significant period of time between pre-test and post-test minimized threats to internal validity due to testing effect (Cook & Campbell, 1979). To ensure privacy and confidentiality, persons other than course instructors administered the surveys, and the results were shared with the instructors only after the semester was over and grades were submitted.

Results

The measurement scales of the Course Acceptance Survey exhibited high reliabilities, with Chronbach’s alpha values ranging between 0.89 and 0.94 (see Table 1). The Course Acceptance Model was tested using Structural Equation Modeling (SEM), a methodology lately proliferating in behavioral science research, which allows for the combination of factor analysis, survey instrument reliability tests, and a number of simultaneous Analyses of Covariance. (The reader is encouraged to read an excellent SEM tutorial by Gefen, Straub, & Boudreau, 2000, for a comprehensive coverage of many technical details.)

Two SEM models were fitted for the middle-of-semester and end-of-semester data. The theoretical constructs were modeled as the latent (unobservable) variables Ease, Usefulness, Attitude, and Future Use. The students’ responses to the survey questions were modeled as the measurable variables EA1-3 (Ease), US1-4 (Usefulness), A1-2 (Attitude), and FU1-3 (Future Use). For each model, several goodness-of-fit indicators were obtained, including the Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), etc. Goodness-of-fit indicators for each of the two runs of the model (middle-of-semester and end-of-semester), as well as recommended values for these indices according to the SEM literature (Gefen et al., 2000), are reported in Table 2. Goodness-of-fit indicators (GFI > 0.90, CFI > 0.90, etc.) suggest a very good fit of the proposed model for the middle-of-semester as well as end-of-semester data. These indicators assess the entire hypothe-

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Table 1

<table>
<thead>
<tr>
<th>Construct</th>
<th>Survey Items</th>
<th>Pre</th>
<th>Post</th>
<th>Cronbach's Alpha Pre</th>
<th>Cronbach's Alpha Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease</td>
<td>3</td>
<td>3</td>
<td></td>
<td>0.9033</td>
<td>0.8881</td>
</tr>
<tr>
<td>Usefulness</td>
<td>3</td>
<td>4</td>
<td></td>
<td>0.9111</td>
<td>0.9440</td>
</tr>
<tr>
<td>Attitude</td>
<td>2</td>
<td>2</td>
<td></td>
<td>0.8989</td>
<td>0.9113</td>
</tr>
<tr>
<td>Future Use</td>
<td>3</td>
<td>3</td>
<td></td>
<td>0.9291</td>
<td>0.9291</td>
</tr>
</tbody>
</table>

Note. Pre-test constructs (N = 180) as well as post-test constructs (N = 159) are listed. Pre-survey and post-survey items were identical, with the exception of a fourth usefulness item (US4) added to the post-survey, which was a repetition of US2. Full text and descriptive statistics for all survey items are provided in the Appendix.
sized structure, eliminating the need for separate factor analysis for validating the measurement instruments.

In addition to the overall goodness-of-fit indicators, individual path coefficients were calculated for each of the relationships described in Propositions 1 through 4. Path coefficients for the middle-of-semester data are presented in Figure 3. The analysis suggested that all the relationships (paths) are significant at the 0.01 level. Similar results were obtained for the end-of-semester data. Thus, the SEM analysis provides full support for the CAM.

In order to test the effect of participation in the service-learning projects on perceived usefulness, an ANCOVA model was tested, with perceived usefulness at the end-of-semester (post-test) as the response variable, project type and section as factors, and perceived usefulness in the middle-of-semester (pre-test) as a covariate. A total of 110 usable responses were analyzed. Results of the ANCOVA are presented in Table 3. The results suggest that service-learning has a significant positive effect ($b$-coefficient = 0.580, $p$-value = 0.032) on perceived usefulness when the effects of the pre-test usefulness perceptions, as well as the effects of section, are accounted for. Effects of section and pre-test perceived usefulness were also significant.

Because the students were not randomly assigned to service-learning vs. research projects, selection bias might be a legitimate concern. The inclusion of the pre-test perceived usefulness as a covariate in the ANCOVA model discussed above statistically accounts for pre-existing individual differences among students, regardless of project type. However, one might argue that students who

---

Table 2

<table>
<thead>
<tr>
<th>SEM Statistic</th>
<th>Pre-test fit</th>
<th>Post-test fit</th>
<th>Recom. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size (N)</td>
<td>180</td>
<td>159</td>
<td>≥ 100-150</td>
</tr>
<tr>
<td>Normal Weighted LS Chi-Square</td>
<td>69.65</td>
<td>84.43</td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>39</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Chi-Square / Degrees of Freedom</td>
<td>1.79</td>
<td>1.72</td>
<td>≤ 3.00</td>
</tr>
<tr>
<td>Goodness of Fit Index (GFI)</td>
<td>0.93</td>
<td>0.92</td>
<td>≥ 0.90</td>
</tr>
<tr>
<td>Adjusted Goodness of Fit Index (AGFI)</td>
<td>0.89</td>
<td>0.87</td>
<td>≥ 0.80</td>
</tr>
<tr>
<td>Non-Normed Fit Index (NNFI)</td>
<td>0.97</td>
<td>0.97</td>
<td>≥ 0.90</td>
</tr>
<tr>
<td>Comparative Fit Index (CFI)</td>
<td>0.98</td>
<td>0.98</td>
<td>≥ 0.90</td>
</tr>
<tr>
<td>Standardized Root Mean Square Residual (SRMR)</td>
<td>0.036</td>
<td>0.035</td>
<td>≤ 0.10</td>
</tr>
</tbody>
</table>

Figure 3

Structural Equation Modeling: Path Analysis (Pre-Test)

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Note: All paths are significant at the 0.01 level (all $p$-values < 0.01).
initially perceived the course as more useful chose to participate in service-learning projects, and their service-learning experience simply intensified their pre-existing believes. In order to investigate such possibility, we compared pre-test perceived usefulness of students who later chose to participate in service-learning projects, to that of students in research projects. Results of an ANOVA model, with pre-test perceived usefulness as the response variable, project type and section as factors, are presented in Table 4. These results suggest that there were no significant differences in usefulness perceptions across sections (\(p\)-value = 0.976) or project type (\(p\)-value = 0.793).

**Discussion**

The study results provide support for the theoretical model proposed in this paper. In particular, all propositions of the CAM were supported. Students who believe that material taught in a particular course is useful or easy have more positive attitudes toward that course and intend to use the course material in the future. According to prior research in psychology, such intentions for future use are likely to result in actual use. One should not consider establishing a link between “usefulness” and “using” course material a tautology, because in a number of situations people choose not to use knowledge or skills that they generally consider useful. For example, a student majoring in business administration who is required to take a course in the Java Programming Language may believe that knowing Java is useful because it would increase their job security. However, this student may not intend to use Java in the future because they find programming very difficult.

Interestingly, our results suggest that students who believe that course material is easy also tend to find it more useful. While future research is needed to establish a causal relationship between ease and usefulness, this finding has an important practical implication for pedagogy. Teachers may want to consider reducing the difficulty of course material, especially when it comes to general education or supporting courses. This would lead their students to perceive the course as more useful, and to be more likely to use the course material more in the future.

Our results also suggest that service-learning can significantly improve students’ perceptions of the usefulness of the course. We theorized that such effect would occur due to better result demonstrability and because students feel the appreciation community partners have for their projects (subjec-
tive norms). Our study, however, did not examine whether subjective norms and result demonstrability actually mediate the relationship between service-learning and perceived usefulness. We believe that establishing these relationships through an empirical study would be beneficial for service-learning theory and practice. It would not only provide an explanation of why service-learning has an effect on perceived usefulness, but also suggests that practitioners can enhance the impact of service-learning by encouraging community partners to provide positive feedback to the students and emphasizing the project results.

The observed effect of service-learning on perceived usefulness in combination with the CAM suggests that students participating in service-learning projects will have more positive attitudes toward the course and will be more likely to apply course material in their future lives. A longitudinal study monitoring the actual future application of course material by former service-learning students might be an interesting direction for future research.

It is important to note several limitations of this study. First, the students were not randomly assigned to the service-learning vs. research project, which raises concerns about selection bias. While we tried to address these concerns by using appropriate statistical techniques, we believe that it would be beneficial to replicate our study by randomly assigning students to project type, or at least randomly assigning different sections of the same course taught by the same instructor during the same semester to either service-learning or research projects.

Another limitation of the study is related to the degree to which our service-learning projects complied with widely accepted guidelines for service-learning. Due to practical difficulties, our approach was not to offer our students a complete service-learning experience, but rather at uncovering the defining characteristics of a service-learning project, when a research project option kept as many project attributes as possible at an equivalent level. Because our projects were very structured and their requirements were very specific, we observed a similar level of academic outcome across the two project types and believe that both groups of students learned about the same amount of course material. However, the fact that somebody cared to receive outcomes of their course material in a real-world setting made a difference for the service-learning participants, and convinced them that the course material was more useful than what they would otherwise think. Through the mechanism presented in our CAM, we expect them to use this material in the future more than they would had they been involved in a research project.

In view of these findings, we believe that service-learning could increase the educational value of unpopular courses that have a stereotypical reputation of being “unpleasant” or “useless,” courses in which students cannot see themselves “ever using the material again.” If it worked for business statistics, it could also work for business accounting, critical analysis of documents in communication, introduction to biology, and introduction to computer programming in engineering. We believe that the introduction of service-learning to such courses should be promoted.

**Note**

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Can Service-Learning Help Students Appreciate an Unpopular Course?

References


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LAURA RIOLLI is an assistant professor of Organizational Behavior and Human Resources at California State University, Sacramento. She is an active member of the CSUS Service-Learning Scholars Group.
The Pre-Test ($N = 180$) and Post-Test ($N = 159$) Survey

All Items were Measured on a 7-point Likert Scale, where 1 = Strongly Disagree, and 7 = Strongly Agree.

Means and Standard Deviations (in Parentheses) for Each Item are Shown.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Measure</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td><strong>Ease of Statistics (EA)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EA1</td>
<td>Learning the multiple regression technique was easy for me</td>
<td>3.97 (1.45)</td>
<td>4.73 (1.35)</td>
</tr>
<tr>
<td>EA2</td>
<td>It was easy for me to become skillful at using statgraphics</td>
<td>4.74 (1.50)</td>
<td>4.94 (1.46)</td>
</tr>
<tr>
<td>EA3</td>
<td>Learning a number of statistical techniques was easy for me</td>
<td>4.27 (1.46)</td>
<td>4.47 (1.38)</td>
</tr>
<tr>
<td><strong>Usefulness of Statistics (US)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US1</td>
<td>Using statistical software and statistical techniques would increase my</td>
<td>4.97 (1.64)</td>
<td>5.12 (1.54)</td>
</tr>
<tr>
<td></td>
<td>performance in a business organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US2</td>
<td>Using statistical techniques would enhance my decision-making skills</td>
<td>5.13 (1.54)</td>
<td>5.13 (1.38)</td>
</tr>
<tr>
<td></td>
<td>as a manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US3</td>
<td>I would find multiple regression a useful tool that would enhance my</td>
<td>4.62 (1.58)</td>
<td>5.04 (1.48)</td>
</tr>
<tr>
<td></td>
<td>problem-solving capabilities as a business consultant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US4</td>
<td>Using statistical techniques would enhance my decision-making skills</td>
<td>*</td>
<td>5.08 (1.34)</td>
</tr>
<tr>
<td></td>
<td>as a manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Attitude toward Statistics (A)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>Do you enjoy performing statistical analysis?</td>
<td>3.58 (1.77)</td>
<td>4.18 (1.59)</td>
</tr>
<tr>
<td>A2</td>
<td>Do you like statistics?</td>
<td>3.65 (1.74)</td>
<td>4.00 (1.66)</td>
</tr>
<tr>
<td><strong>Intention for Future Use (FU)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FU1</td>
<td>How likely is it that you will be using statistics in the future?</td>
<td>4.18 (1.76)</td>
<td>4.42 (1.64)</td>
</tr>
<tr>
<td>FU2</td>
<td>How frequently do you intend to use statistical software and statistical</td>
<td>3.73 (1.59)</td>
<td>3.96 (1.59)</td>
</tr>
<tr>
<td></td>
<td>techniques in the future?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FU3</td>
<td>Are you going to use data analysis and statistical modeling to support</td>
<td>4.08 (1.63)</td>
<td>4.16 (1.71)</td>
</tr>
<tr>
<td></td>
<td>the future decisions of yourself or your organization?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See note for Table 1.