Effects of User Characteristics on Computer Attitudes Among Undergraduate Business Students

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A study survey is used to investigate the computer attitudes of 238 business students attending a major university in Saudi Arabia. The findings show that computer experience, degree of access, and computer ownership have a significant effect on computer anxiety, computer confidence, computer liking, computer usefulness, and overall computer attitude. Age and class standing do not appear to be related to any of the computer attitude scales. The number of computer-using courses strongly affects computer confidence, usefulness, and overall attitude, but weakly affects computer anxiety and liking. The student Grade Point Average is associated with computer confidence, and overall attitude, but not with computer anxiety, liking, or usefulness.

The proliferation of computers has affected the way of doing business, conducting research, and teaching students. In the business community, computers help organizations to be more efficient, effective, and competitive in the marketplace through the use of productivity software, electronic data interchange, integrated office systems, computer-conferencing, and video-teleconferencing. In the education community, where teaching and research are the main occupations, computers are part of the educational scene. In a recent survey study, Richards and Pelley (1994) have identified the most valuable components of an information systems education, one of which is the PC environment.

Business schools invest substantial sums of money in installing microcomputer labs for faculty and student use. All the 160 business schools surveyed by Render and Stair (1987) had microlabs. The fifth annual UCLA survey estimated that the average computer operating budget was US$181,000 per business school (Frand and Britt, 1989). Yet, very few studies have investigated business student attitudes toward computers in the context of a developing country, such as Saudi Arabia. Given the extent of the available literature on computer attitudes, little research has been done to explore computer attitudes in environments other than Europe and North America.

The importance of this study stems from the fact that awareness of user attitudes toward computers is a critical factor in enhancing the acceptance of computers as well as understanding current user behavior and shaping future behavior, such as computer usage.

This paper presents the results of an exploratory study on computer attitudes and investigates the effect of user characteristic variables, such as age, computer-using courses (courses), grade point average (GPA), class standing (class), computer ownership, computer accessibility, and computer experience, on computer attitudes among undergraduate business students attending a major university in Saudi Arabia.

Background

According to Fishbein and Ajzen (1975), attitude is defined as “a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object” (p. 6). In the case of computer attitude, the given object is understood to be a computer.
Researchers have suggested that a positive attitude (satisfaction) toward computers is an indicator of computer system success (Igbaria, 1993; Igbaria and Nachman, 1990; Yaverbaum and Nosek, 1992; Abdul-Gader, 1990). Stevens (1982) emphasized two factors that affect the successful implementation of computers in educational institutions: (1) teacher attitudes toward computers, and (2) their level of expertise with computers. Positive attitudes enhance the knowledge and creativity of computer users, whereas negative attitudes may limit the use of computers as learning and teaching tools and inhibit information technology assimilation in the classroom. In his study, Abdul-Gader (1990) argued that education and training reduce computer alienation significantly among college students and thus improve attitudes toward information technology. Yaverbaum and Nosek (1992) found a significant positive shift in student attitudes after they had completed a course in management information systems, suggesting a connection between satisfaction/attitude and education and training.

Four types of attitude toward computers are thought to be important for end user achievement of end users: anxiety or fear of computers; confidence working with computers; computer liking or enjoying working with computers; and the perceived usefulness of computers in present or future work.

The literature indicated that user characteristics such as age, courses, GPA, class, computer ownership, computer accessibility, and computer experience are of great concern to most educators when assessing attitudes regarding computers. Previous studies on the relationship between age and attitude produced mixed results. Woodrow (1991) found that age was not a significant contributor toward the computer attitudes of student teachers while Nickell and Pinto (1986) found that age correlated negatively with computer attitudes. However, Marshal and Bannon (1986) reported a positive correlation between age and computer attitudes.

The number of computer-using courses attended is considered as a general measure of computer training. In their study, Nelson and Cheney (1987) found a positive relationship between the computer-related training a user receives and his/her computer-related ability.

A student’s GPA can be considered as a general measure of ability to learn, motivation to learn, or learning performance. Wilson and Daubek (1992) found a positive relationship between GPA and computer attitude.

Class standing may be considered as a general measure of academic experience. It is reasonable to assume that students of high standing have more positive attitudes than students of low standing students. For example, senior students are older and have completed more courses than juniors.

A strong relationship between computer ownership and attitudes is documented in the literature, where those who own computers have more favorable attitudes than those who do not (Marshal and Bannon, 1986; Gattiker and Hlavka, 1992).

Computer accessibility is an important factor that influences computer utilization (Schiffman et al., 1992; Rahman and Abdul-Gader, 1993). Accessibility can be enhanced through facilitating conditions such as availability, support, and proximity to users (Bergeron et al., 1990).

Prior experience with computers has been demonstrated to be an important variable in promoting favorable attitudes among users (Loyed and Gressard, 1984; Levin and Gordon, 1989).

**Method**

**Instruments**

The first part of the questionnaire gathered the attitudes of the respondents toward computers by using the Computer Attitude Scale (CAS). The CAS consists of four subscales: anxiety, confidence, liking, and usefulness. The CAS was developed by Loyd and Loyd (1985) and used by Wilson and Daubek (1992). This instrument has been tested for validity and reliability (Loyd and Loyd, 1985; Gressard and Loyd, 1986). In addition, Woodrow (1991) concluded that CAS subscales were stable enough to be used separately and the overall scale can be used to measure general attitudes toward computers. Appendix A shows the measures of the CAS subscales.

In response to the questionnaire statements, respondents are asked to choose one of five responses: strongly disagree, disagree, neutral, agree, or strongly agree. For the purpose of analysis the item responses are coded so that a higher number indicates a higher degree of confidence, liking, perceived usefulness, and a lower degree of anxiety. Since each attitude component has 10 items that are evaluated on a 1 to 5 point scale, the range for each will be from 10 to 50 points. Therefore, a higher score represents a more favorable attitude than does a lower score. By the same token, the overall scale ranges from 40 to 200. That is, 40 reports the least favorable overall attitude and 200 reports the most favorable overall attitude.

The second part of the questionnaire gathers data on user characteristic variables concerning age, courses, GPA, class, computer ownership, computer accessibility, and computer experience using single item questions (see Appendix B).

**Sample**

The study was conducted during the Spring Semester of 1994. A total of 300 questionnaires were distributed by the course instructor during class time. The courses were conveniently selected to cover different levels of classes. The number of usable responses received were 238, representing a response rate of 79%. More than half the sample took one or two courses while 15% took 5 or more courses. The mean age of the respondents was 22.5 years. The majority of the student GPAs ranged from 2.1 to 2.5 out of 4.00. More than 53% of the students in the sample owned computers. Thirty-six percent of the students were seniors and approximately one-quarter were freshmen. Half the sample had an average degree of access to computers. Ninety percent had a low to average level of experience. The average number of courses taken by students...
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