

Perceived Risk and Segmentation Variables in Traditional vs. Non-Traditional College Courses: An Exploratory Analysis

James L. Thomas
Brent J. Cunningham
Jacksonville State University
Jacksonville, AL

ABSTRACT

This study investigates the possible impact of perceived risk upon college students' selection of nontraditional Learning methods which include Internet-based courses and Distance Learning courses. These Learning methods were also assessed by considering how they were explained by descriptive variables. Results indicate significant relationships between the constructs, supporting previous study findings and logical thought. Results, managerial implications and research implications are included.

KEYWORDS

Perceived Risk, Segmentation, Internet-based Courses, Distance Learning

INTRODUCTION

Integrating new technology into the curriculum is an on-going expectation in most Marketing departments in higher education (e.g., Ueltschy 2001) and, indeed, a recent special issue of the Journal of Marketing Education (April 2001) highlights the importance of integrating technology into Marketing Education. This new technology comes in many forms with the more prevalent being Internet-based courses and other Distance Learning courses. It seems to these researchers that the main goals for incorporating technology in curriculum are, first and foremost, increasing the efficiency

of knowledge transfer and offering the perception of up-to-date methodology. Also, students rely on their professors for the overview, or cross-industry view, of how technology will be impacting their professional lives. While some students will themselves be experts in some aspects of the hardware, software or technology, few, if any, will be able to integrate their technical understanding with the basics of Marketing theory and strategy on their own. This situation thus essentially “demands an update of student training and academic literature on the electronic-age Marketing” (Hamill 1997).

Early uses of Distance Learning, however, have suffered from poor usage rates of facilities and much resistance among prospective faculty participants (Threlkeld 1993). Concerns have been voiced relating to a lack of institutional support to train, compensate, and reward faculty efforts in Distance education (Olcott 1996; Olcott and Wright 1995), in addition to a lack of quality control and ineffectiveness of delivery (Carl 1991). Further, there has been concern that developing off-site courses will diminish the demand for and enrollments in on-site courses (Carl 1991).

As faculty we have been called to keep up with this pace of the technological march by re-skilling with these new teaching technologies (Ives and Jarvenpaa 1996). However, the consideration of the impact on the students and their perceptions seems to have been lost in the wake of this pedagogical shift. This paper looks at students’ levels of perceived risk in an attempt to discover differences between those who enroll in Internet-based and Distance Learning courses (non-traditional) as opposed to those who do not enroll in such courses (traditional).

Schuemer (1993) noted that the traditional student is 18-22 years old, attends a university full time immediately following high school, and lives on or near campus.

However, Carl (1991) reported that student profiles have changed dramatically over the last 20 years. As the economics of education and socioeconomic trends have evolved, students have been forced to complete their college education in nontraditional ways. For example, many working teachers continuing their education can attend courses only at night or during summer terms (Charron & Obbink, 1993). Working professionals often must attend classes in urban/suburban centers on weekends or evening to comply with work and time limitations.

Nontraditional and off-campus students have already altered the college scene tremendously (Carl, 1991), and it is essential to recognize that those students' needs, wants, expectations, and perceived risk vary from those of the traditional students. In the present study, we investigated non-traditional (specifically Internet-based and Distance Learning) courses targeted to graduate and undergraduate business students.

CONCEPTUAL DEVELOPMENT AND DEFINITIONS

Non-Traditional (Distance Learning & Internet-based) Education

Distance Learning tends to have as many connotations as there are applications of this teaching method. Historically, offering a Distance Learning course within your department translated into your department offering correspondence courses. In an attempt to establish the scope of Distance Learning, we considered the following definitions a basis for proposition development and analysis:

Distance Learning is education that is accessible at a time, place, location and pace that is convenient to the user. It can come in many forms; over phone lines, on CDROM, over the Internet or through a video camera.” (Mangan 2001, p. 30)

Thus, Internet-based courses are just one form, though a very popular one, of Distance Learning. The popularity and growth of Internet-based courses were the primary reasons for separating out this form of Distance Learning in this study. Also because of Internet popularity and the evolution of audio, video and other computer technologies, the correspondence (snail mail) connotation of Distance Learning has given away to a more state-of-the-art view. A myriad of forces are behind these new modes of Learning. Just a sample of these forces are: convenience; reduction in travel time; less work time lost at jobs; accessibility for learners in remote areas; and cutting edge technology incorporated in Learning experience.

Perceived Risk

Perceived risk is a central construct in many consumer behavior studies. Quite often, such risk can be the driving determinant of a consumer's choice between brands or even whether or not to purchase (Bettman 1973; Kaplan, Szybillo, and Jacoby 1974; Campbell and Goodstein 2001). Research indicates that as the level of perceived risk increases, consumers tend to become more risk-averse (Bettman 1973).

As the use of new, non-traditional course methods increases, it is conceivable that some students would perceive higher levels of risk than others. Those perceiving lower levels of risk would be more likely to enroll in courses using non-traditional formats such as Internet-based classes. In order to test this concept more closely, the present study relied upon the foundation established by Batra and Sinha (2000) in their study of the impact of consumer level factors upon the success of private label brands. Their study examined the impact of the various facets of perceived risk upon such brands. Specifically, these authors noted that the determinants of perceived risk include, "the

consequences of making a purchase mistake,” the degree of quality variation,” and the “search vs. experience nature of the product.”

Similarly, the present study examined students’ choices of course format based upon these determinants of perceived risk using modifications of the scales employed by Batra and Sinha (2000). In addition, a specific element of perceived risk, social risk, associated with non-traditional course format choices was also measured a employing scale offered by Laurent and Kapferer (1985).

METHODOLOGY

The data collected to test the propositions were gathered by means of a self-administered questionnaire. For the purposes of respondent error reduction, the survey instrument not only began with clear instructions, but also the following definitions of the traditional and nontraditional forms of classes:

Traditional Class - The “typical” college class in which students are present in the same room as the instructor.

Internet Class - A college class in which all information transfer and all interactions between the students and the instructor occur on computers via the Internet.

Distance Class - A college class in which all information transfer and all interactions between the students and the instructor occur via television broadcast technology. The students, while they are in real-time contact with the instructor, are not in the same room as the instructor.

The instrument included two 12-item perceived risk scales, one measuring the perceived risk associated with Internet classes and one measuring the perceived risk associated with Distance Learning classes (refer to the Appendix for a sampling of items for each scale). These scales utilized a seven point Likert scale (1=definitely would not agree; 7=definitely would agree). The respondents were also asked classifying questions

which included the following: whether or not a student had taken an Internet-based class or Distance Learning class; their major; demographic data; and lifestyle/attitudes/interests/opinions information.

Sample

The sample for this study consisted of 225 undergraduate and graduate students of a university located in the southern United States. While this did constitute a convenience student sample, it has been noted (Ferber 1977; Cardy 1991) that such a sample is appropriate under two conditions: (1) the items on the scale are pertinent to the respondents who answer them, and (2) the study is exploratory in nature. This study did examine issues relevant to the students (Internet classes and Distance Learning classes) and the sample frame appropriate for this context required a student sample; thus the items on the scales were pertinent to the students. Additionally, this study is one of the first to obtain perceptions of and compare Internet-based and Distance Learning classes; hence, it is exploratory in nature.

Of those students completing the survey: 18% had been enrolled in an Internet-based college course; 16.5% had been enrolled in a Distance Learning course; and two-thirds of those taking nontraditional (Internet-based and Distance Learning) courses had taken only one. For a summary of these and other sample characteristics please refer to the table in the Appendix.

Propositions

As noted by Phillips and Peters (1999), when Distance-Learning research was in its infancy a number of questions needed to be addressed to further our understanding of the Distance Learning process. These questions included inquiries in

inhibitors/enhancers of interactions, students' feelings of removal from the educational process, instructor's participation, satisfaction levels, motivation, and expectations.

Many of these same questions seemed to have arisen with Internet-based courses as well.

Westbrook (1993) found that satisfaction levels among Distance Learning students appears to be high because the format affords them reasonable opportunities to advance their education. Thus, one would surmise that students who have experienced non-traditional formats would tend to perceive less risk of making a purchase mistake in the selection of courses offered in this format.

P₁: Users of non-traditional formats will tend to perceive lower levels of purchase mistake risk associated with such formats than non-users.

Molly and Draper (1996) discovered that Distance Learning students perceived the Distance-Learning format most effective, sometimes indicating that these courses were the only source of needed information. This indicates that such students perceive non-traditional course formats as offering potentially higher quality than traditional formats. Given this finding, it is reasonable to propose that prior users of non-traditional formats would perceive them of higher quality and would rely more upon their experience with such formats than those who have not been students in such course formats. Thus,

P₂: Users of the non-traditional format will tend to perceive higher levels of quality in such formats than non-users.

P₃: Users of the non-traditional format will tend to rely more upon their prior experiences with such formats than non-users.

Prior studies indicate that consumers rarely consider just the risk associated with the attributes of the product; rather product attributes and the context in which the

product is to be used or consumed are also considered (e.g., Campbell and Goodstein 2001). Thus, one would expect that in their choice of course format, college students would consider not just the probability of mispurchase, quality, and experience vs. search, but also the risk associated with peer assessment of such choices. Therefore,

P₄: Users of the non-traditional format will tend to associate lower levels of social risks with such formats than non-users.

Previous studies (e.g., Batra and Sinha 2000), after examining the determinants of perceived risk individually, have additionally examined it as an aggregate construct. This study follows this example in the examination of the differences between users and non-users of the non-traditional format in terms of aggregate perceived risk.

P₅: Users of the non-traditional format will tend to associate lower levels of perceived risk with such formats than non-users.

As Sullivan (2001) and many other researchers (see Creed, 1997; Keisler, Siegal & McGuire, 1984; Palloff & Pratt, 1999; White & Weight, 1999) have discovered, users of non-traditional courses have distinct demographic differences from tradition students. Consistent demographic clusters tend to develop concerning students of nontraditional courses.

P₆: Significantly different demographic clusters of nontraditional course users can be identified.

RESULTS

Assessment of the various scales, following Churchill's (1979) eight-step process, involved reliability assessment through the use of coefficient alpha (Cronbach 1951), and exploratory factor analysis. Principal components factor analysis was used with varimax

rotation to determine the minimum number of factors accounting for variance within each measure. The loading of a scale item on any factor was indicated by a minimum value of 0.40; and as suggested by Hair, Anderson, Tatham and Black (1992), a minimum Eigenvalue of one was used as a criterion for creating the dimensions. The results of this analysis indicated that each of the scales performed to this standard. Specifically, the question designed to measure proximity negatively affected the reliability of the scale and was subsequently deleted from the analysis. The final step was to calculate a final Cronbach's (1951) alpha. Ideally, the coefficient alpha for a purified scale should exceed 0.7 (Nunnally 1978), each scale exceeded this standard. These alpha's may be viewed in the Appendix.

Proposition 1 examined the respondents' perceptions regarding the consequences of making a purchase mistake in selection of non-traditional course formats. ANOVA was used to test the difference between those who have taken such courses and those who have not. A significant difference ($p = .039$) was discovered between those who have taken only traditional courses and those who have taken non-traditional courses (means = 30.2 and 27.7, respectively). Hence, Proposition 1 was supported.

Proposition 2 dealt with the perceptions of quality between the two groups of students. ANOVA was again used to test for significant differences. A significant difference ($p = .008$) was found. Interestingly, those who had taken non-traditional format courses perceived a lower level of quality (mean = 25.7) than their counterparts (mean = 28.7). Therefore, Proposition 2 was not supported.

The use of prior experience versus search was the subject of Proposition 3. ANOVA did not discover significant differences between the two subject groups ($p = .999$). Thus, Proposition 3 was not supported.

Proposition 4 examined the level of social risk perceived by the respondents. ANOVA revealed a significant difference between the two groups ($p = .025$). Students who had experience in non-traditional course formats perceived a lower level of social risk (mean = 15.9) than those who have not experienced these formats (mean = 18.8). Proposition 4 was therefore supported.

Proposition 5 dealt with the aggregate level of risk perceived by the respondents. ANOVA found a significant difference between the two groups ($p = .000$), with users of non-traditional formats perceiving lower levels of risk (mean = 82.09) than their traditional format counterparts (mean = 91.4). Thus, Proposition 5 was supported.

As with previous studies and intuitive thought, support for Proposition 6 was found. Utilizing three separate multivariate analysis methods (cluster analysis, factor analysis, discriminant analysis), two clusters were consistently identified. These clusters were coded/classified as nontraditional students (those who have taken Distance Learning courses, Internet-based courses or both) and traditional students (those who have not taken these type courses). According to Churchill (1991) this coding decision should be fundamentally dependent upon the type of variables that are considered and on what theory suggests about how the variables should affect the natural grouping of objects. This assignment of codes holds true to this charge.

With cluster analysis not only were similar groups identified, but also the characteristics possessed by these groups were discovered. These characteristics were

supported by follow-up descriptive statistics including frequencies and crosstabulations.

The resulting clusters exhibited internal (within cluster) homogeneity and external

(between cluster) heterogeneity. The two clusters were described as follows:

Traditional Cluster - twenty two (22) year old females who had never been married and did not work

Nontraditional Cluster - thirty nine (39) year old males who were married and worked full-time

With these results Proposition 6 was supported.

MANAGERIAL IMPLICATIONS

For marketing managers to successfully fill their target markets' needs, they must know who the customer is. The results of this study indicate that students do differ in terms of perceptions of risk and the dimensions thereof associated with non-traditional course formats. It is important for administrators and faculty to recognize these differences in order to optimize these new pedagogical technologies. Additionally, the findings regarding the segmentation variables allow universities to not only understand who is currently enrolling in non-traditional format courses, but more importantly those who are not. Therefore, this information can be used to improve promotion of these courses; specifically in addressing the negative perceptions held by the non-user segment. Additionally, this study indicates that as non-profit organizations, universities can employ many of the same marketing techniques used by profit-making firms (i.e., segmentation, etc.) This allows universities to better address the changing needs of their student bodies. Properly identifying and understanding the users of the nontraditional teaching methods will provide university marketing managers with the competitive advantage needed to successfully compete in a dynamic market which desires new, more convenient forms of education.

As for the propositions not supported (2 and 3), managerial insights can still be garnered. The perception of quality of nontraditional courses did not differ between those that had taken a nontraditional course and those that had. This result is also evident in that two-thirds of those that had taken a nontraditional course had taken only one. With the one-university sample and proposition 2 not being supported, the lack of support for proposition 3 (prior experience versus search) is also explained. Thus, lower perceived quality of nontraditional courses and the lack of multiple nontraditional course participation by the sample may be attributed to many other influences other than delivery format (i.e., poorly designed and executed nontraditional courses, quality of instruction/faculty, lack of university support for nontraditional courses).

FUTURE RESEARCH

There seems to be very distinct and unique differences between students of traditional teaching methods and students of nontraditional teaching methods. Identifying and understanding these differences seems to be fertile ground for additional studies in Internet/Distance Learning courses. This study was limited on the number of differentiating variables investigated. Future studies may want to investigate other variables, such as demographic, psychographic (AOI inventories, lifestyles) usage rates, further dimensions of perceived risk, involvement and knowledge. Additionally, this study did not examine success rates in non-traditional course. Hence, future studies should attempt to determine the antecedents of success in these courses. Finally, this study was also limited to one university. Broader-based samples will need to be the norm in future studies in order to rule out variables attributing to the differences other than those under investigation.

Even though the advent and nature of the nontraditional student has been widely recognized over the last couple of decades in higher education, no studies have investigated and presented areas of difference, profiles beyond intuitive deduction, and research beyond mere speculation.

Originally written for The Atlantic Marketing Association.

REFERENCES

- Batra, Rajeev and Indrajit Sinha (2000), "Consumer-Level Factors Moderating the Success of Private Label Brands," *Journal of Retailing*, 76 (2), 175-91.
- Bettman, James R. (1973), "Perceived Risk and Its Components: A Model and Empirical Test," *Journal of Marketing Research*, 10 (May), 184-90.
- Campbell, Margaret C. and Ronald C. Goodstein (2001), "The Moderating Effect of Perceived Risk on Consumers' Evaluations of Product Incongruity: Preference for the Norm," *Journal of Consumer Research*, 28 (December), 439-49.
- Cardy, Robert L. (1991), "The Applied Value Of Laboratory Research," *Management Communication Quarterly*, 5(1): 111-19.
- Carl, Dianna (1991), "Electronic Distance Learning: Positives Outweigh Negatives," *T.H.E. Journal*, May, 67-70.
- Charron, Elizabeth and Kim Obbink (1993), "Long Distance Learning: Continuing Your Education Through Telecommunications," *The Science Teacher*, March, 56-60.
- Churchill, Gilbert A. (1991), *Marketing Research: Methodological Foundations*, Orlando: Dryden.
- Creed, T. (1997), "Extending The Classroom Walls Electronically," in W. Campbell & K. Smith (eds.), *New Paradigms For College Teaching*, Edine, MN: Interaction, p. 149-184.
- Cronbach, L.J. (1951), "Coefficient Alpha and Internal Structure of Tests," *Psychometrika*, 16 (September), 297-334.
- Ferber, R. (1977), "Research By Convenience," *Journal of Consumer Research*, (4), 57-8.
- Hamill, Jim (1997), "The Internet And International Marketing," *International Marketing Review*, 14 (May-June), 300-324.
- Ives, Blake and Sirkka L. Jarvenpaa (1997), "Will The Internet Revolutionize Business Education And Research?" *Sloan Management Review*, 37 (Spring), 33-41.
- Kaplan, Leon B., George J. Szybillo, and Jacob Jacoby (1974), "Components of Perceived Risk in Product Purchase," *Journal of Applied Psychology*, 59 (June), 287-91.
- Kiesler, Sara, Jane Siegel, and Timothy McGuire, (1984), "Social Psychological Aspects Of Computer-mediated Communication," *American Psychologist*, 39, 1123-1134.

- Laurent, Gilles and Jean-Noel Kapferer (1985), "Measuring Consumer Involvement Profiles," *Journal of Marketing Research*, 22 (February), 41-53.
- Mangan, Pat (2001), "What Is Distance Learning?" *Management Quarterly*, 42 (3), 30-35.
- Molly, L and D. Draper (1996), "Examining The Viability Of Distance Education As An Instructional Approach," *Journal of Continuing Higher Education*, 45 (3), 12-21.
- Olcott, D. J., Jr. (1996), "Aligning Distance Education Practice And Academic Policy: A framework For Institutional Change," *Continuing Higher Education Review*, 60 (1), 27-41.
- Olcott, D. J., Jr. and S. J. Wright (1995), "An Institutional Support Framework For Increasing Faculty Participation In Postsecondary Distance Education," *American Journal of Distance Learning*, 9, 5-17.
- Palloff, R. and K. Pratt (1999), *Building Learning Communities In Cyberspace: Effective Strategies For The Online Classroom*, San Francisco: Jossey-Bass.
- Phillips, Melodie R. and Mary Jane Peters (1999), "Targeting Rural Students With Distance Learning Courses: A Comparative Study of Determinant Attributes And Satisfaction Levels," *Journal of Education for Business*, 74 (6), 351-356.
- Schuemer, R. (1993), "Some Psychological Aspects Of Distance Education," *Institution for Research into Distance Education*, Fern University, Hagen, Germany.
- Sullivan, Patrick (2001), "Gender Differences And The Online Classroom: Male And Female College Students Evaluate Their Experiences," *Community College Journal Of Research And Practice*, 25, 805-818.
- Threlkeld, R. M. (1994), "Rural Voices: Conversations About Distance Learning With Four Rural California Schools," *Education Journal*, 78, J-1-J-17.
- Ueltschy, Linda C. (2001), "An Exploratory Study Of Integrating Interactive Technology In The Marketing Curriculum," *Journal of Marketing Education*, 23 (April), 63-72.
- Westbrook, T. (1993), "Changes In Students' Attitudes Toward Graduate Business Instruction Via Interactive Television," *The American Journal of Distance Learning*, 11, 55-69.
- White, K. and B. Weight, (1999), *The Online Teaching Guide: A Handbook Of Attitudes, Strategies, And Techniques For The Virtual Classroom*, Needham Heights, MA: Allyn & Bacon.

APPENDIX

Scales Employed in the Study

Degree of Quality Variation in Category; Batra and Sinha (2000); $\alpha = 0.82$

Internet (Distance) classes and Traditional classes are basically the same in quality.

I don't think there are any significant differences between Internet (Distance) classes and Traditional ones in terms of quality.

There are only minor variations between Internet (Distance) classes and Traditional ones in terms of quality.

“Search” vs. “Experience” Nature of Category; Batra and Sinha (2000); $\alpha = 0.75$

I don't need to actually try an Internet (Distance) class to know how good it is – the information in the catalog tells me everything I need to know.

For Internet (Distance) classes, the written description in the catalog or syllabus covers all the information that is important to how I choose a class.

Probability of a Mispurchase; Laurent and Kapferer (1985); $\alpha = 0.79$

Whenever one takes an Internet (Distance) class, one never really knows whether such a class is the one that should have been taken.

When I am faced with taking an Internet (Distance) class instead of a Traditional class, I always feel at a bit of a loss to make my choice.

Choosing between an Internet (Distance) class and a Traditional one is rather complicated.

When one enrolls in an Internet (Distance) class, one is never certain of one's choice.

Perceived Symbolic/Sign; Laurent and Kapferer (1985); $\alpha = 0.86$

You can tell a lot about a person by the type of class (Traditional or Internet (Distance)) he or she chooses.

The type of class I take (Traditional or Internet (Distance)) gives a glimpse of the type of man/woman I am.

The type of class you take (Traditional or Internet (Distance)) tells a little bit about you.

<u>Sample Profile Item</u>	<u>%</u>
Enrolled In An Internet-based College Course	18.0
Enrolled In A Distance Learning Course	16.5
Taken Only One Internet Course	66.7
Taken Only One Distance Learning Course	63.9
Business Major	79.6
Between 18 and 25 Years Of Age	79.2
Female	55.1
Male	44.9
Juniors And Seniors	80.8
Graduate Students	16.9
Caucasian	79.1
African American	12.0
Parents As Primary School Funding Source	26.3
Scholarships As Primary School Funding Source	23.2
Loans As Primary School Funding Source	26.8
Myself/Employment As Primary School Funding Source	19.7
Full-time Employment	36.0
Part-time Employment	41.8
Never Married	62.2
Income Less Than \$10,000	20.6