

Identifying Precursors To Student Defection

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Abstract

Recently, student retention has surfaced as a priority for many academic institutions. While institutions regard retaining students as important, little has been done to create a system that helps institutions “flag potential defectors” prior to leaving. By identifying “at risk” students, intervention steps can be taken to reduce the likelihood of defecting. The author proposes that institutions develop data mining procedures, similar to those used in business, to identify potential defectors. This data should include both “hard” and “soft” predictors of student defection. An added benefit of this data is that it can be used by institutional advancement, once students become alumni, to improve fundraising efforts by enabling the development of “one-to-one” fundraising/marketing programs.

Introduction

As many colleges experience a shrinking budget, it is no wonder that the issue of student retention has surfaced as an important area of concern to academic administrators. Retaining students can be an important issue that is often directly or indirectly linked to institutional funding. Much has been written about student retention in the academic community and customer retention in the business community. However, there seems to be little crossover between these two streams of research. The academic community may benefit from examining the literature on customer retention. One area of interest is that of developing processes to identify potential customer defectors prior to the time they decide to leave. Banks and insurance companies have long made assessments of customer relationships using data analysis techniques (Ryals 2003). Businesses use these data mining techniques to help “flag” at risk buyers. Potential “red flags” could include “hard data” elements such as changes in a customer’s usage patterns or gaps in product usage and “soft data” elements such as low customer satisfaction scores on company surveys. Once potential defectors are identified, businesses take intervention steps to try to retain the customers. Specialists contact “at risk” customers in an attempt to solidify their relationship with the selling company.

Similar to businesses, colleges have access to a wide variety of “hard” data on students. Examples of “hard” data that may be linked to student retention include student GPA, student mid-term grades, student use of academic advising, student record of on-time financial payment, and use of student loans (Hurd 2000, Lau 2003). Student retention has also been linked to many “soft” constructs, such as feeling connected, feeling integrated into the community, and feeling academically competent (Sydow and Sandel 1998). This data could be used to help them build “customer relationship” profiles of students.

While “hard data” is found at most colleges, the databases often do not integrate the data in a useful way at the student level. Academic institutions seldom capture the “soft” constructs that have been shown to be related to student retention in a usable format at the individual student level. Additionally, academic institutions have not leveraged the research of “soft” constructs that businesses have linked to customer retention. This paper examines a variety of “soft” constructs linked to customer retention/defection in a business setting and suggests that they may prove useful in reducing student defection. Additionally, this paper makes suggestions for capturing this data and linking “soft” and “hard” data so that academic institutions can identify potential defectors and take intervention steps.

Antecedents to Defection – “Soft Constructs”***Commitment- Three Dimensions***

Studies in student retention have found that commitment to the institution is an integral element in students remaining (Fisher 1989). Commitment has also been found to play an important role in moderating the influence of homesickness (Rickinson and Rutherford 1995). Commitment in student retention research is generally viewed as being a global, uni-dimensional construct. In marketing, researchers have also found that commitment is an essential component of the relationship maintenance process (Morgan and Hunt, 1994). However, commitment is often viewed as being multi-dimensional, consisting of three components: affective commitment, continuance commitment and obligation commitment (Kumar, Scheer, and Steenkamp, 1995). Researchers have found that these different dimensions of commitment play important roles in predicting customer defections (Barksdale, Johnson and Suh, 1997). Similarly, examining three dimensions of student commitment may provide greater insight into identifying “at risk” students.

Affective commitment to the institution is viewed as the degree to which a student feels emotionally attached to the academic institution. The higher the affective commitment, the less likely students should be to defect. Affective commitment can be developed in a variety of ways. For example, some students may be emotionally attached to an institution because of their affinity for the college football or basketball team. Other students may feel a sense of affective commitment because they have developed a strong attachment to certain professors, friends, or organizations at the institution. How affective commitment is formed will vary by student. What is important though, is that affective commitment is formed. Students who have a strong affective commitment to the institution will remain because they *want* to stay.

Continuance commitment refers to the extent that students feel they need to remain at the institution. Students may feel that they need to remain at an institution because of financial reasons or geographic proximity. They may feel the need to remain because the institution offers a specialized major not available elsewhere. Higher levels of continuance commitment should be associated with a greater likelihood of a student remaining at the institution. Students with a strong continuance commitment remain because they *need* to stay.

Obligation commitment examines the extent to which a student feels a sense of duty to remain at the institution. Obligation commitment may result from a variety of sources. One common example of obligation commitment is that a student’s parents graduated from the institution, so the student feels compelled to continue the family tradition. Parental expectations may also create high levels of obligation commitment. Parents may have an expectation that their children will graduate from the college in which their child is currently enrolled. Another source of obligation commitment is the peer group with which students associate. Students may feel a sense of loyalty to remain because of their involvement with formal or informal groups with which they have become involved. Higher levels of obligation commitment should be associated with increased likelihood of a student remaining. Students with a strong obligation commitment remain because they feel they *ought* to stay.

Investment in the Relationship

A precursor to commitment to a relationship is the extent of investment one has made in the relationship (Rusbult 1980). Rusbult (1980) examines investment in terms of the amount of “non-recoverable costs” one has invested. For example, resources such as time, emotional investment, money, and self-disclosure have been linked to investment (Barksdale, et. al., 1997). There are both “hard” and “soft” costs associated with leaving an existing supplier. In a business setting, these costs include learning about other suppliers’ product offerings, emotional costs, cognitive effort, financial costs, social risks and psychological risks (Fornell 1992; Heide and Weiss 1995). In order for a buyer to defect, the advantages of switching to a new supplier must outweigh the cost of leaving the current supplier (Jackson 1985).

The concept that buyers incur some type of costs when switching suppliers is not new, however, there has been little research in the student retention literature regarding the role it plays in relationship termination. From a

student perspective, surrogates for investment in the relationship may include “non-recoverable costs” such as time spent involved in student organizations, time spent developing friendships, time spent in classrooms, and time spent with teachers and advisors. “Financial” costs are another example of non-recoverable costs. Financial risks may include the inability of a student to transfer courses to a new institution, which, in essence, results in a loss of money and time. Emotional costs are also important elements that students may consider. For example, leaving friends that one has developed makes departing more difficult. The social risk of not knowing if one will fit into a new setting is an important element to be weighed. Prior to defection, students have probably invested a great deal of cognitive effort into making the “stay” or “go” decision. Consequently, the greater and deeper the student investment in the relationship with the institution will be associated with greater likelihood of a student remaining at the institution.

Desirability and Availability of Alternatives

Social researchers have found that the number and desirability of relationship alternatives available to an individual will influence whether or not an individual will remain in a relationship (Rusbult 1980). The availability of alternative suppliers is one of the most commonly researched variables in business-to-business relationship marketing (Wilson 1995). A variety of researchers in this area have found that the desirability and availability of alternatives are very important in the decision to continue the relationship (Anderson and Narus, 1990; Morgan and Hunt, 1994). Business buyers will assess the number and strength of the alternatives, and weigh that against their current supplier. If a supplier is superior to the current supplier, then a buyer is at risk of defecting. Conversely, if the buyer does not perceive alternative suppliers to have a competitive advantage, the buyer is more likely to remain in the relationship.

From a student retention perspective, the desirability and availability of alternatives may play a role in whether or not a student defects. A student may view other institutions as being more desirable for a variety of reasons. It may be that it has a better academic reputation, has a better sports team, or the student may think that they have a better opportunity for social experiences. However, the student will likely weigh those factors against a variety of considerations. One consideration is whether the student feels that s/he is likely to be accepted socially at the new institution. The student not only needs to find that the alternatives are desirable, but that they are available to the student. For example, student GPA will be a determining factor in whether or not the desirable institution is really an alternative that is available to the student. Additionally financial considerations will play a role in determining whether the alternative is available. It may be likely that students who perceive the alternatives to their current institution to be very desirable, and very obtainable, are at a greater risk of defecting than those who do not.

Satisfaction

Satisfaction has been accepted by the business community as being important to the overall success of a firm, and as an important factor in retaining customers. Numerous companies measure customer satisfaction at regular intervals. Some companies take customer satisfaction so seriously that they have instituted compensation plans rewarding customer contact organizations for attaining high customer satisfaction ratings. Academic research indicates that satisfaction plays an important role in building long-term relationships (Wilson 1995). It is also fundamental to the well being of customers and to the profits of suppliers (Oliver 1999; Westbrook 1981).

Satisfaction can be examined in two ways; as transaction-specific or as cumulative (Anderson, Fornell and Lehmann 1994). Transaction-specific satisfaction provides information about a particular transaction. For example, if a customer has an encounter with a salesperson, they will have a sense of satisfaction (or dissatisfaction) with that particular encounter. Cumulative satisfaction is more far-reaching and more important in building relationships than transaction-specific satisfaction. Cumulative satisfaction is a fundamental indicator of a firm's prior, current and anticipated future performance (Anderson, et. al, 1994). Cumulative satisfaction is more appropriate in the context of long-term, buyer-seller relationships since a firm may be dissatisfied with a specific event, yet satisfied with the overall relationship (Hirschman 1970; Ping 1993). Cumulative satisfaction is typically viewed as an emotional state that occurs in response to an evaluation of the buyer's cumulative interaction experiences (Crosby et. al 1990).

Similarly, cumulative satisfaction may be likely to be more important in student retention than transaction-specific satisfaction. For example, a student could have a bad experience with a staff person, but that transaction-specific event should not have a major impact on the student's satisfaction with the institution. However, if the student continues to have a series of bad experiences with staff, faculty, and/or other students, then the cumulative result of these transaction-specific events could lead the student to develop defection intentions. Students who do not experience high levels of cumulative satisfaction may begin the process of searching for a new institution. Conversely, students who are extremely satisfied with their cumulative experiences are more likely to remain.

While cumulative satisfaction is important in the area of customer retention, the area of employee turnover indicates that there are specific components of satisfaction that are linked with employee defection in addition to cumulative satisfaction (Sager et. al, 1988). Specifically, satisfaction with work, satisfaction with co-workers, satisfaction with pay, satisfaction with supervisors, and satisfaction with promotion have been linked as being important to employees' willingness to remain with the organization.

It is plausible that students not only have cumulative satisfaction with an institution, but also satisfaction with different areas within the institution. Similar to employee turnover, student satisfaction may be linked to a variety of specific components. Student satisfaction with course work may be similar to an employee's satisfaction with work. If students find the learning component of the course acceptable, appropriate and understandable, then they may be more likely to be satisfied with their coursework.

Satisfaction with student social network may be analogous to an employee's satisfaction with co-workers. A large network is not necessarily an indicator of satisfaction, but the strength of the relationships will likely be the important indicator. Students who enjoy their interactions with their peers are more likely to be satisfied with their social network. Student satisfaction with their major and with expected career opportunities upon graduation might be similar to employee satisfaction with pay. While some students do attend college for the sheer enjoyment of learning, a large number of students attend so that they can find gainful employment upon graduation. If students believe that their selected major will help them attain their future career goals and have realistic expectations about the monetary implications of their chosen career, then they are more likely to be satisfied with their major and their expected career opportunities. It may be possible that students who utilize career services also would have a higher satisfaction with their major. Student satisfaction with their instructors and advisors may parallel employee satisfaction with supervisors. While students do not have a direct reporting relationship with instructors, they must rely upon them to monitor their progress, provide feedback, and ultimately make a pass/fail decision. Advisors may also be relied upon as being important to students. Finally, student satisfaction with their expected successful completion of a series of courses, and ultimately their expected graduation may be similar to employee satisfaction with promotion.

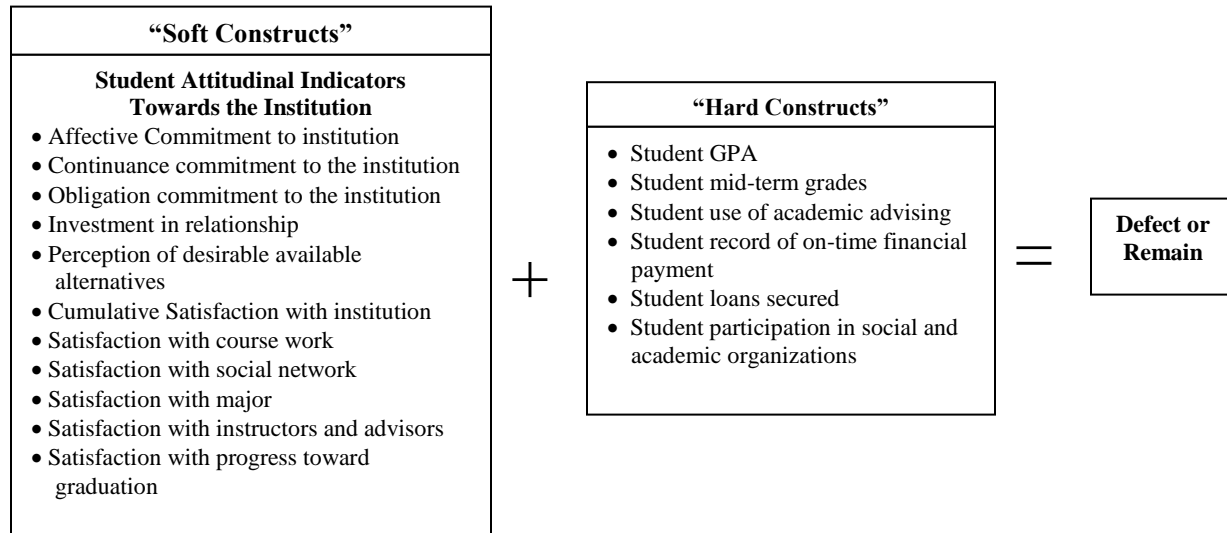
Data Mining and Implications

The soft constructs mentioned in the previous sections are expected to play a role in identifying potential student defectors. However, most institutions do not have access to student perceptions regarding these soft constructs. Consequently, institutions may benefit from gathering this type of data at the student level. One-way in which this information may be gathered is by having at risk student groups, such as freshmen, fill out a questionnaire prior to registering for courses for the subsequent semester. This can be done online, as many institutions now allow on-line student registration for courses. Colleges could simply not allow the student to register prior to completing the questionnaire. In addition to determining the soft constructs discussed above and show in Figure 1, institutions should also integrate this information with the hard data that they have individual students, such as student GPA, student mid-term grades, student use of academic advising, student record of on-time financial payment, and use of student loans. Additionally, institutions should gather information regarding student involvement in social and academic organizations as an additional surrogate of student connectivity.

By having this information associated with each student, institutions can then begin to conduct data mining techniques, such as neural networks, discriminant analysis, and regression to determine which indicators provide the best assessment of potential student defectors. Once potential defectors are identified, colleges need to have a

program in place to try to retain those defectors that are in good standing with the institution. This program may take a variety of forms. For example, senior students and/or academic advisors could be trained to make an initial contact with the potential defector. Through this contact, universities could help the student make an action plan that will lead to greater student commitment.

Figure 1 – Indicators of Student Defection



Future Applications

While we have focused on identifying potential defectors and retaining students, the gathering the information indicated above has more far reaching implications. Specifically, this information should be used once students graduate to help colleges provide targeted, relevant information to alumni. For example, if a college knows that the alumni was a former fraternity member and science club member, the newsletter sent to the alumni should be customized to reflect new information about those clubs. By engaging in “mass customized, one-to-one marketing”, institution should be able to improve the quantity and quality of their fund raising efforts over time.

References

1. Anderson, Eugene W., Claes Fornell, and Donald R. Lehmann (1994), “Customer Satisfaction, Market Share, and Profitability: Findings From Sweden,” *Journal of Marketing* 58 (July), 53-66.
2. Anderson, James C. and James A. Narus (1990), “A Model Of Distributor Firm And Manufacturer Firm Working Partnership,” *Journal of Marketing* 54 (1), 42-59.
3. Barksdale Jr., Hiram C., Johnson, Julie T. and Suh, Munshik (1997), “A Relationship Maintenance Model: A Comparison Between Managed Health Care and Traditional Fee-For-Service,” *Journal of Business Research*, 40, 237-247.
4. Crosby, Lawrence A., Kenneth R. Evans and Deborah Cowles (1990) “Relationship Quality in Services Selling: An Interpersonal Influence Perspective,” *Journal of Marketing* 54 (July), 68-81.
5. Fisher, S. and Hood, B. (1987), “The Stress of the Transition to University: A Longitudinal Study of Vulnerability to Psychological Disturbance and Homesickness,” *British Journal of Psychology*,” 78, 425-441.
6. Fisher, S., *Homesickness, Cognition, and Health*, 1989, London, Erlbaum.
7. Fornell, Claes (1992), “A National Customer Satisfaction Barometer: The Swedish Experience,” *Journal of Marketing* 56 (January), 6-21.

8. Heide, Jan B. and Alan M. Weiss (1995), "Vendor Consideration and Switching Behavior for Buyers in High-Technology Markets," *Journal of Marketing* 30 (July), 30-43.
9. Hirschman, Albert O. (1970), *Exit, Voice and Loyalty*, Cambridge, Massachusetts: Harvard University Press.
10. Hurd, Hillary (2000), "Staying Power: Colleges Work to Improve Retention Rates," *Black Issues in Higher Education*, 17 (18).
11. Jackson, Barbara Bund (1985), "Build Customer Relationships That Last," *Harvard Business Review* (November-December), 120-128
12. Kumar, Nirmalya, Scheer, Lisa K. and Steenkamp, Jan-Benedict E.M. (1995), "The Effect of Supplier Fairness on Vulnerable Resellers," *Journal of Marketing Research*, 32 (February), 54-65.
13. Lau, Linda K. (2003), "Institutional Factors Affecting Student Retention," *Education*, fall (124).
14. Meyer, John, Allen, Natalie, and Smith C. (1993), "Commitment to Organization and Occupations: Extension and Test of a Three Component Conceptualization," *Journal of Applied Psychology*, 78, 538-551
15. Morgan, Robert M. and Hunt, Shelby D. "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, July (58), 1994, 20-38.
16. Oliver, Richard L. (1999), "Whence Consumer Loyalty," *Journal of Marketing* 63 (Special Issue), 33-44.
17. Ping, Robert A., Jr., (1993), "The effects of satisfaction and structural constraints on retailer exiting, voice, loyalty, opportunism, and neglect," *Journal of Retailing* 69 (3), 320-353.
18. Rickinson, Barbara, and Rutherford, Desmond (1995), "Increasing Undergraduate Student Retention Rates," *British Journal of Guidance & Counseling*, June, 23 (2).
19. Rusbult, Caryl E. (1980), "Commitment and Satisfaction in Romantic Associations: A Test of the Investment Model," *Journal of Experimental Psychology*, 16, 172-186.
20. Ryals, Lynette (2003), "Creating Profitable Customers Through the Magic of Data Mining," *Journal of Targeting, Measurement and Analysis for Marketing*, 11 (4), 343-346.
21. Sager, Jeffrey K., Rajan P. Varadarajan and Charles M. Futrell (1988), "Understanding Salesperson Turnover: A Partial Evaluation of Mobley's Turnover Process Model," *Journal of Personal Selling & Sales Management* 8, 20-35.
22. Sydow, Debbie L. and Sandel, Robert H. (1998), "Making Student Retention an Institutional Priority," *Community College Journal of Research & Practice*, October/November (220).
23. Westbrook, Robert A. (1981), "Sources of Consumer Satisfaction With Retail Outlets," *Journal of Retailing* 57 (Fall), 68-85.
24. Wilson, David T. (1995), "An Integrated Model of Buyer-Seller Relationships," *Journal of the Academy of Marketing Science*, 23 (4), 335-345.