

CAPTURING COLLEGE STUDENTS AS CUSTOMERS: MEASURING THE SATISFACTION WITH AND PERCEPTION OF ZIP CARD SERVICES

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This study measures the satisfaction and perception of college students regarding the value of a marketing service that attempts to better capture them as customers through the implementation of a ZipCard. The top priority of services both on and off campus are also compared based on their importance to students' needs.

INTRODUCTION

With a rapidly changing environment and degree of competition, high technology has been brought into every organization to facilitate its managerial decisions and enhance its performance of providing goods and services to customers. Even though colleges and universities are considered nonprofit organizations, they still need to use technology in order to simplify their daily operating functions and, in term of marketing, to attract prospective students (customers). The student identification card (ID) is one of the tools through which universities can provide access to several services both on and off campus. The traditional student ID card, which was originally created for the basic purpose of student verification, has the possibility to now consolidate many features onto one card.

Types of Automatic Data Collection (ADC)

There are a number of technologies comprising the automatic data collection family. They all have the same purpose—to accurately and rapidly capture data. The differences lie in the method used to capture and process. The major automatic data collection (ADC) technologies are bar coding,

magnetic stripe, radio frequency data communication, radio frequency identification, voice data collection, machine vision, smart cards, optical character recognition and magnetic link character recognition. The two major uses of data collection types in most colleges and universities are magnetic stripe and smart cards.

Magnetic Stripe

Magnetic Stripe (mag stripe) technology was first used by the financial service industry to identify credit card accounts and as a security measure. This initial utilization of technology has since generated a lot of similar applications, such as Automatic Teller Machines and debit cards used at the point-of-sale.

Magnetic stripe technology encodes data onto tape material using high and low electromagnetic charges. These charges are then read by a decoder that translates them into numbers and letters for identification by a computer. A single magnetic stripe may contain several tracks of recorded data. And it can record a significantly higher quality of information than many other automatic data collection technologies, including bar coding, durability and are relatively high degree of security.

Mag stripe is most frequently used to contain large amount of information or provide access to secured buildings and facilities. Typical used include

The Marketing Management Journal
Volume 10, Issue 1, pages 12-23
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employee ID badges, time/attendance systems, market promotion, programs requiring access to information or individuals gaming and amusement, and vending. Two growth areas for mag stripe in the transportation and industrial sectors: airlines, a rapid rail systems, long distance telephone carriers, Visa and MasterCard, and gas stations.

Technological refinements for mag stripes themselves are being developed to carry more information than ever, AIM USA's Magnetic Stripe Committee has developed a high-coercivity standard governing the use of magnetic stripe cards. High-coercivity magnetic stripe cards are more assistant to extraneous magnetic fields that can damage or erase the information encoded in the stripe.

Smart Card

Smart cards are credit-card size plastic cards embedded with one or more microchips. The cards are programmable and carry large databases. They can also have their own keyboards, liquid crystal displays and internal batteries. Because of their large data carrying capacities, smart cards are ideally suited for multiple services use. A smart card can be used, for example, as a bank card, a frequent buyer card, and a health card all in one because it has the information storage capacity of PC.

The "smart" in a smart card provides security of the user and distinguishes among the multiple services for which a card is used. Smart cards are being used on some college campuses as student ID cards, as a key to residence halls and as debit cards to track meals used against meal plans and purchases at campus bookstores, vending machines and ticket outlets. (Industrial Engineering 1992)

First Use of ATM Machines in Academic Areas

Since 1987, Citibank has marketed their services to the faculty and staff of various colleges and have also offered students a small line of credit on either a Citi MasterCard or Visa. Approximately 25,500 students descended upon Manhattan's Upper West Side to attend Columbia University, Teacher's College and Barnard College in New York City where Citibank branches and automated teller machines (ATM) were

promoted in each semester (Homa 1987). Students moved quickly to services that served their need for a safe place to deposit checks from home and provided a quick way to grab cash for acquiring products and services.

This idea led to *Project Glasnost*, created by Boston College (BC) in 1989. BC was believed to be the first college to bring administrative information to students through the use of automated teller machines (ATM). The main idea was to help students make fewer trips to gather information from several different places on campus. They could simply swipe their ID card through the ATM machine and obtain information about the courses for which students registered, instructors, class rank, grade point average, the previous semester's grades, status of financial aid and the status of the student's account. Moreover, this card was open to many uses, from gaining admission to sporting facilities, to checking books out of a library, even purchasing food at sporting events. The cost and fees of those products and services would be debited from a student's account that they initially deposited with the university (Gibson 1989).

The Development of the Student ID Card

In spring 1990, the University of Maryland (UMD) offered a cash card, or prepaid card which provided their students, faculty and staff with the ability to obtain products and services at about 55 businesses on and off campus such as restaurants, sporting goods store, barber shops, and bookstores. A fee was required for the merchants to pay the company who issued the card in order to participate with the program and have their logo printed on the back of the card. Also, the merchants paid a transaction fee of about 15 cents for each purchase made by a cash card (Litvan 1990).

Several banks, such as Manhattan Bank, also recognized college students as a strong potential market, and they initiated relationships with students to become long-term customers. They dropped the annual fee on student credit cards and made Visa and MasterCards easier to acquire without requiring a prior credit history (Bank Letter 1990 and Kathy 1996). As a result, four leading

credit card marketers—Citibank, American Express, Chase Manhattan, and Discover—reported significant growth in student-card holder, about 36% over 1988-1990 (“Credit Cards” 1991 and “Chase Sweetens” 1990).

Not only did financial institutions tap this potential student market with their products, Xerox Corporation also started entering the college student market with their new super convenience copiers with copy card functions in 1993. They first scattered their copiers throughout the University of Washington campus in Seattle and successfully gained a lot of satisfaction from both students and the university because the copy card makes paying and collecting for copies so much easier and comfortable than using coins (“Cards Make Collecting” 1993). Moreover, MCI and AT&T, the leading telecommunication companies, entered universities with special rate promotions offering students long distance calls and other available services. Campus MCI services was introduced in the summer of 1994. They were designed to provide educational institutions with high-quality, cost efficient telecommunications and business services along with the technological tolls that students, staff and faculty required. The campus MCI umbrella program comprised the following main services:

“Campus MCI Internet,” with up to 28.8 Kbps access speeds, provided reliable network, technical support, advance billing and e-mail. “Campus MCI Masters” was a telecommunication services tool for students and administrators that provided universities with the opportunity to generate revenue for additional students services and, at the same time, accommodate a growing, older, and more independent student body.

“Campus MCI Card” was a multi-purpose, multi-function card that included long distance telephone services, streamlining nearly every campus activity and function involving the exchange of money. The card also served as a student ID and provided entry into dorms and other campus facilities (“MCI Celebrates” 1997).

In December 1996, MCI linked ten new campus with MCI contracts, pushing the number of contracts from 325 since August 1, 1996 (“MCI Goes” 1996) to more than 365 relationships with universities and

colleges around the U.S. such as University of Colorado at Boulder, University of Central Arkansas, Xavier University at Cincinnati, Miami University, and Montana State University (“MCI Announces” 1996). In some cities, such as Sacramento, California, where public transportation is important for students, student ID cards also provided the free rides on light rail and buses on some routes (Staff 1993).

AT&T entered the campus card market in October 1994 when it purchased Ann Arbor, Michigan-based Harco industries. Harco began implementing college card systems more than a decade before and services for more than 60 schools, including Harvard and Ohio State University (Mitchell 1995).

By combining all these convenient features—identification, banking and telecommunications, the first card program was designed by Florida State University (FSU) and the Columbus Bank and Trust company of Georgia in 1991 (“BB&T” 1996 and Roseen 1996). Banking services connected with the FSU card were used by 35 percent of the school’s student population in 1994, and its acceptance has expanded to 200 off-campus location. The features of its card were to deposit or withdraw money at automated teller machines (ATM) both on and off campus, to obtain the products and services from over 20 campus locations, access to vending machines and to buildings, and to make long distance MCI telephone calls.

In 1994, a lot of universities started bringing this new technology into application. A student ID card at Northwestern University could operate vending machines, run copiers and parking meters as well as gain access for students into football games and other university events (Frisble 1994). Norwest in Des Moines, Iowa, sponsored a student debit card at the University of Northern Colorado (UNC) in 1994 to expand its customer base and cross-selling opportunities. The company was testing a program at UNC where it offered Norwest Instant Access Accounts to the school’s 11,000 students. Throughout the year 1994-1995, the company added some more features to its card services, including bill payment services, ATM balance statements, money transfer capabilities that would allow parents to electronically transfer funds from their current accounts to the student accounts, electronic deposit

of financial aid into student accounts, and access to university information via electronic kiosks and telephones.

The nation's largest student debit card program was developed at the State University of New York (SUNY). The SUNY card system served about one million students, faculty and staff at 64 SUNY campuses, as well as Cornell University and the City University of New York. ("Norwest Sponsors" 1994) More than 600 universities and colleges have installed such card-based systems in the last 15 years, according to Diebold Inc.

According to the National Association of Campus Card Users (NACCU) in Baltimore, Maryland, about 500 US Colleges and universities were involved in card services in 1994. The projected possible features that could be added to card services were access parking lots, rooms, meals, bookstores, washer/dryers, off campus vendors, copiers, fax machines, postage machines, tuition payment, course registration, cash withdrawal and deposit of student payroll. Nearly every university was expected to have the high technology student ID card program in the near future ("A Michigan Bank" 1995).

Southwest Missouri State University: ZipCard Services

Southwest Missouri State University (SMSU), located at Springfield, Missouri, started replacing its traditional student ID card with a boldly-colored Zip card in Fall of 1996. There are several features added to the Zip card that can be categorized into two main functions—administrative and value-added functions. Administrative functions include registration services, obtaining academic records—grade point averages, grade points earned—and all other identification purposes needs to verify student status. Using the Zip card for obtaining goods and services provided for academic purposes are normally free of charge, except in certain cases such as library fees due to overdue books borrowed from the library. All students are required to carry their Zip card for this purpose.

There are also administrative functions that are not required for all students. ZipCard system's time management module is designed to simplify personnel management. Advantages of the new time

management module allow supervisors or payroll personnel to view employee records on a monitor for accuracy before they are processed and checked out.

Value-added functions are additional functions that are created for the convenience of the students. These functions include debit card and calling card services, which are the focus of this study. Students are not required to use these services unless they register or apply for these services. The charges will be applied only when the products or services are acquired. Students can apply for the Zip card debit account by initially depositing any preferred amount of \$25 or more at the Bursar's or ZipCard office. The debit ZipCards can be used to purchase snacks at 25 vending machines around campus and other stores.

The vending machines are located in most major buildings and dormitories. For the students' convenience, a Value Transfer Station has been set up at the lobby of the Student Union to make a cash deposit to the ZipCard Account or check account balance. Also, more readers have been installed in the Bursar's Office to speed processing of deposits to ZipCard accounts (SMSU 1996).

The ZipCard security system requires students seeking entry to a building after hours and on weekends to use their ZipCard instead of a key. Eight washers and dryers will be installed with this technology soon. Also, ZipCard readers will be added to a total of 10 copy machines—two in the library, and others dispersed throughout the campus along with some off-campus applications, to be added in the future (Vert 1997).

Purpose of Study

To capture college students as customers, universities should provide services based on their needs. This study examines how well students are satisfied with this new technology that universities provide.

Many universities today try to develop new technology for student ID card to consolidate many features onto only one card. To be able to satisfy the students' needs, not only do on-campus accesses need to be addressed, but off-campus accesses are

also gaining importance. To select beneficial services, universities should examine the needs and perceptions of their students (customers) regarding student ID card usage. Hopefully, this study will help universities understand the problems involved with new card services. More importantly, the data show that a university can provide the right services—essential and worthwhile—and more services to students with more efficient investment with electronic cards. The objectives of this study can be identified accordingly:

1. To determine how efficiently the university and students gain benefits from the new features added to student ID cards?
2. To observe the problems that have occurred or will occur and find the solution to avoid those problems.
3. To rank the priority of the features based on students' perceptions and be able to provide the most important services to students,
4. To inform students about the available features of their student ID cards and improve the media that help students be well-informed.

METHODOLOGY

The study was conducted by initially interviewing persons who are involved in the Zip card services and some current students from both the SMSU and other campuses (e.g., University of Southern California) to develop a model for measuring student ZipCard users' satisfaction and study the variables that affect students' decisions regarding whether or not to use ZipCard services. The survey questionnaire that was created based on the initial interviews, was distributed to SMSU students by two methods—electronic mail (e-mail) and hand distribution—in order to achieve as many response as possible. Another purpose was to help determine which methods should be used in the future to provide a better response rate.

Variables

There are several variables that affected the student's satisfaction with and perception of ZipCard services. They can be classified into two main

categories—universities and student characteristics. University variables include the marketing mix: products, price, promotion and place. Student characteristics consist of cultural, social, personal and psychological factors. The following table describes how these factors have been brought together to create the survey questionnaire.

Background information and the development of student ID card services have been collected from available data in the SMSU library and on-line databases. For example, the published issues of journals, magazines, and newspaper have been examined. The LEXIS/NEXIS database was one of the useful tools for searching documents from the previous years (the 1980s) to present. Finally, on-line databases, such as several university home pages, were investigated to study the existing card services provided by various universities.

RESULTS AND DATA ANALYSIS

Response Rate

Three hundred questionnaires were distributed to SMSU students—150 by e-mail and 150 by hand distribution. This resulted in 134 responses, which is 44.67% of total distribution. Specifically, 150 questionnaires were sent by e-mail to randomly selected addresses shown in the SMSU student directory with clear instructions for filling out and returning questionnaires. Of the total e-mail returned questionnaires, 4 (2.67%) of 23 (15.33%) questionnaires were returned with incomplete data, which left 19 (12.67%) questionnaires usable.

Of the hand distributed questionnaires distributed, 111 (74%) questionnaires were received with 102 (68%) completed questionnaires usable for analysis. In conclusion, hand distribution method appears to give better results than e-mail methods for several reasons. With hand distribution, surveyed students were approached in person and appeared more willing to respond. There was also less lag time because students were required to return the questionnaire at the point-of-distribution, while e-mail distribution created a lack of personal incentive for respondents. Furthermore, it required more time for students to check their incoming mail and return them.

Table 1

Description of variables that affect the student's satisfaction with and perception of ZipCard services.

<i>Variables</i>	<i>University</i>	<i>Variables</i>	<i>Student Characteristics</i>
<i>Products</i>	Zip Card's Functions 1. <u>Administrative Function</u> - identification purpose (e.g., registration, student records, and personnel management) 2. <u>Value-Added Function</u> - Debit Card - Calling Card	<i>Cultural</i>	<u>Legal residence:</u> -Springfield -Missouri -Out-of-state -International
<i>Price</i>	1. <u>Administrative Function</u> -mostly free of charge, unless otherwise indicated. 2. <u>Value-Added Function</u> - Initial deposit required before sales transaction can be made. Prices of products are the same as using cash purchase. - AT&T calling card offers 15% less than standard AT&T calling card.	<i>Social</i>	<u>Student Class:</u> Freshmen, Sophomore, <u>Student type:</u> Full Time/Part Time <u>Where do they live?</u> On/Off campus
<i>Place/Location</i>	1. <u>Administrative Function</u> - required for almost every office on campus. 2. <u>Value-Added Function</u> - 10 locations on campus - 25 vending machines in the campus main building - calling card can be used on/off campus	<i>Personal</i>	<u>Attitude towards card:</u> Debit Card, Credit Cards, other carried card. <u>Attitude towards payment.</u>
<i>Promotion</i>	1. <u>Administration Function</u> - student orientation: SOAR - other detailed information provided by each specific offices 2. <u>Value-Added Function</u> <u>Publications:</u> ■ 1 article in "Newsleader" Springfield Newspaper; ■ 6 articles in "Standard" Student Newspaper, ■ SMSU-AT&T calling card brochure <u>TV Broadcast:</u> Channel 3 and Channel 10 <u>ZipCard Home Page</u> <u>Student Orientation (SOAR)</u>	<i>Psychological</i>	<u>Attitude towards Safety:</u> security. <u>Degree of card services awareness.</u> <u>Experience of using card:</u> ATM, Debit Card, Credit Card, or other cards that obtain products & services. <u>Attitude towards high technology system:</u> accuracy and reliability.

Table 2:

The response rate of total questionnaire distribution

	<i>E-mail</i>		<i>Hand Distribution</i>		<i>Total</i>	
	#	%	#	%	#	%
Data missing	4	2.67%	9	6.00%	13	4.33%
Completed	19	12.67%	102	68.00%	121	40.33%
Total respondents	23	15.33%	111	74.00%	134	44.67%
Total distribution	150	100.00%	150	100.00%	300	100.00%

Demographic Characteristics of Samples

From the 134 respondents, a majority of respondents were Missouri residents (47.1%) and 69.4% live off campus. The student classes and types are also various—30.6% are graduate students, 20.7% seniors, and 99.2% full time students. The detailed demographic characteristics of samples and populations are shown in the table below:

Table 3

The demographic characteristics
of sample and population

(Source: Office of Enrollment Services, SMSU: 1997)

Demographics	Samples		Populations	
Missouri	57	47.11%	13794	92.43%
Other Countries	38	31.40%	388	2.60%
Out-of-State	26	21.49%	742	4.97%
Full-Time Student	106	87.60%	12234	81.98%
Part-Time Student	15	12.40%	2553	17.11%
Freshman	18	14.88%	2669	17.88%
Sophomore	22	18.18%	2781	18.63%
Junior	16	13.22%	2794	18.72%
Senior	25	20.66%	3899	26.13%
Graduate	37	30.58%	2034	13.63%
Other	3	2.48%	747	5.01%
Live on campus	37	30.58%	NA	NA
Live off campus	84	69.42%	NA	NA
Total	121	100.00%	14924	100.00%

Top Preferred ZipCard Services

From the designed questionnaire, students were asked to rank their top 5 preferred ZipCard services both on-campus and off-campus based on their importance and needs. The choices of services were not limited only present services, but future possible services were also available for selecting. According to on-campus services, bookstore was received the most priority (30.97%) from student, followed by copy machine (20.35%) and vending machine (18.58%). Other suggestions from students were, addition to the provided food services, the quality of foods.

About off-campus services, ATM was the most important service for students with 21.82% of total respondents rated them as their first priorities. Other services that were also served students' needs were copy machines (15.45%), super store (13.64%), and

gas station (12.73%). The results surprisingly showed that vending machine, fast foods and restaurant perceived less important than above discussed services. Moreover, students perceived purchasing goods and services at shopping centers as important as vending machine services.

Satisfaction of Student as ZipCard Users

Students were asked whether or not they had experience in using existing services. If they had those experiences, how would they rate their satisfaction of those services. The Likert five scale method was used to measure their satisfaction by assigning values of satisfaction to currently provided services (1=very unsatisfactory, 2=somewhat unsatisfactory, 3=neutral, 4=somewhat satisfactory, and 5=most satisfactory). Of those 121 respondents, less than 24% have used ZipCard services. The services that they mostly used were vending machine (23.97%) and book store (21.49%). (Table 4)

Table 4

The number and percentage of students
who have used ZipCard services

The percentage of ZipCard users by type of services				
	Users		Non-users	Total
Vending Machine	29	23.97%	92	76.03%
SMSU Book Store	26	21.49%	95	78.51%
Fast Food	19	15.70%	102	84.30%
Dining Hall	16	13.22%	105	86.78%
AT&T Calling Card	12	9.92%	109	90.08%
Convenience Store	10	8.26%	111	91.74%

The average satisfaction of ZipCard users ranged from 3.12-4.06 which could be classified in the range of satisfactory. By testing with Pearson correlation coefficients and analysis of variance between the experience of using these six services and students' satisfaction, the tests were supported with more than 95% confidence ($P=0.0001$). More than 66% of students who have used any services of those six rated their satisfactory rate in range of 4=somewhat satisfactory and 5=most satisfactory. The services that ZipCard users were mostly satisfied with were dining hall, convenience store and book store respectively. The percentage of card users who rated fast food services and vending machines at a very unsatisfactory rate are 10.53%

Table 5

The satisfaction rate of ZipCard users by types of services

<i>The satisfaction rate of Zip card service user by type of services</i>										
	<i>Very</i>		<i>Somewhat</i>		<i>Somewhat</i>		<i>Very</i>			
	<i>Unsatisfactory</i>		<i>Unsatisfactory</i>		<i>Satisfactory</i>		<i>Satisfactory</i>			
	#	%	#	%	#	%	#	%	#	%
<i>AT&T calling</i>	1	8.33%	1	8.33%	3	25.00	6	50.00	1	8.33%
<i>Convenience</i>	0	0.00%	0	0.00%	3	30.00	4	40.00	3	30.00%
<i>Dining Hall</i>	0	0.00%	3	18.75	0	0.00%	6	37.50	7	43.75%
<i>Fast Food</i>	2	10.53	0	0.00%	4	21.05	5	26.32	8	42.11%
<i>SMSU Book</i>	2	7.69%	0	0.00%	6	23.08	13	50.00	5	19.23%
<i>Vending</i>	3	10.34	1	3.45%	10	34.48	2	6.90%	13	44.83%

and 10.34% . The satisfaction rates of students are shown in table 5.

Evaluation of Factors Affecting Students' Decision

Twelve evaluative statements concerning attitudes of students toward ZipCard services were measured by a Likert five scale evaluation. The scales were ranged from 1=completely disagree, 2=somewhat disagree, 3=neutral, 4=somewhat agree, and 5=completely agree. The survey questions asked students to what extent were the services provided by ZipCard beneficial to them.

There are several advantages to be learned from implementing the ZipCard program. To schools, the program can help them cut operation costs to 10% to 20%. For instance, schools can electronically generate daily and weekly information detailing at each location. Thus, food-ordering and staffing decisions can be streamlined. It also makes schools more attractive to prospective students since a major consideration for students in deciding which campus to attend is quality of life (Mitchell 1995).

To students, it reduces the inconvenience of carrying as many as twelve ID cards for various applications (Norwest sponsored 1994 and Mitchell 1995). To corporations who participate in the program it can also earn benefits in various ways. For example, banks can initiate banking relationships with students which will be enhanced to be their long-term customers in the future.

As mentioned, AT&T and MCI started marketing to younger customers to build student customer loyalty at an early age (Phinney 1994). Moreover, to society,

the program of using student ID as a discount card could also gave students incentives to avoid the lure of gangs, drugs, and other vice. For example, in some Chicago area colleges, students can earn discounts on shoes, food, compact discs and clothing at dozens of participating stores if they went to schools every day and earned good grades (Rudd 1992).

A series of statements were asked of the students to gauge their perception on a number of issues related to ZipCard use. The statements included: 1)convenience, etc., 2) controlling the student budget, 3) existing services, 4) Zip Card service opportunities, 5) applying for a debit card, 6) cards that are lost or stolen, 7) accuracy of the system, 8) the operating machines, 9) obtaining lower rates, 10) ease of finding a location, 11) the number of locations, 12) questions about locations.

The first two statements were asked in terms of advantages that students would earn from using ZipCard services; 28.1% of respondents checked "somewhat agree" with the convenience of using ZipCard compared to using cash, coins or check and 17.4% of respondents "completely agreed" with these statements. Furthermore, 20.7% of respondents believed that they could keep track of their money by using ZipCard because their account balance would be shown on the machine at every transaction made. Also, the statement would be sent to students every month to report the transaction that made by ZipCard. However, there were large percentages (24.8% and 36.4%) of respondents who expressed that they neither agreed or disagreed with those statements.

The most common answer received by initially interviewed students regarding why they did not use ZipCard services was that the existing services did not meet their needs. In the survey results from statement number 3, the answers were mostly neutral (47.3% respondents) and more than 30% disagreed that existing services were necessary for them.

Statement number 6 to 8 related to the operating system of ZipCard including the vending machine and overall high technology in SMSU; 37.2% of respondents believed that there was not a sufficient security system to protect their card if they were lost or stolen. However, most students relied on the accuracy of the system and believed that operating machines did not cause too many problems for providing goods and services.

The incentive of using ZipCard as a calling card at the AT&T promotional rate did not receive much agreement by students. This was because most students believed they could obtain lower rates by making a phone call with other carriers. Moreover, off-campus students also had more opportunities for a better deal with abundant telecommunication competitors such as MCI and Sprint. Therefore, in order to increase the number of AT&T calling card usage, AT&T still needs more appropriate promotion to attract students.

DISCUSSION

Students who are ZipCard users are satisfied with present services. Even though they agreed that most operating locations such as vending machines and fast food stores or dining halls were located where most students can use them, a number of locations were not satisfactory for most students. As a matter of fact, the number of locations would certainly be improved in the near future, according to the university's plans, along with the other services that had not been currently provided. How quickly electronic access systems fully catch on might depend upon "costs." A number of colleges and universities had experimented with electronic access but had been reluctant to stray from the traditional replaceable-core locks because of their lower price. At San Diego State University there were card access systems in place in administration buildings, but thus far there were no plans to take the program campus-wide.

Part of planning process is to consider all of the different groups that may be utilizing the facility, this means regular students, summer students, and students in interim sessions, as well as visiting groups and vendors. Universities need to determine which kind of systems will work best for all groups—which is probably the system that gives the most flexibility in controlling access to students and universities. For example, some buildings have eight entrances, some have two; each building has different needs. So determining the best placement of the card readers and working with the students and hall staff has proven to take a significant amount of time (Cray 1995).

Furthermore, most universities need to invest a high fixed cost in order to implement these programs, and it will take up to five years to recover the costs on revenue generated from merchant transactions. In order to replace the old card with more memory, Western Michigan University had to pay approximately \$75,000 to issue a chip card with a cost six times higher than an old on-line mag-stripe card. The university also paid \$15,000 for rewriting software for the cards to access buildings ("Michigan Bank" 1995). A university outfitting 20 or more buildings can spend upwards of \$250,000 for the necessary electronic hardware and software plus an additional \$50,000 to install dedicated phone lines connecting the card readers to the computer system.

It is recommended that universities should improve a protection system as well as a security system. While using a ZipCard to gain access to buildings can improve security, it can also increase risks. Some students tend to "piggyback" through the door on other students' cards, open the doors for strangers, and even loan cards to friends. Other colleges have chosen keypad access systems, which are less expensive and require entering parties to provide a personalized, five-digit security code. For small colleges that do not need to provide access to everyone, keypad access systems are an efficient means of adding security. The cost is about \$20,000 to install a system connecting nine buildings, plus an ongoing monthly service fee of about \$400. The system goes into effect evenings and weekends, and only selected administrators, students, or faculty have access numbers.

The primary concerns for assigning student ID card as credit cards or debit card also lead to arguments about how well students could manage their money. Students might overuse their money because it is so convenient to spend. Especially for credit cards, the statistics showed that the number of card debt had increased from 10% in 1985 to 30% in 1995 and tended to increase more and more if the card users do not have enough education of personal financial management (Punch 1995). In general, high schools spend little time teaching students about budgeting and banking. In a survey by MasterCard of 400 high school students in 1995, 96% of them said they don't get any personal finance education in school (Bryce 1995).

Limitations of Study

Since this study was conducted for the main purpose of measuring the satisfaction and perception of students as a ZipCard card user or customer, the limited number of students who had experience with ZipCard services reduced the number for data collection. Less than 25% of total respondents were ZipCard users and nearly 30% had never learned about additional services provided by their ZipCard and 5% did not presently have ZipCard. Moreover, the two different methods of data collection could also affect the results of data. This was because of the different individual characteristics of persons who use e-mail and person who do not use e-mail. Moreover, another reasons would be that person who answer by e-mail can be tracked by the name shown on the sender's address, while those by hand distribution were anonymous.

RESEARCH IMPLICATIONS AND RECOMMENDATIONS

The results of the ZipCard study were so positive that SMSU has now implemented the ZipCard as a requirement of every entering Freshman. One of the greatest challenges is to make students aware of all of the services that the ZipCard provides. The media that attracts most students is the student newspaper and ZipCard office. There should be more publications such as brochures and also knowledgeable officers who are able to inform or educate students about the capability of ZipCard at the time of issuing. Further information should also

be sent by mail or published in public places such as general boards in campus buildings.

Information should include both available functions, and how to apply or activate those functions along with how to avoid the problems of card damaged, lost, misplaced, or stolen. A primary concern is how safe cards are kept and how well students can rely on security. The more value added to the card, the riskier card security is in the minds of students.

SUMMARY AND CONCLUSION

In summary, the study satisfied its objectives, as described in the introduction. The university needs 1) more time to access the features that serve students' needs and 2) to improve the number of locations that provide services and find solutions or ways to prevent the unauthorized uses of cards...since these are the primary concerns that affect students' decisions regarding whether or not to use ZipCard services. To increase the number of ZipCard users, the university also needs to revise its marketing plan, to specify its target group and use more effective media to keep students well informed. Furthermore, the university should also be able to educate students about avoiding some risks that might occur regarding lost or stolen cards, and card misuse or unauthorized use.

More than 30% of students that had not learned about the ZipCard indicated that this was their first opportunity to learn more about ZipCard. Therefore, the study provided a good opportunity to stimulate them to find more information on card services.

Overall, the students who had experienced ZipCard services were satisfied with provided services. Students perceived that using the ZipCard was more convenient than using cash, coins or checks and made their lives easier. However, some students perceived that existing services could not fully serve their needs. Therefore, suggested services, ranked according to their importance to students both on and off campus, will help the university understand students' needs better and facilitate supply of appropriate services to match current demand.

In today's competitive atmosphere surrounding the marketing of education and educational institutions,

student services (such as the ZipCard) may go a long way in determining just who comes to a campus, and who stays on a campus. There can be no doubt that students are particularly special to a college or university, for students are both the customer and the product. No other businesses can say that...can they?

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