

AN ABSTRACT OF THE THESIS OF

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Virginia A. Haldeman

Oregon State Federal Credit Union (OSU FCU) members' attitudes toward proposed services, and the association between the importance rating of a "common bond" (loyalty) and use of selected services of the OSU FCU were examined. The study utilized data from the member survey commissioned in 1982 by the OSU FCU Board of Directors. Two samples were drawn for the survey. One sample (n=533) was drawn from a list of OSU FCU members who held a share draft account in their own name and had Corvallis addresses. The second sample (n=302) was drawn from a list of OSU FCU members who did not hold a share draft account, were 20 years old or older, and had Corvallis addresses. The size of each sample was representative of the respective groups in OSU FCU membership. A total of 835 members completed the four-page questionnaire for a response rate for each sample of approximately 80 percent. The two samples surveyed were combined for the analyses conducted in this study.

Three general hypotheses were used to test: 1) the association between the importance of a "common bond" and selected variables; 2) the association between willingness to use an Automatic Teller Machine (ATM) and selected variables; and 3) the association between willingness to use a Visa card and selected variables. Each of the null hypotheses was tested using cross-tabulations and the chi square test for independence. The level of significance was established at $p \leq .05$. Of the 38 associations tested, 21 were significant.

The importance of a "common bond" was associated with use of five OSU FCU services: daily dividend accounts, credit union loans, overdraft protection, direct deposit, and payroll deduction. A greater than expected number of users of these services agreed strongly with the importance of a "common bond". For all ten services tested, the majority of both users and nonusers agreed or had neutral feelings about the importance of a "common bond".

Willingness to use both an ATM and a Visa card was significantly associated with use of five services: daily dividend accounts, automatic transfer, overdraft protection, direct deposit, and share draft accounts. Approximately 50 percent of the users of each of the five services indicated that they would use an ATM and/or Visa card. The majority of both users and nonusers of the ten services indicated that they would or might use the proposed services.

There were significant associations between willingness to use an ATM and a Visa card, and member age, occupation, and perception of the importance of a "common bond". There was an inverse linear

association between age and willingness to use an ATM. However, in each age category the majority of respondents indicated that they would or might use an ATM, a finding which was also true for willingness to use a Visa card. By occupation, a greater than expected number of graduate students, graduate teaching assistants (GTA) and graduate research assistants (GRA) indicated that they would or might use an ATM and/or a Visa card. In all occupation categories, the majority of respondents indicated that they would or might use the proposed services. A greater than expected number of members who agreed with the importance of a "common bond" indicated that they would use an ATM and/or a Visa card.

It was concluded that market segmentation is a viable marketing strategy for the OSU FCU; that the impact on member attitudes must be considered before the service mix is altered; and that there is a significant potential for member use of an ATM and/or a Visa card.

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Head of Department of Family Resource Management

Redacted for Privacy

Dean of Graduate School

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CHAPTER I

INTRODUCTION

Regulation of financial institutions began in the early 1930's in order to restore consumer confidence in a depression-ridden industry. These regulations served the consumer and the industry reasonably well until the 1970's, a period characterized by increased inflation and high interest rates (Hogarth, 1983).

Formal proposals were submitted to Congress by the Hunt Commission in 1971 and FINE (Financial Institutions and the Nation's Economy) in 1975, recommending the lifting of regulatory barriers among different types of financial institutions (Breedon, 1983).

The need for regulatory reform was reflected by the existence in 1979 of a 12 percent usury ceiling, established in 1934, for federal credit union loans (Peterson and Kidwell, 1979). The effect of this outdated usury ceiling was to "...artificially influence the behavior of consumers...and thereby to alter materially the opportunities of the competing institutions" (Breedon, 1983, p. 5704). The 12 percent ceiling prohibited many federal credit unions from making consumer loans (Wolken and Navratil, 1981; Business Week, 1979).

Congress has since implemented recommendations from reports

urging deregulation through passage of laws such as the Depository Institution Deregulation and Monetary Control Act of 1980 and the Depository Institutions Act of 1982.

Deregulation of financial institutions is occurring more quickly than anticipated, thrusting credit unions as well as other financial institutions into a new age of burgeoning competition.

Other recently deregulated industries include air transportation, trucking, telecommunications, and brokerage. Financial industry analysts have examined these four industries' experiences with deregulation for guidelines to cope with this new era. Based on those observations, financial institutions can expect the following effects from deregulation:

- new entrants into the field
- different industry structure due to mergers, liquidations, and new entrants
- increased capital requirements
- product proliferation (Credit Union Magazine, 1983b).

Some of these effects have already been observed in the financial industry. New entrants into the financial field include Sears Roebuck and J.C. Penney, who now offer money market accounts, mortgages, IRAs, and a variety of other services (Hogarth, 1983). A different industry structure is emerging, with industry analysts predicting that one-third of savings and loans and 20 to 30 percent of banks will disappear through mergers within the next five years (1983-88) (Hill, 1982). Many of these mergers will occur due to the economies of scale needed to offer competitive services (Heylar and Salamon, 1982).

Automated teller machines (ATMs) for example, cost approximately \$50,000 to buy and install, and approximately \$10,000 annually to operate (Credit Union Magazine, 1983a). Many institutions look to ATMs as their opportunity to compete with new nationwide entrants such as Sears, Merrill Lynch, and others. Merging with larger institutions is one way small institutions can offer such services.

As the financial system becomes more homogeneous, all in the industry are feeling the pressure of heightened competition. Credit unions in particular have experienced marketplace problems due to rapidly changing societal needs, increasing competition, and changing consumer attitudes. Although they are based on the cooperative principle, credit unions cannot depend on member loyalty¹ if higher yields and more competitive services are offered elsewhere. Movement leaders concur that to compete in a deregulated environment, credit unions must do market research on member needs, attitudes, and preferences, and then develop the appropriate services to satisfy those needs (Stump, 1983; Phillips, 1981).

¹One of the unique qualities of the credit union movement is the concept of member loyalty, also known as the "common bond." The "common bond" is based on the cooperative principle that what affects one member affects all members.

Purpose of the Study

Deregulation of the financial industry has forced credit unions to be more competitive with the larger market. On a local level, the Oregon State University Federal Credit Union (OSU FCU) faces competition from institutions which offer conveniences such as ATMs and credit/debit cards. Researchers have stated that convenience and a full-service image are the key criteria in the decision to use any financial institution (DeBeck, Frederickson, and Palmer, 1982). Consequently it becomes important for the OSU FCU Board of Directors to monitor member needs and adapt the service mix. In 1982 the Board commissioned a survey to identify member needs. The purpose of this study is to statistically analyze the results of the member survey in order to provide information for the Board to use as a basis for developing a competitive service mix and promotion strategy.

Objectives

The objectives of this study were:

1. To assess member loyalty through analysis of respondents' ratings of the importance of a "common bond".
2. To analyze members' attitudes toward proposed services for possible segmentation of the OSU FCU membership.
3. To provide information for the Board of Directors to use as a basis for developing an appropriate service mix and promotion strategy.

Hypotheses

The following research hypotheses were developed:

1. The importance of a "common bond" is associated with respondents' use of specified services. Specified services are:
 - a. regular share account
 - b. daily dividend account
 - c. credit union loan
 - d. automatic transfer
 - e. overdraft protection
 - f. share certificate
 - g. no fee traveler's checks
 - h. direct deposit
 - i. payroll deduction
 - j. share draft account
2. Willingness to use an Automatic Teller Machine is associated with respondents':
 - a. use of specified services of the OSU FCU
 - b. age
 - c. occupation
 - d. perception of the importance of a "common bond"
3. Willingness to use a Visa card is associated with respondents':
 - a. use of specified services of the OSU FCU
 - b. age
 - c. occupation
 - d. perception of the importance of a "common bond"

Assumptions and Limitations

1. It is assumed that the samples were representative of the share draft account holder and nonholder segments of the OSU FCU.

2. It is assumed that respondents answered the questions honestly.

3. This study excluded those who used a share draft account only in another member's name, and therefore, is not representative of that small segment of the OSU FCU membership.

4. The survey question on willingness to use a Visa card did not specify credit or debit. It is likely that respondents answered on the assumption that it was a credit card.

Definitions of Terms

Automatic Teller Machine - (ATM) Electronic devices which can provide 24-hour service on a variety of transactions: withdrawals, deposits, loan payments, and transfers from one account to another (Rosefsky, 1983).

Common Bond - The bond which unites a particular group, e.g., occupation, religious association, or a well-defined neighborhood or community (Sayrs, 1982). The term implies that the group is interested in the welfare of fellow members.

Credit Card - A small plastic card which evidences the right of the holder to purchase a good or service but pay for it at a later date (Crary, Pfahl, and Donaldson, 1980).

Credit Union - A voluntary, non-profit cooperative association

organized by a group of people with a common bond. It is democratically administered to encourage thrift among its members, create a source of credit at low rate, and provide maximum service at minimum cost (Sayrs, 1982).

Daily Dividend Account - Similar to a passbook savings account, except that interest is figured and paid on the basis of the exact number of days the funds are held by the savings institution (Crary, Pfahl, and Donaldson, 1980).

Debit Card - A plastic card used in place of share drafts or cash to make purchases. Funds are transferred from the cardholder's account to the merchant's upon processing of appropriate forms (Miller, Power, and Meyer, 1983).

Direct Deposit - The process whereby funds are sent directly to the individual's financial institution for deposit into a specified account.

Overdraft Protection - Automatic transfer of funds from another account to cover share drafts (checks) exceeding the share draft account balance.

Passbook Account - A traditional type of savings account which involves the use of a small book in which deposits and withdrawals are posted. It typically involves no minimum balance, has the highest in-and-out availability of the saver's money of any of the various savings accounts, but also carries the lowest interest or dividend return.

Payroll Deduction - A preauthorized deduction of a portion of an employee's gross pay for predesignated purposes.

Regular Share Account - The credit union's equivalent of a passbook account at a bank or savings and loan. Savings deposits are technically shares (Crary, Pfahl, and Donaldson, 1980).

Service Mix - The assortment of services offered by the Credit Union.

Share Certificate - A time deposit requiring a larger investment and yielding a higher return than a regular savings account. Share Certificates are the credit union's equivalent of a Certificate of Deposit (Crary, Pfahl, and Donaldson, 1980).

Share Draft Account - An interest earning demand deposit (checking) account.

CHAPTER II

REVIEW OF THE LITERATURE

In this chapter literature related to the credit union movement is reviewed. The three general topics discussed are: 1) history of the credit union movement, 2) deregulation of the financial industry and its impact on credit unions, and 3) the need for credit unions to use market research as a basis for developing an appropriate service mix and promotion strategy.

History of the Credit Union Movement

European Origins

Cooperative credit institutions evolved in the nineteenth century as an outgrowth of the industrial revolution. The evolving capitalistic economy in European towns was characterized by growing competition and the need for greater capital (Moody and Fite, 1971, p. 1). Workers attempted to improve their positions through cooperation of all types.

The Rochdale cooperative store founded in 1844 in England was one of the first successful examples of the cooperative principle. Workers subscribed to shares "...in order to raise capital to buy goods at less than retail costs and sell them to their members at a savings" (Moody and Fite, 1971, p. 2).

Modern credit unions operate on the cooperative principle

popularized by the Rochdale Pioneers. A credit union pools the members' savings in order to lend the funds at rates lower than competing institutions'. Non-profit and democratically controlled, credit unions return a portion of the net income to the members through dividends on savings and/or interest refunds on loans.

Two men deeply affected by the severe hardships caused during Germany's crop failure and subsequent famine of 1846 organized effective working credit societies. Hermann Schulze-Delitzsch concentrated on helping urban craftsmen and proprietors of good character by granting loans for productive purposes (Moody and Fite, 1971).

In contrast to Schulze-Delitzsch's businesslike, self-sufficient philosophy, Friedrich Wilhelm Raiffeisen's philosophy was based on brotherly love and Christian principles (Moody and Fite, 1971). Raiffeisen developed credit societies for farmers, and formed the Heddesdorf Credit Union in 1864. Rapid expansion of Raiffeisen's credit unions began after 1880. He organized the original credit union central bank in order to handle the liquidity needs of participating credit unions (CUNA, 1979).

Credit Unions in North America

Alphonse Desjardins, a Canadian parliamentary reporter, became interested in the credit union concept when he discovered interest rates exceeding 1,000 percent in parts of Canada (Moody and Fite, 1971). The success of Desjardins' credit union, established in 1900, intrigued two Americans: Pierre Jay, the Massachusetts banking commissioner,

and Edward A. Filene, a Boston merchant. These men spearheaded the passage of U.S. legislation permitting the formation of credit unions.

In the United States the movement grew slowly until the 1920's, when increasing prosperity enhanced personal discretionary income. People wanted consumer durables but were not able to pay for them in full with cash. Unlike credit unions, banks and savings institutions did not make small personal loans. The credit union concept became an attractive alternative, and Filene hired Roy F. Bergengren to promote the concept. For more than twenty years Bergengren proposed and lobbied for enabling legislation and devoted his personal expertise to the formation of credit union organizations.

Thousands of financial institutions failed during the depression of the 1930's, but credit unions realized a net gain in numbers. The movement gained substantial political strength as the public became more willing to experiment with new financial systems. President Franklin D. Roosevelt signed the Federal Credit Union Act into law in 1934, allowing federal chartering of credit unions for the first time (Moody and Fite, 1971). Shortly thereafter, credit union organizers adopted a constitution for the Credit Union National Association (CUNA), an organization to promote the interests of the movement.

Progress of U.S. credit unions was virtually halted in the 1940's due to World War II. Regulation of the financial industry hampered the credit union movement. Regulation W, which set forth strict guidelines upon which installment sales and loans could be

made, reduced normal credit union loan volume by about 50 percent.

By 1950 the movement was again expanding rapidly. Successful battles against taxation of cooperatives were fought in 1951 and 1953, as credit unions were able to convince Congress of their public service, non-profit status.

Growth continued through the 1960's, ending the decade with 23,876 credit unions and 21.5 million members (Zache, 1983). The use of more sophisticated advertising techniques and the increasing presence of full-time professional managers and staff contributed to the growth of the movement. Growth was also bolstered by Americans' acceptance of open-end credit through the use of credit cards.

Increasing inflation and high interest rates in the 1970's outdated many of the regulations governing financial institutions. Formal proposals were submitted to Congress by the Hunt Commission in 1971 and FINE (Financial Institutions and the Nation's Economy) in 1975, recommending the lifting of regulatory barriers among different types of financial institutions (Breedon, 1983). Congress implemented many of these proposals. Major legislative victories for the credit union movement included the formation of the National Credit Union Administration (NCUA), an independent supervisory agency for federal credit unions, and the revision of the 1934 Federal Credit Union Act. Legislation was also passed allowing credit unions to offer share drafts (a form of checkable savings deposit), Visa cards, and other forms of electronic funds transfer (CUNA, 1979). The era of deregulation was launched.

Two significant developments ushered in the decade of the 1980's.

Congress passed the Depository Institution Deregulation and Monetary Control Act in 1980, and the Depository Institutions Act in 1982. These acts served to blur the distinction among financial institutions.

Deregulation is increasing the number and types of competitors delivering financial services to consumers. In a presentation to the National Credit Union Roundtable in January 1983, John F. Fisher, senior vice-president of Banc One Corporation in Columbus, Ohio, advised credit unions that to compete effectively, they must become equals in the industry (Credit Union Magazine, 1983b). He believes that credit unions are obligated to have the necessary "tools" for competition (p. 49).

History of the Oregon State University Federal Credit Union (OSU FCU)

The twenty-two organizers of the OSU FCU secured a charter from the National Credit Union Administration (NCUA) on April 15, 1954. Robert Coyle, professor of Agricultural Economics, served as Treasurer, handling loans and savings transactions from his office on campus in Cordley Hall.

Within a year there were 171 members with assets of \$11,775. In 1954 members were paid a dividend of five percent when the prevailing maximum interest rate allowed for savings accounts at commercial banks was 2.5 percent.

By December 1965 when membership had expanded to 2,566 with assets of \$2,110,958, the decision was made to build at 125 N.W. 25th Street in Corvallis. In eleven years the OSU Federal Credit Union

had become one of the largest credit unions in Oregon. The rapid growth was attributed to providing a high level of service to meet the members' financial needs.

Oregon State University Federal Credit Union adopted an official policy in March 1976:

The chief purpose of the OSU Federal Credit Union is to foster the financial well-being of its members, the Oregon State University community, by providing the best credit and savings service available. Although the credit union is legally distinct from Oregon State University, the guiding policies for the Board, the committees, the management, and the office staff shall, in so far as reasonable, be in harmony with the principles and customs of the community it serves.

Fostering the financial well-being of OSU FCU members became much more complex with the influx of deregulation legislation. In 1977 a bill allowing federally chartered credit unions to offer services such as credit/debit cards, 30-year real estate loans, line of credit loans, and share certificate accounts, was passed. The OSU FCU Board of Directors believed that many of these services could be of great benefit to its members, but first needed to provide additional office space. Construction of a new building began in 1979, and in September 1980, the OSU Federal Credit Union moved into its present location at 148 N.W. 25th Street, Corvallis. By December of 1982 membership had grown to 13,783 with assets of \$29,415,339.

In 1982 the Board of Directors, faced with an ever-expanding range of service mix options, commissioned a member survey. The

purpose of the survey was to provide information about members in order to assist the Board in making decisions consistent with members' needs and desires. According to NCUA Chairman Edgar Callahan, deregulation of the financial industry means that the success or failure of operations rests almost entirely in the hands of a credit union's board and management (Credit Union Magazine, 1982).

A development which illustrates the need for continuing market research is the upcoming closure (June 17, 1983) of OSU FCU's neighbor, the Campus Office of Citizens Bank of Corvallis. Bank President Harris Rosendahl said that the Campus Office, opened in 1978, never achieved its expected growth potential (Miller, 1983). Federal deregulation since the opening of Citizens' Campus Office allowed OSU Federal Credit Union to offer competitive banking services such as checking (share drafts) and savings certificates, and may have reduced the profitability of Citizens' Campus Office (Miller, 1983).

Deregulation of the Financial Industry

The basic framework of regulations governing financial institutions was developed in the 1930's in order to restore consumer confidence in a depression-ridden industry (Hogarth, 1983). Continual change in the economic environment has sparked controversy over the need for many of those regulations. As the financial system became more complex with the introduction of new types of services and new

types of financial intermediaries, the regulations tended to "...artificially influence the behavior of savers, investors, and consumers" (Breedon, 1983, p. 5704).

The trend among state and federal policymakers has been to eliminate regulations that restrict competition because there are indications that the marketplace can efficiently allocate these restricted services (Emrich and Hall, 1981). Recently deregulated industries include air transportation, trucking, telecommunications, and brokerage (Credit Union Magazine, 1983b).

In October 1983 the Task Group on Regulation of Financial Services is scheduled to deliver a report to the President of the United States concerning any desirable areas for change of the existing system of federal regulation of financial institutions and services.

History of Financial Industry Legislation

The regulations which affect the financial industry have changed very little since the 1930's, when they were established with the goals of:

- 1) Assuring safety and soundness of financial institutions, and of the financial system as a whole, both to protect individual depositors and to avoid or limit secondary effects of a failed institution,
- 2) Avoiding conflicts of interest, fraud, and consumer abuses,
- 3) Promoting orderly markets to encourage savings and capital formation and to support macro-economic stability, and
- 4) Avoiding excessive concentrations of economic and financial resources (Breedon, 1983, p. 5706).

Major regulations established in the 1930's include Regulation Q (set interest rate ceilings on bank and thrift savings accounts), the Glass Steagall Act (prohibits banks from underwriting stocks and securities), the McFadden Act (prohibits interstate branch banking), and the Federal Credit Union Act (set interest ceiling on federally chartered credit union loans).

Although each of these Acts was created in response to specific problems or perceived needs, ongoing developments in the financial industry suggest that a restrictive focus is no longer appropriate (Breedon, 1983).

The dramatic rise in inflation and the continued low rates of return on savings during the 1970's turned many consumers into aggressive investors. Between 1976 and 1981 the proportion of savings dollars going into savings accounts dropped from 38 percent to 14 percent as consumers found other, better paying investments for their savings dollars (Hogarth, 1983).

Financial Industry Deregulation

Many analysts believe that the next two or three years could be the most confusing of the decade as financial institutions, heavily regulated for over 50 years, adjust to greater decision-making freedom (Credit Union Magazine, 1981). In an interview with the American Banking Association, NCUA Chairman Callahan cautioned that deregulation is not complete freedom, but complete responsibility (Cocheo, 1982).

The passage of the Depository Institution Deregulation and

Monetary Control Act in 1980, and the Depository Institutions Act in 1982, brought wholesale changes to the financial sector. These Acts, in effect, will lift many of the barriers restricting competition in the financial industry.

Deregulation of financial institutions is changing the structure of the country's financial system. New entrants into the field include Sears Roebuck, J.C. Penney, Merrill Lynch, and Prudential Insurance Company (Scherschel, 1983; Emrich and Hill, 1982; Edwards, 1979).

Traditional financial institutions continue to press for further regulatory relief. The Reagan Administration intends to create the so-called "level playing field" for competition between financial institutions (Credit Union Magazine, 1982). The result for credit unions could be a more liberal interpretation of the "common bond"². (Credit Union Magazine, 1982).

Impact of Deregulation on Credit Unions

Breeden (1983) expects three broad sets of changes to result from financial industry deregulation: 1) most restrictions on prices and products will end, 2) the distinctions between depository and other financial services institutions will continue to erode, and

²A "common bond" is the bond which unites a particular group, e.g., occupation, religious association, or a well-defined neighborhood or community. Opening the "common bond" would allow credit unions to expand membership potential through redefining eligibility.

3) depository institutions will continue to expand their geographic scope of operations (p. 5706). Each of these areas of change has implications for credit unions.

Most restrictions on prices and products offered by depository institutions will end. One objective of a study by Peterson and Kidwell (1979) was to see if systematic differences continued to exist among institutions subject to more uniform regulatory environments. They concluded that differences were disappearing quickly and that credit unions would be able to "...neutralize some of the major advantages that banks presently enjoy..." (p. 20). An example: credit unions and savings and loans have been allowed to join banks in offering demand deposit (checking) accounts.

The distinctions between depository and other financial services institutions will continue to erode. The competition created by lifting price and product restrictions leads to a more homogeneous financial marketplace (Business Week, 1981; Credit Union Magazine, 1981). However, Durkin (1983) maintains that specializations are inevitable, due in part to differences in management abilities and expertise, or information cost differences. Another economic factor supporting continued specialization is demand. "Many users of financial services are likely to care more about the price and the quality of the services than about whether they can satisfy all their financial needs with one provider" (Durkin, 1983, p. 4). This is an area in which credit unions have traditionally excelled.

Dr. Robert Ware, Economist with the Federal Reserve Bank of Cleveland, advises credit unions to use their common bond as a

marketing edge because the cohesiveness of members is an element the competition lacks (Credit Union Magazine, 1981).

Depository institutions will continue to expand their geographic scope of service. As the industry is deregulated, inter-state branching will expand through mergers; non-traditional financial service institutions will expand subsidiary activities; and electronic services will revolutionize where and how transactions are handled (Breedon, 1983). Goldberg and White (1978) state, "Electronic tellers and electronic funds transfer may well change the nature of competition among depository institutions" (p. 3).

The trend toward rapid change in the types of financial services offered began in the 1970's. Technological developments have brought the "checkless, cashless society" much closer (Miller, Power, and Meyer, 1983). Electronic funds transfer services (EFTS) are of interest as credit unions determine which new electronic services to offer. EFTS is the official banking term for transactions initiated and executed with electronic impulses via a technological and organizational network (Porter, Swerdlow, and Staples, 1979). Simply stated, EFTS is computer money, a method of transferring funds from one party to another by electronic means. Two types of EFTS are automatic teller machines (ATMs) and debit cards (Miller, Power, and Meyer, 1983).

Automatic Teller Machines

An ATM is a machine that can receive deposits or payments,

dispense funds from demand deposit or savings accounts, transfer money between accounts, or provide information about account balances (Miller, Power, and Meyer, 1983). The device can be on-line (central computer intelligence) or off-line (native computer intelligence), and transaction options vary among systems (Credit Union Magazine, 1983a; Credit Union Magazine, 1981).

An ATM can be located on the premises to reduce lobby congestion, teller workload, and member waiting time. Another option is to install an ATM in an off-site location such as a shopping center or place of members' employment. Paul Schmelzer, marketing director of EFT products for A. O. Smith Corporation, states that one rule of thumb is that a place of employment must have 5,000 to 8,000 workers before an on-location ATM can be cost effective (Credit Union Magazine, 1981). Schmelzer further states that university campuses and large apartment complexes are good locations for ATMs (Credit Union Magazine, 1981).

ATMs were slow to catch on. Porter, Swerdlow, and Staples (1979) place the blame for slow consumer acceptance on institutions' disregard for marketing the concept of electronic banking. Susan Hay, ATM program manager for a division of CUNA Service Group, believes that slow acceptance of ATMs was due to the reluctance of consumers to give up human tellers, and the relatively inferior preliminary machines (Credit Union Magazine, 1983a). In a panel survey of consumer usage of financial services, Ingram and Pugh (1981) found that ten percent of those respondents who had access to but did not use ATMs, preferred human contact.

Analysts agree that ATMs will become increasingly popular with consumers (Goodman, 1981; Ingram and Pugh, 1981; Porter, Swerdlow, and Staples, 1979). Hay (Credit Union Magazine, 1983a), points out that the "Pac Man" generation, a group accustomed to dealing with computers, is coming of age and is bringing new consumer attitudes to the marketplace. The importance of this change in member characteristics was supported by Ingram and Pugh (1981). They found an inverse linear relationship between age and ATM usage. Their research was conducted in North and South Carolina and included a panel of approximately 1,500 urban households. ATM users were primarily under thirty years of age, with incomes over \$20,000. ATM usage by more than 50 percent of the respondents was found in the under-thirty age group. Only 15 percent of the respondents over sixty reported use of an ATM. Porter, Swerdlow, and Staples (1979) reported similar findings in a study comparing the characteristics of users and nonusers of EFTS. They conducted 90 telephone interviews with customers who had been issued EFT debit cards by a large bank holding company. The major difference between the users and nonusers was age: 51 percent of the nonusers were under 40 years of age, while only 36 percent of users were over 40.

Convenience is a major benefit of ATMs. In a 1981 survey of credit union members and nonmembers in Oregon, CUNA researchers found that convenience and a full-service image were the key criteria in the decision to use any financial institution (DeBeck, Frederickson, and Palmer, 1982). "...in almost all cases convenience (easy to get to, easy to use, good hours, etc.) predominates in financial decision-

making" (p. 3). This finding has support in the literature (Business Week, 1981; Goodman, 1981; Credit Union Magazine, 1980). In the Carolina study by Ingram and Pugh (1981), ATM usage was concentrated during weekends, non-banking weekday hours, and holidays. Usage of ATMs was twice as heavy during nonbanking hours as during regular business hours. Only ATM users under thirty years old reported a preference for the machines during working hours. After-hours convenience was important to 66 percent of the users and 49 percent of the nonusers in the study by Porter, Swerdlow, and Staples (1979).

Forecasters predict that 125,000 ATMs will be in use in the U.S. by 1990 (Credit Union Magazine, 1983a). The approximate count in 1982 was 39,000. Credit Union Magazine (1983a) suggests that implementation of ATMs should be considered, if not immediately, then in long range planning.

Debit Cards

Debit cards resemble widely used plastic credit cards. Debit cards differ from credit cards in two important ways: 1) there is no option for delayed payment (credit) with a debit card; the cardholder's account is reduced by the amount of the charge upon processing of the appropriate forms; and 2) a check is never written to make payment. Funds are automatically transferred from the purchaser's account to the merchant's (Miller, Power, and Meyer, 1983).

One advantage of a debit card is its acceptability by stores,

restaurants, and banks that might not honor a personal check (Goodman, 1981; Credit Union Magazine, 1980). A disadvantage is the lack of float (e.g. the period between the purchase of something and the actual withdrawal of the money from the purchaser's account) (Goodman, 1981). In the survey on usage of financial services, Ingram and Pugh (1981) found that 48 percent of the respondents considered float very unimportant. The percentage of respondents who considered float very unimportant increased with age and income levels. The lowest age and income groups considered float somewhat important.

Consumers began to use debit cards as usage charges were imposed on credit cards (Goodman, 1981). However, in the study by Porter, Swerdlow, and Staples (1979) out of 40,000 EFT debit cards issued to account holders, only 14 percent had been used at least once in the eight months following issuance.

In transactions conducted with point-of-sale (POS) debit cards, the entire transaction is completed via computers; no paperwork is involved (Miller, Power, and Meyer, 1983). Nearly half of the respondents in Ingram and Pugh's (1981) study disliked very much, or disliked somewhat, the concept of POS debit cards. Percentages of respondents disliking the concept ranged from 40.3 percent for those under 30 years of age, to 50.7 percent of those respondents aged 60 and over. Neutral responses came from 27 percent of the respondents. Seventeen percent liked POS debit cards somewhat, while nine percent liked the concept very much. Respondents who liked the card tended to be thirty and under years of age with

incomes over \$10,000.

Debit cards are often issued in the form of Visa or MasterCard (Goodman, 1981). CUNA President Jim Williams views the debit card as a natural complement to credit cards. He predicts that debit card transactions will be commonplace before the end of the decade due to convenience and the current consumer trend to use credit only when absolutely necessary.

Credit Cards

In the United States, over 300 million credit cards are in use today (Miller, Power, and Meyer, 1983). More than 75 percent of all families have at least one non-gasoline credit card, and 25 percent have three or more (Miller, Power, and Meyer, 1983).

In the 1981 survey of credit union members and non-members in Oregon, CUNA researchers found that 53 percent of Oregon consumers surveyed use Visa, 19 percent use MasterCard, and five percent use American Express (DeBeck, Frederickson, and Palmer, 1982). Credit union members were more likely than non-members to use credit cards. Of the respondents in the study by Ingram and Pugh (1981), 47 percent reported holding a Visa card and 48 percent reported holding a MasterCard.

One half of all bank card holders reported paying off credit card charges the month prior to the study by Ingram and Pugh (1981). Similarly, in the study by DeBeck, Frederickson, and Palmer (1982), 49 percent of the members and non-members of credit unions reported

paying total credit card balances to avoid finance charges. Non-members were somewhat more likely to pay the total balance on an account than were members.

Age appears to be related to credit card holding. In the Ingram and Pugh (1981) study, younger and older respondents were least likely to hold credit cards. Of the respondents aged 29 and younger, only 38 percent held credit cards. This was also true for respondents aged sixty and over (38 percent held credit cards). Approximately 52 percent of the respondents aged 30-39 and of the respondents aged 40-49, held credit cards. Credit card holders fell to 49 percent in the 50 to 59 age group.

Household income analysis disclosed that rising levels of income bring higher rates of card usage (DeBeck, Frederickson, and Palmer, 1982; Ingram and Pugh, 1981). Ingram and Pugh (1981) found that of respondents reporting income below \$10,000, 18 percent held MasterCard and 24 percent held Visa. Respondents with incomes in the \$20,000 to \$50,000 range held MasterCard in 56 percent of the cases, and Visa in 57 percent of the cases. Both MasterCard and Visa were held in approximately 66 percent of the households reporting incomes above \$50,000. In the credit union study, credit union member households tended to use Visa more than non-member households when incomes were less than \$25,000 (DeBeck, Frederickson, and Palmer, 1982). However, when income was over \$25,000, non-member households tended to use their Visa more than credit union members.

Credit/debit cards and new services available because of delivery mechanisms (e.g., ATMs) are revolutionizing the financial

industry. The number and type of competitors is increasing as deregulation proceeds. These competitors are willing to use new technology and information to win market share. Consumers' demand for convenience will lead them to institutions which offer it. Marketing-oriented credit unions will anticipate this demand, and develop the appropriate service mix and promotion strategy to differentiate themselves from the competition.

The Need for Market Research by OSU FCU

The trend toward change in the mix of services offered to credit union members has been accelerated and complicated by deregulation, technological developments, and changing consumer attitudes. As change in service mix is considered by boards of directors, the need to use marketing research becomes more apparent. Kotler (1979) states that "Marketing will lead to a better understanding of the needs of different client segments; to a more careful shaping and launching of new services; to a pruning of weak services; ...and to higher levels of client satisfaction" (p. 44).

In support of this concept, Gwin and Lindgren (1982) emphasize the importance of market research for financial institutions. They present an example of the benefits of understanding ATM user characteristics through market research: a marketing team who knows that ATM users are relatively young, extensive users of checking services, and extremely concerned about convenience, can develop a campaign theme that responds to the service needs of the ATM-user

segment, thereby allocating scarce marketing resources effectively. Marketers stress that it is not that all sub-groups cannot be serviced, but that it is an expensive effort to mass market without regard to the needs and desires of various segments.

There are three philosophies of marketing followed by organizations today: 1) mass marketing (treating all consumers as similar and offering a standard product for everyone); 2) product differentiated marketing (treating all consumers as similar and offering two or more products for everyone); and 3) target marketing (grouping consumers into segments on the basis of intra-group similarities and inter-group differences, and developing market offers and market mixes tailored to meet the needs of each market) (Kotler, 1982; Lovelock, 1977).

OSU Federal Credit Union has followed the product differentiated approach to marketing since 1954. The membership is viewed as a homogeneous group who may choose among product alternatives. However, the assumption that the OSU FCU membership has homogeneous needs, desires, and behaviors is questionable.

There is a strong movement away from mass marketing and product differentiated marketing toward target marketing (Kotler, 1982). Target marketing has been identified as more helpful in spotting market opportunities, in developing more attractive products and marketing mixes, and in efficiently allocating market resources (Kotler, 1982; Lovelock, 1977).

The first step in target marketing is market segmentation (Figure 1) (Kotler, 1982, p. 217). As defined by an economist

(Smith, 1956),

Segmentation is based upon developments on the demand side of the market and represents a rational and more precise adjustment of product and marketing effort to consumer or user requirements. ...segmentation is disaggregative in its effects and tends to bring about recognition of several demand schedules where only one was recognized before (p. 5).

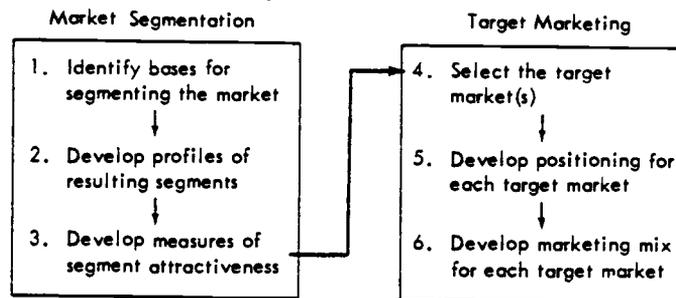


Figure 1. Steps in Market Segmentation and Target Marketing (Kotler, 1982, p. 216)

Marketers have long known that consumers have different needs, desires, and behaviors (Frank, Massy, and Wind, 1972). Market segmentation is the process of recognizing those differences and "dividing a market into distinct and meaningful groups who might merit separate products and/or marketing mixes" (Kotler, 1982, p. 217).

There is no right way to segment a market. The researcher must determine which variables to employ, with the objective of arriving at meaningful segments that are measurable, accessible, and substan-

tial (Kotler, 1982). For consumer marketing, three useful variables are demographic, socio-economic, and behavioristic.

In demographic segmentation, the market is described on the basis of variables such as age, sex, education, family size, race, religion, and nationality. Demographic variables are often associated with differences in needs, desires, and behaviors of consumers.

In socio-economic segmentation, the market is described on the basis of variables involving a combination of social and economic factors such as income, occupation, and place of residence. These variables have also been associated with differences in needs, desires, and behaviors of consumers.

In behavioristic segmentation, the market is described on the basis of group knowledge, attitude, use, or response to an actual product or its attributes (Kotler, 1982). In marketing research, behavioristic variables are often considered the best starting point for constructing meaningful market segments.

Behavioristic variables can be further categorized as:

- 1) user status: nonuser, potential user, or regular user;
- 2) usage rate (also called volume segmentation): light, medium, or heavy user;
- 3) stages of buyer readiness: would buy, might buy, or wouldn't buy;
- 4) loyalty status: preferring the particular object in spite of incentives to switch to something else.

Each of these behavioristic variables was incorporated in the 1982

OSU FCU member survey. Samples were based on user status of share draft accounts. The usage rate of specified services of OSU FCU is displayed in frequency tables, and can be used to plan a promotional strategy for a light, medium, or heavy user segment. Stages of buyer readiness were measured as willingness to use proposed services (e.g., ATM, Visa card). The distribution of members over stages of readiness is important information when designing the promotion strategy. At first the strategy for a new service might be to inform members of its existence; and later to emphasize the benefits of the new service. The importance of the "common bond", upon which OSU FCU membership is based, can be thought of as a stand-in for loyalty in this study. Kotler (1982) believes that an organization should research its present customers to analyze their degree of loyalty. It could then "study its loyal customers to discover the basic satisfactions they derive from affiliation, and attempt to attract others who are seeking the same satisfactions" (Kotler, 1982, p. 226).

Based on the literature (Ingram and Pugh, 1981; Porter, Swerdlow, and Staples, 1979), demographic, socio-economic, and behavioristic variables are appropriate selections for segmenting a credit union's membership.

Meaningful market segments may be susceptible to specific types of promotional campaigns. In a study of five distinct advertising strategies used to affect the vacation behavior of five market segments in a state tourism promotion program, Woodside and Motes (1981) concluded that market segments are sensitive in varying

degrees to specific segment-directed advertising strategies. Marketers agree that segmentation is a useful strategy only if consumers in different segments respond differently to changes in the firm's price, promotion, media, copy, and distribution policies (Woodside and Motes, 1981; Wind, 1978).

The step following market segmentation in target marketing is choosing a market selection strategy: 1) undifferentiated or mass marketing (ignoring segment differences); 2) differentiated marketing (developing differentiated product and marketing programs for several segments); or 3) concentrated marketing (going after only one or a few segments) (Kotler, 1982). Strategy choice is dependent on organization resources, product homogeneity, and competitive marketing strategies (Kotler, 1982).

Although OSU FCU resources are limited, its products are not homogeneous, and competitive marketing strategies may weaken member loyalty to the Credit Union. The marketing strategy employed by OSU FCU is, and has been, the product differentiated approach, which assumes homogeneity in membership.

The researcher proposes that the OSU FCU consider implementation of a target marketing approach to marketing; employing market segmentation to the membership to identify members' needs, attitudes, and usage patterns by segment.

Historically the Credit Union has depended on member loyalty rather than structured marketing to maintain or increase membership. However, the competition brought on by deregulation has contributed to changing consumer attitudes. Convenience offered through new

technologies may be a stronger influence than loyalty on credit union members.

As Credit Union decision makers attempt to identify the best service mix, the membership should be surveyed for changing needs, attitudes, and usage patterns. This market research can lead to a more structured and cost effective marketing strategy for OSU FCU.

CHAPTER III

METHODOLOGY

Collection of Data

The data to be analyzed in this study were collected in a market survey conducted in 1982 by Dr. Daniel J. Brown of the Oregon State University School of Business.

1982 Member Survey

The purpose of the survey was to provide some information about members in order to assist the Board of Directors in making decisions consistent with members' needs and desires. The instrument used in the survey was reviewed by the OSU FCU management and pretested on a small group of OSU FCU members.

Samples: Two samples were drawn for the survey. One sample was drawn from a list of members who held a share draft account in their own name (n=533). The second sample was drawn from a list of members who did not hold a share draft account (n=302). The size of each sample was representative of the respective groups in OSU FCU membership.

Samples were drawn in a systematic manner, using two computer lists of member names. The first consisted of members with share draft accounts who had Corvallis addresses. The second consisted

of all members who were twenty years old or older and had Corvallis addresses. (Members with share draft accounts were deleted from this list, as were those with dormant accounts³.) To maintain sample size, members who could not be contacted or refused to participate were replaced by other systematically selected members. Response rate for each sample was approximately 80 percent.

The same four-page questionnaire was used to survey both samples. The two samples surveyed were combined for the analyses conducted in this study.

Questionnaire information was coded, keypunched and verified at the Oregon State University Milne Computer Center. Open-ended responses were recorded and categorized by hand.

Analysis of Data

Three hypotheses were tested using crosstabulation and chi square analysis (χ^2).

Chi square analysis helps the researcher determine whether or not a systematic relationship exists between two variables. This is accomplished by computing the cell frequencies which would be expected if no relationship were present between the variables, given the existing row and column totals. Expected cell frequencies are compared to the actual observed frequencies in the cross tabulation and the following formula is applied:

$$\chi^2 = \sum_i \frac{(f_o^i - f_e^i)^2}{f_e^i}$$

³Dormant accounts in this study referred to those with an unknown current address.

where f_o^i equals the observed frequency in each cell, and f_e^i equals the expected frequency. Expected frequency is calculated using the formula:

$$f_e^i = \left(\frac{c_i r_i}{N} \right)$$

where c_i is the frequency in a respective column marginal, r_i is the frequency in the respective row marginal, and N is the total number of valid cases.

The greater the discrepancy between the expected and actual observed frequency, the larger the calculated value of chi-square becomes. When no association exists between two variables, then any deviations from the expected values are due to chance. Small values of chi-square are interpreted as an indication of the absence of an association. Conversely, a large calculated chi-square value implies the existence of some type of systematic relationship between the variables. In determining whether or not a systematic relationship does exist, it is necessary to compare the calculated value of chi-square with the theoretical chi-square distribution. The probability of obtaining a specific chi-square value depends on the number of cells in the table. The number of rows and columns determines the degrees of freedom, and the degrees of freedom are important in evaluating probability. In chi-square analysis, degrees of freedom are determined by the formula:

$$(r-1) (c-1)$$

In this study, a probability equal to or less than .05 was considered evidence of the existence of a systematic relationship.

CHAPTER IV

FINDINGS

The findings of the study are presented in two sections; a description of the criterion variables, and a report of hypothesis testing.

The study utilized data from the member survey commissioned in 1982 by the Oregon State University Federal Credit Union (OSU FCU) Board of Directors. Eight hundred thirty-five members responded to a four-page questionnaire regarding Credit Union issues and selected demographic, socioeconomic, and behavioristic information.

Description of the Criterion Variables

Member attitudes toward three criterion variables were analyzed: importance of a "common bond", willingness to use an ATM; and willingness to use a Visa card.

"Common Bond". Of the 835 subjects in this study, 556 responded to the question concerning the importance of a "common bond". One hundred fifty-eight agreed strongly that a "common bond" is important (28.4 percent), 146 agreed mildly (26.3 percent), 221 were neutral (39.7 percent), 21 disagreed mildly (3.8 percent), and ten disagreed strongly (1.8 percent) (Table 1). The majority of respondents had positive or neutral feelings about the importance of a "common bond".

Statistical testing of the associations between the importance of the "common bond" and the ten selected OSU FCU services included

only those questionnaires with responses to both the "common bond" and the service questions. The total responses ranged from 337 for the crosstabulation of share certificate and "common bond", to 556 for the share draft account and "common bond" crosstabulation. The original sample of 835 was representative of the OSU FCU membership; however, the sample of members included in this statistical testing may not have been representative of the entire membership.

ATM and Visa Card. Of the 781 members who responded to the question concerning willingness to use an ATM, 354 indicated that they would use an ATM (45.3 percent), 261 indicated that they might use one (33.4 percent), and 166 indicated that they would not use an ATM (21.3 percent) (Table 2). A majority of those who responded to the question concerning ATM usage indicated that they would or might use the service.

Of the 774 members who responded to the question concerning willingness to use a Visa card, 360 indicated that they would use a Visa card (46.5 percent), 234 indicated that they might use one (30.2 percent), and 180 indicated that they would not use a Visa card (23.3 percent) (Table 2). A majority of those who responded to the question concerning Visa card usage indicated that they would or might use the service.

Statistical testing of the associations between willingness to use an ATM and/or a Visa card and the selected variables included only those questionnaires with responses to both the "willingness to use" question and the selected variable questions. The total responses ranged from 433 for the crosstabulation of share certificate and

Table 1

Importance of a "Common Bond": Overall Response

	Agree Strongly Frequency (Percent)	Agree Mildly Frequency (Percent)	Neutral Frequency (Percent)	Disagree Mildly Frequency (Percent)	Disagree Strongly Frequency (Percent)	n (Percent)
"Common Bond"	158 (28.4)	146 (26.3)	221 (39.7)	21 (3.8)	10 (1.8)	556 (100)

ATM, to 781 for the share draft account and ATM crosstabulation. The total responses ranged from 430 for the crosstabulation of share certificate and Visa card, to 774 for the crosstabulation of share draft account and Visa card. The original sample of 835 was representative of the OSU FCU membership; however, the sample of members included in this statistical testing may not have been representative of the entire membership.

Hypothesis Testing

Three general hypotheses were used to test: 1) the association between importance of a "common bond" and selected variables; 2) the association between willingness to use an Automatic Teller Machine (ATM) and selected variables; and 3) the association between willingness to use a Visa card and selected variables. Each of the null hypotheses was tested using crosstabulations and the chi square test for independence. The level of significance was set at $p \leq .05$, indicating that there is a five percent chance that differences between the observed and expected frequencies are the result of sampling accident. Of the 38 associations tested, 21 were statistically significant at $p \leq .05$.

H₀^{1a}: There is no association between respondents' perception of a "common bond" and whether or not respondents have used a regular share account.

Of the 517 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used a regular share account, 459 had used, and 58 had not used a regular share account. Of those who had used a regular share account, 262

Table 2

Members' Willingness to Use an ATM and a Visa Card

	Would Use Frequency (Percent)	Might Use Frequency (Percent)	Wouldn't Use Frequency (Percent)	Row Total (Percent)
ATM	354 (45.3)	261 (33.4)	166 (21.3)	781 (100)
Visa Card	360 (46.5)	234 (30.2)	180 (23.3)	774 (100)

agreed that a "common bond" is important, 173 were neutral, and 24 disagreed. Of those who had not used a regular share account, 25 agreed that a "common bond" is important, 31 were neutral, and two disagreed. The chi square value of 6.22 (degrees of freedom = 4, $p < .1831$) was not significant. In this study, there is no statistically significant association between members' perception of the importance of a "common bond" and whether or not members have used a regular share account.

H_0^{1b} : There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used a daily dividend account.

Of the 382 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used a daily dividend account, 182 had used, and 200 had not used a daily dividend account. Of those who had used a daily dividend account, 63 agreed strongly that a "common bond" is important (50.5 expected), 43 agreed mildly (50.3 expected), 63 were neutral (70.99 expected), nine disagreed mildly (7.62 expected), and four disagreed strongly (2.86 expected). Of those who had not used a daily dividend account, 43 (55.5 expected) agreed strongly that a "common bond" is important, 62 agreed mildly (54.97 expected), 86 were neutral (78.01) expected, seven disagreed mildly (8.38 expected), and two disagreed strongly (3.14 expected) (Table 3).

With a chi square value of 10.85 (degrees of freedom = 4, $p < .0282$), the null hypothesis was rejected. In this study there is a statistically significant association between members' perception

Table 3

Importance of a "Common Bond" and Use of a Daily Dividend Account

DAILY DIVIDEND ACCOUNT	COMMON BOND					Row Total
	Agree Strongly	Agree Mildly	Neutral	Disagree Mildly	Disagree Strongly	
	Observed (Expected) Row Percent					
Have Used	63 (50.5) 34.6	43 (50.03) 23.6	63 (70.99) 34.6	9 (7.62) 4.9	4 (2.86) 2.2	182
Haven't Used	43 (55.5) 21.5	62 (54.97) 31.0	86 (78.01) 43.0	7 (8.38) 3.5	2 (3.14) 1.0	200
Column Total	106	105	149	16	6	382

$\chi^2 = 10.85$ (4df; $p < .0282$)

of the importance of a "common bond" and whether or not members have used a daily dividend account.

H₀^{1c}: There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used a credit union loan.

Of the 530 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used a credit union loan, 371 had used, and 159 had not used a credit union loan. Of those who had used a credit union loan, 130 agreed strongly that a "common bond" is important (107.1 expected), 97 agreed mildly (98.7 expected), 130 were neutral (147 expected), ten disagreed mildly (12.6 expected), and four disagreed strongly (5.6 expected). Of those who had not used a credit union loan, 23 agreed strongly that a "common bond" is important (45.9 expected), 44 agreed mildly (42.3 expected), 80 were neutral (63 expected), eight disagreed mildly (5.4 expected), and four disagreed strongly (2.4 expected) (Table 4).

With a chi square value of 26.28 (degrees of freedom = 4, $p < .0000$) the null hypothesis was rejected. In this study there is a statistically significant association between members' perception of the importance of a "common bond" and whether or not members have used a credit union loan.

H₀^{1d}: There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used automatic transfer.

Of the 423 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used

Table 4

Importance of a "Common Bond" and Use of a Credit Union Loan

CREDIT UNION LOAN	COMMON BOND					Row Total
	Agree Strongly	Agree Mildly	Neutral	Disagree Mildly	Disagree Strongly	
	Observed (Expected) Row Percent					
Have Used	130 (107.1) 35.0	97 (98.7) 26.1	130 (147.0) 35.0	10 (12.6) 2.7	4 (5.6) 1.1	371
Haven't Used	23 (45.9) 14.5	44 (42.3) 27.7	80 (63.0) 50.3	8 (5.4) 5.0	4 (2.4) 2.5	159
Column Total	153	141	210	18	8	530

$$\chi^2 = 26.28 \text{ (4df; } p \leq .0000)$$

automatic transfer, 189 had used, and 234 had not used automatic transfer. Of those who had used automatic transfer, 108 agreed that a "common bond" is important, 69 were neutral, and 12 disagreed. Of those who had not used automatic transfer, 120 agreed that a "common bond" is important, 103 were neutral, and 11 disagreed. The chi square value of 8.03 (degrees of freedom = 4, $p < .0903$) was not significant. In this study, there is no statistically significant association between members' perception of the importance of a "common bond" and whether or not members have used automatic transfer.

H_0^{1e} : There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used overdraft protection.

Of the 389 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used overdraft protection, 125 had used, and 264 had not used overdraft protection. Of those who had used overdraft protection, 30 agreed strongly that a "common bond" is important (39.47 expected), 45 agreed mildly (32.13 expected), 38 were neutral (53.34 expected), seven disagreed mildly (4.5 expected), and five disagreed strongly (2.57 expected). Of those who had not used overdraft protection, 71 agreed strongly that a "common bond" is important (68.54 expected), 55 agreed mildly (67.87 expected), 128 were neutral (112.66 expected), seven disagreed mildly (9.5 expected), and three disagreed strongly (5.43 expected) (Table 5).

With a chi square value of 19.80 (degrees of freedom = 4, $p < .0005$) the null hypothesis was rejected. In this study there is a statistically significant association between members' perception

Table 5

Importance of a "Common Bond" and Use of Overdraft Protection

COMMON BOND						
OVERDRAFT PROTECTION	Agree Strongly	Agree Mildly	Neutral	Disagree Mildly	Disagree Strongly	Row Total
	Observed (Expected) Row Percent					
Have Used	30 (39.47) 24.0	45 (32.13) 36.0	38 (53.34) 30.4	7 (4.5) 5.6	5 (2.57) 4.0	125
Haven't Used	71 (68.54) 26.9	55 (67.87) 20.8	128 (112.66) 48.5	7 (9.5) 2.7	3 (5.43) 1.1	264
Column Total	101	100	166	14	8	389

$\chi^2 = 19.8$ (4df; $p < .0005$)

of the importance of a "common bond" and whether or not members have used overdraft protection.

H₀^{1f}: There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used a share certificate.

Of the 337 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used a share certificate, 131 had used, and 206 had not used a share certificate. Of those who had used a share certificate, 76 agreed that a "common bond" is important, 47 were neutral, and eight disagreed. Of those who had not used a share certificate, 119 agreed that a "common bond" is important, 75 were neutral, and 12 disagreed. The chi square value of 6.82 (degrees of freedom = 4, $p < .1459$) was not significant. In this study there is no statistically significant association between members' perception of the importance of a "common bond" and whether or not members have used a share certificate.

H₀^{1g}: There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used no fee traveler's checks.

Of the 488 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used no fee traveler's checks, 274 had used, and 214 had not used no fee traveler's checks. Of those who had used no fee traveler's checks, 155 agreed that a "common bond" is important, 108 were neutral, and 11 disagreed. Of those who had not used no fee traveler's checks, 117 agreed that a "common bond" is important, 84 were neutral, and 13 disagreed. The chi square value of 2.82

(degrees of freedom = 4, $p < .5889$) was not significant. In this study, there is no statistically significant association between members' perception of the importance of a "common bond" and whether or not members have used no fee traveler's checks.

H_0^{1h} : There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used direct deposit.

Of the 500 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used direct deposit, 308 had used, and 192 had not used direct deposit. Of those who had used direct deposit, 93 agreed strongly that a "common bond" is important (87.47 expected), 79 agreed mildly (82.54 expected), 114 were neutral (121.97 expected), 15 disagreed mildly (11.7 expected), and seven disagreed strongly (4.31 expected). Of those who had not used direct deposit, 49 agreed strongly that a "common bond" is important (54.53 expected), 55 agreed mildly (51.46 expected), 84 were neutral (76.03 expected), four disagreed mildly (7.3 expected), and none of the respondents disagreed strongly (2.69 expected) (Table 6).

With a chi square value of 9.44 (degrees of freedom = 4, $p < .05$) the null hypothesis was rejected. In this study there is a statistically significant association between members' perception of the importance of a "common bond" and whether or not they have used direct deposit.

H_0^{1i} : There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used payroll deduction.

Table 6

Importance of a "Common Bond" and Use of Direct Deposit

DIRECT DEPOSIT	COMMON BOND					Row Total
	Agree Strongly	Agree Mildly	Neutral	Disagree Mildly	Disagree Strongly	
	Observed (Expected) Row Percent					
Have Used	93 (87.47) 30.2	79 (82.54) 25.6	114 (121.97) 37.0	15 (11.7) 4.9	7 (4.31) 2.3	308
Haven't Used	49 (54.53) 25.5	55 (51.46) 28.6	84 (76.03) 43.8	4 (7.3) 2.1	0 (2.69) 0	192
Column Total	142	134	198	19	7	500

$$\chi^2 = 9.44 \text{ (4df; } p \leq .05)$$

Of the 466 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used payroll deduction, 263 had used, and 203 had not used payroll deduction. Of those who had used payroll deduction, 92 agreed strongly that a "common bond" is important (77.32 expected), 70 agreed mildly (72.44 expected), 85 were neutral (101.02 expected), ten disagreed mildly (9.03 expected), and six disagreed strongly (3.39 expected). Of those who had not used payroll deduction, 45 agreed strongly that a "common bond" is important (59.68 expected), 58 agreed mildly (55.76 expected), 94 were neutral (77.98 expected), six disagreed mildly (6.97 expected), and none of the respondents disagreed strongly (2.61 expected) (Table 7).

With a chi square value of 17.26 (degrees of freedom = 4, $p < .0017$) the null hypothesis was rejected. In this study there is a statistically significant association between members' perception of the importance of a "common bond" and whether or not members have used payroll deduction.

H_0^{1j} : There is no association between respondents' perception of the importance of a "common bond" and whether or not respondents have used a share draft account.

Of the 556 members who responded to the questions concerning the importance of a "common bond" and whether or not they had used a share draft account, 356 had used and 200 had not used a share draft account. Of those who had used a share draft account, 186 agreed that a "common bond" is important, 144 were neutral, and 26 disagreed. Of those who had not used a share draft account, 118

Table 7

Importance of a "Common Bond" and Use of Payroll Deduction

PAYROLL DEDUCTION	COMMON BOND					Row Total
	Agree Strongly	Agree Mildly	Neutral	Disagree Mildly	Disagree Strongly	
	Observed (Expected) Row Percent					
Have Used	92 (77.32) 35.0	70 (72.44) 26.6	85 (101.02) 32.3	10 (9.03) 3.8	6 (3.39) 2.3	263
Haven't Used	45 (59.68) 22.2	58 (55.76) 28.6	94 (77.98) 46.3	6 (6.97) 3.0	0 (2.61) 0	203
Column Total	137	128	179	16	6	466

$\chi^2 = 17.26$ (4df; $p < .0017$)

agreed that a "common bond" is important, 77 were neutral, and five disagreed. The chi square value of 7.36 (degrees of freedom = 4, $p < .1178$) was not significant. In this study there is no statistically significant association between members' perception of the importance of a "common bond" and whether or not members have used a share draft account.

Discussion of Findings for the First Null Hypothesis

In this study there was a statistically significant association between respondents' perception of the importance of a "common bond" and five of ten specified services: daily dividend accounts, credit union loans, overdraft protection, direct deposit, and payroll deduction (Table 8).

In examining the discrepancies between observed and expected frequencies (observed greater than expected) for the five services, a general pattern of perception of the importance of the "common bond" was evident. A greater than expected number of those who had used the service(s) had strong positive or negative feelings about the importance of a "common bond". Of those who had not used the service(s), a greater than expected number of respondents had neutral or mildly positive or negative feelings about the importance of a "common bond." However, for all ten services, the majority of users and nonusers agreed or had neutral feelings about the importance of a "common bond".

Table 8

Results of Hypothesis Testing: H_0^1

Importance of a "common bond" and:	* <u>Significant</u> Chi square value (df; p)	<u>Not Significant</u> Chi square value (df; p)
Regular share account		6.22 (4; .1831)
Daily dividend account	10.85 (4; .0282)	
Credit Union loan	26.28 (4; .0000)	
Automatic transfer		8.03 (4; .0903)
Overdraft protection	19.80 (4; .0005)	
Share certificate		6.82 (4; .1459)
No fee traveler's checks		2.82 (4; .5889)
Direct deposit	9.44 (4; .05)	
Payroll deduction	17.26 (4; .0017)	
Share draft account		7.36 (4; .1178)

* Level of significance was established at $p \leq .05$

H_o^{2a}: There is no association between respondents' willingness to use an ATM and whether or not respondents have used a regular share account.

Of the 718 members who responded to the questions concerning willingness to use an ATM and whether or not they had used a regular share account, 632 had used, and 86 had not used a regular share account. Of those who had used a regular share account, 292 indicated that they would use an ATM, 208 indicated that they might use one, and 132 indicated that they would not use an ATM. Of those who had not used a regular share account, 35 indicated that they would use an ATM, 33 indicated that they might, and 18 indicated that they would not. The chi square value of 1.18 (degrees of freedom = 2, $p < .5554$) was not significant. In this study there is no statistically significant association between members' willingness to use an ATM and whether or not members have used a regular share account.

H_o^{2b}: There is no association between respondents' willingness to use an ATM and whether or not respondents have used a daily dividend account.

Of the 497 members who responded to the questions concerning willingness to use an ATM and whether or not they had used a daily dividend account, 246 had used, and 251 had not used a daily dividend account. Of those who had used a daily dividend account, 124 indicated that they would use an ATM (110.38 expected), 85 indicated that they might use one (88.1 expected), and 37 indicated that they would not use an ATM (47.52 expected). Of those who had not used a daily dividend account, 99 indicated that they would use an ATM

(112.62 expected), 93 indicated that they might (89.9 expected), and 59 indicated that they would not (29.8 expected) (Table 9).

With a chi square value of 8.15 (degrees of freedom = 2, $p < .0170$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use an ATM and whether or not members have used a daily dividend account.

Table 9
Willingness to Use an ATM
and Use of a Daily Dividend Account

DAILY DIVIDEND ACCOUNT	AUTOMATIC TELLER MACHINE			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	124 (110.38) 50.4	85 (88.1) 34.6	37 (47.52) 15.0	246
Haven't Used	99 (112.62) 39.4	93 (89.9) 37.1	59 (29.8) 23.5	251
Column Total	223	178	96	497

$$\chi^2 = 8.15 \text{ (2df; } p < .0170)$$

H_0^{2c} : There is no association between respondents' willingness to use an ATM and whether or not respondents have used a credit union loan.

Of the 737 members who responded to the questions concerning

willingness to use an ATM and whether or not they had used a credit union loan, 499 had used, and 238 had not used a credit union loan. Of those who had used a credit union loan, 219 indicated that they would use an ATM, 165 indicated that they might use one, and 115 indicated that they would not use an ATM. Of those who had not used a credit union loan, 112 indicated that they would use an ATM, 87 indicated that they might, and 39 indicated that they would not. The chi square value of 4.35 (degrees of freedom = 2, $p < .1134$) was not significant. In this study there is no statistically significant association between members' willingness to use an ATM and whether or not members have used a credit union loan.

H_o^{2d} : There is no association between respondents' willingness to use an ATM and whether or not respondents have used automatic transfer.

Of the 572 members who responded to the questions concerning willingness to use an ATM and whether or not they had used automatic transfer, 251 had used, and 321 had not used automatic transfer. Of those who had used automatic transfer, 128 indicated that they would use an ATM (117.16 expected), 84 indicated that they might use one (83.81 expected), and 39 indicated that they would not use an ATM (50.02 expected). Of those who had not used automatic transfer, 139 indicated that they would use an ATM (149.84 expected), 107 indicated that they might (107.19 expected), and 75 indicated that they would not (63.98 expected) (Table 10).

With a chi square value of 6.12 (degrees of freedom = 2, $p < .0470$) the null hypothesis was rejected. In this study there is

a statistically significant association between members' willingness to use an ATM and whether or not members have used automatic transfer.

Table 10

Willingness to Use an ATM and Use of Automatic Transfer

AUTOMATIC TELLER MACHINE				
AUTOMATIC TRANSFER	Would Use	Might Use	Wouldn't Use	Row Total
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	128 (117.16) 51.0	84 (83.81) 33.5	39 (50.02) 15.5	251
Haven't Used	139 (149.84) 24.3	107 (107.19) 33.3	75 (63.98) 23.4	321
Column Total	267	191	114	572

$$\chi^2 = 6.12 \text{ (2df; } p \leq .0470)$$

H_0^{2e} : There is no association between respondents' willingness to use an ATM and whether or not respondents have used overdraft protection.

Of the 541 members who responded to the questions concerning willingness to use an ATM and whether or not they had used overdraft protection, 174 had used, and 367 had not used overdraft protection. Of those who had used overdraft protection, 98 indicated that they would use an ATM (79.12 expected), 53 indicated

that they might use one (59.82 expected), and 23 indicated that they would not use an ATM (35.06 expected). Of those who had not used overdraft protection, 148 indicated that they would use an ATM (166.88 expected), 133 indicated that they might (126.18 expected), and 86 indicated that they would not (73.94 expected) (Table 11).

With a chi square value of 13.9 (degrees of freedom = 2, $p < .0010$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use an ATM and whether or not members have used overdraft protection.

Table 11

Willingness to Use an ATM and Use of Overdraft Protection

AUTOMATIC TELLER MACHINE				
OVERDRAFT PROTECTION	Would Use	Might Use	Wouldn't Use	Row Total
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	98 (79.12) 56.3	53 (59.82) 30.5	23 (35.06) 13.2	174
Haven't Used	148 (166.88) 40.3	133 (126.18) 36.2	86 (73.94) 23.4	367
Column Total	246	186	109	541

$$\chi^2 = 13.90 \text{ (2df; .0010)}$$

H_o^{2f}: There is no association between respondents' willingness to use an ATM and whether or not respondents have used a share certificate.

Of the 433 members who responded to the questions concerning willingness to use an ATM and whether or not they had used a share certificate, 158 had used, and 275 had not used a share certificate. Of those who had used a share certificate, 63 indicated that they would use an ATM, 60 indicated that they might use one, and 35 indicated that they would not use an ATM. Of those who had not used a share certificate, 131 indicated that they would use an ATM, 89 indicated that they might, and 55 indicated that they would not. The chi square value of 2.49 (degrees of freedom = 2, $p \leq .2877$) was not significant. In this study there is no statistically significant association between members' willingness to use an ATM and whether or not members have used a share certificate.

H_o^{2g}: There is no association between respondents' willingness to use an ATM and whether or not respondents have used no fee traveler's checks.

Of the 663 members who responded to the questions concerning willingness to use an ATM and whether or not they had used no fee traveler's checks, 374 had used, and 289 had not used no fee traveler's checks. Of those who had used no fee traveler's checks, 166 indicated that they would use an ATM, 134 indicated that they might use one, and 74 indicated that they would not use an ATM. Of those who had not used no fee traveler's checks, 134 indicated that they would use an ATM, 88 indicated that they might, and 67 indicated that they would not. The chi square value of 2.43

(degrees of freedom = 2, $p < .2960$) was not significant. In this study there is no statistically significant association between members' willingness to use an ATM and whether or not members have used no fee traveler's checks.

H_0^{2h} : There is no association between respondents' willingness to use an ATM and whether or not respondents have used direct deposit.

Of the 702 members who responded to the questions concerning willingness to use an ATM and whether or not they had used direct deposit, 433 had used, and 269 had not used direct deposit. Of those who had used direct deposit, 213 indicated that they would use an ATM (196.76 expected), 138 indicated that they might use one (143.1 expected), and 82 indicated that they would not use an ATM (93.14 expected). Of those who had not used direct deposit, 106 indicated that they would use an ATM (122.24 expected), 94 indicated that they might (88.9 expected), and 69 indicated that they would not (57.86 expected) (Table 12).

With a chi square value of 7.45 (degrees of freedom = 2, $p < .0241$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use an ATM and whether or not members have used direct deposit.

H_0^{2i} : There is no association between respondents' willingness to use an ATM and whether or not respondents have used payroll deduction.

Of the 640 members who responded to the questions concerning willingness to use an ATM and whether or not they had used payroll

Table 12

Willingness to Use an ATM and Use of Direct Deposit

AUTOMATIC TELLER MACHINE				
DIRECT DEPOSIT	Would Use	Might Use	Wouldn't Use	Row Total
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	213 (196.76) 49.2	138 (143.1) 31.9	82 (93.14) 18.9	433
Haven't Used	106 (122.24) 39.4	94 (88.9) 34.9	69 (57.86) 25.7	269
Column Total	319	232	151	702

$$\chi^2 = 7.45 \text{ (2df; } p < .4180)$$

deduction, 354 had used, and 286 had not used payroll deduction. Of those who had used payroll deduction, 163 indicated that they would use an ATM, 122 indicated that they might use one, and 69 indicated that they would not use an ATM. Of those who had not used payroll deduction, 126 indicated that they would use an ATM, 92 indicated that they might, and 68 indicated that they would not. The chi square value of 1.74 (degrees of freedom = 2, $p < .4180$) was not significant. In this study there is no statistically significant association between members' willingness to use an ATM and whether or not members have used payroll deduction.

H_0^{2j} : There is no association between respondent's willingness to use an ATM and whether or not respondents have used a share draft account.

Of the 781 members who responded to the questions concerning willingness to use an ATM and whether or not they had used a share draft account, 502 had used, and 279 had not used a share draft account. Of those who had used a share draft account, 258 indicated that they would use an ATM (227.54 expected), 159 indicated that they might use one (167.76 expected), and 85 indicated that they would not use an ATM (106.7 expected). Of those who had not used a share draft account, 96 indicated that they would use an ATM (126.46 expected), 102 indicated that they might (93.24 expected), and 81 indicated that they would not (59.3 expected) (Table 13).

With a chi square value of 25.05 (degrees of freedom = 2, $p < .0000$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use an ATM and whether or not members have used a share draft account.

H_0^{2k} : There is no association between respondents' willingness to use an ATM and respondents' age.

Of the 759 members who responded to the questions concerning willingness to use an ATM and their age, 242 were 29 years of age or under, 211 were 30-39 years of age, 134 were 40-49 years of age, 92 were 50-59 years of age, and 80 were 60-89 years of age. Of those 29 years of age or under, 159 indicated that they would use an ATM (110 expected), 62 indicated that they might use one (80.67 expected), and 21 indicated that they would not use an ATM (51.33

Table 13

Willingness to Use an ATM and Use of a Share Draft Account

AUTOMATIC TELLER MACHINE				
SHARE DRAFT ACCOUNT	Would Use	Might Use	Wouldn't Use	Row Total
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	258 (227.54) 51.4	159 (167.76) 31.7	85 (106.7) 16.9	502
Haven't Used	96 (126.46) 34.4	102 (93.24) 36.6	81 (59.30) 29.0	279
Column Total	354	261	166	781

$$\chi^2 = 25.05 \text{ (2df; } p \leq .0000)$$

expected). Of those 30-39 years of age, 97 indicated that they would use an ATM (95.91 expected), 78 indicated that they might (70.33 expected), and 36 indicated that they would not (44.67 expected). Of those 40-49 years of age, 55 indicated that they would use an ATM (60.91 expected), 40 indicated that they might (44.67 expected), and 39 indicated that they would not (28.42 expected). Of those 50-59 years of age, 26 indicated that they would use an ATM (41.82 expected), 37 indicated that they might (30.67 expected), and 29 indicated that they would not (19.52 expected). Of those 60-89, eight indicated that they would use an ATM (36.6 expected), 36 indicated that they might (26.67

expected), and 36 indicated that they would not (16.97 expected) (Table 14).

With a chi square value of 110.26 (degrees of freedom = 8, $p \leq .0000$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use an ATM and members' age.

Table 14
Willingness to Use an ATM and Member Age

MEMBER AGE	AUTOMATIC TELLER MACHINE			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
29 or under	159 (110.0) 65.7	62 (80.67) 25.6	21 (51.33) 8.7	242
30-39	97 (95.91) 46.0	78 (70.33) 37.0	36 (44.67) 17.1	211
40-49	55 (60.91) 41.0	40 (44.67) 29.9	39 (28.42) 29.1	134
50-59	26 (41.82) 28.3	37 (30.67) 40.2	29 (19.52) 31.5	92
60-89	8 (36.36) 10.0	36 (26.67) 45.0	36 (16.97) 45.0	80
Column Total	345	253	161	759

$\chi^2 = 110.26$ (8df; $p \leq .0000$)

H_o^{2L} : There is no association between respondent's willingness to use an ATM and respondents' occupation.

Of the 743 members who responded to the questions concerning willingness to use an ATM and their occupation, 163 were classified employees, 221 were faculty, 134 were graduate students, graduate teaching assistants (GTA) or graduate research assistants (GRA), 64 were research assistants unclassified (RAU) or State employees, and 161 were U.S. government employees or other. Of those who were classified employees, 77 indicated that they would use an ATM (75.02 expected), 48 indicated that they might use one (54.84 expected), and 38 indicated that they would not use an ATM (33.13 expected). Of those who were faculty, 88 indicated that they would use an ATM (101.73 expected), 77 indicated that they might (74.36 expected), and 56 indicated that they would not (44.91 expected). Of those who were graduate students, GTA's, or GRA's, 78 indicated that they would use an ATM (61.68 expected), 42 indicated that they might (45.09 expected), and 14 indicated that they would not (27.23 expected). Of those who were RAU or State employees, 25 indicated that they would use an ATM (29.46 expected), 24 indicated that they might (21.53 expected), and 15 indicated that they would not (13.01 expected). Of those who were U.S. government employees or other, 74 indicated that they would use an ATM (74.11 expected), 59 indicated that they might (54.17 expected), and 28 indicated that they would not (32.72 expected) (Table 15).

With a chi square value of 19.64 (degrees of freedom = 8, $p < .0118$) the null hypothesis was rejected. In this study there is

a statistically significant association between members' willingness to use an ATM and members' occupation.

Table 15

Willingness to Use an ATM and Member Occupation

AUTOMATIC TELLER MACHINE				
OCCUPATION	Would Use	Might Use	Wouldn't Use	Row Total
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Classified	77 (75.02) 47.2	48 (54.84) 29.4	38 (33.13) 23.3	163
Faculty	88 (101.73) 39.8	77 (74.36) 34.8	56 (44.91) 25.3	221
Grad, GTA, GRA	78 (61.68) 58.2	42 (45.09) 31.3	14 (27.23) 10.4	134
RAU, State	25 (29.46) 39.1	24 (21.53) 37.5	15 (13.01) 23.4	64
U.S., Other	74 (74.11) 46.0	59 (54.17) 36.6	28 (32.72) 17.4	161
Column Total	342	250	151	743

$$\chi^2 = 19.64 \text{ (8df; } p < .0118)$$

H₀^{2m}: There is no association between respondents' willingness to use an ATM and respondents' perception of the importance of a "common bond."

Of the 524 members who responded to the questions concerning willingness to use an ATM and their perception of the importance of a "common bond", 144 agreed strongly with the importance of a "common bond", 140 agreed mildly, 210 were neutral, 21 disagreed mildly, and nine disagreed strongly. Of those who agreed strongly, 55 indicated that they would use an ATM (62.11 expected), 49 indicated that they might use one (48.09 expected), and 40 indicated that they would not use an ATM (33.8 expected). Of those who agreed mildly with the importance of a "common bond", 75 indicated that they would use an ATM (60.38 expected), 44 indicated that they might (46.76 expected), and 21 indicated that they would not (32.86 expected). Of those who had neutral feelings about the importance of a "common bond", 83 indicated that they would use an ATM (90.57 expected), 77 indicated that they might (70.13 expected), and 50 indicated that they would not (49.29 expected). Of those who disagreed mildly with the importance of a "common bond", 11 indicated that they would use an ATM (9.06 expected), four indicated that they might (7.01 expected), and six indicated that they would not (4.93 expected). Of those who disagreed strongly with the importance of a "common bond", two indicated that they would use an ATM (3.88 expected), one indicated that they might (3.01 expected), and six indicated that they would not (2.11 expected) (Table 16).

With a chi square value of 22.61 (degrees of freedom = 8, $p < .0039$) the null hypothesis was rejected. In this study there is

a statistically significant association between members' willingness to use an ATM and members' perception of the importance of a "common bond".

Table 16

Willingness to Use an ATM and
Perception of the Importance of a "Common Bond"

AUTOMATIC TELLER MACHINE				
"COMMON BOND"	Would Use	Might Use	Wouldn't Use	Row Total
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Agree Strongly	55 (62.11) 38.2	49 (48.09) 34.0	40 (33.8) 27.8	144
Agree Mildly	75 (60.83) 53.6	44 (46.76) 31.4	21 (32.86) 15.0	140
Neutral	83 (90.57) 39.5	77 (70.13) 36.7	50 (49.29) 23.8	210
Disagree Mildly	11 (9.06) 52.4	4 (7.01) 19.0	6 (4.93) 28.6	21
Disagree Strongly	2 (3.88) 22.2	1 (3.01) 11.1	6 (2.11) 66.7	9
Column Total	226	175	123	524

$$\chi^2 = 22.61 \text{ (8df; } p \leq .0039)$$

Discussion of Findings for the Second Null Hypothesis

In this study there was a statistically significant association between respondents' willingness to use an ATM and eight of the 13 variables tested (Table 17). Members' willingness to use an ATM was associated with five of ten specified services: daily dividend accounts, automatic transfer, overdraft protection, direct deposit, and share draft accounts. In examining the discrepancies between observed and expected frequencies for these five services, a pattern of observed-greater-than-expected was found in the cells represented by the intersections of user of service/would use ATM; nonuser of service/might use ATM; and nonuser of service/would not use ATM. Over 50 percent of the users of each of the five services indicated that they would use an ATM (exception: daily dividend at 49.2 percent). The majority of both users and nonusers of all ten specified services indicated that they might or would use an ATM.

Respondents' age, occupation, and perception of the importance of a "common bond" were also significantly associated with willingness to use an ATM. As in the studies by Ingram and Pugh (1981), and Porter, Swerdlow, and Staples (1979), respondents in this study exhibited a strong inverse relationship between age and (proposed) ATM use. In this study, the greatest discrepancy between observed and expected frequencies (observed greater than expected) for age was in the 29 and under/would use an ATM cell. More than 65 percent of the members age 29 and under indicated that they would use an ATM.

Table 17

Results of Hypothesis Testing: H_0^2

Willingness to use an ATM and:	<u>* Significant</u>	<u>Not Significant</u>
	Chi square value (df; p)	Chi square value (df; p)
Regular share account		1.18 (2; .5554)
Daily dividend account	8.15 (2; .0170)	
Credit Union loan		4.35 (2; .1134)
Automatic transfer	6.12 (2; .0470)	
Overdraft protection	13.90 (2; .0010)	
Share certificate		2.49 (2; .2877)
No fee traveler's checks		2.43 (2; .2960)
Direct deposit	7.45 (2; .0241)	
Payroll deduction		1.74 (2; .4180)
Share draft account	25.05 (2; .0000)	
Age	110.26 (8; .0000)	
Occupation	19.64 (8; .0118)	
Respondents' perception of the importance of a "common bond"	22.61 (8; .0039)	

* Level of significance was established at $p \leq .05$

Of those age 60-89, only ten percent indicated that they would use an ATM. However, in each age category the majority of members indicated that they might or would use an ATM.

In examining willingness to use an ATM with occupation, the greatest discrepancy between observed and expected frequencies (observed greater than expected) was found in the graduate student/GTA/GRA cell. More than 58 percent of those respondents indicated that they would use an ATM. In all occupation categories the majority of members indicated that they might or would use an ATM.

In testing the association between ATMs and importance of a "common bond", no pattern of proposed use by rating of "common bond" was evident. The cell with the greatest discrepancy between observed and expected (observed greater than expected) was at the intersection of would use an ATM/mildly agree with the importance of a "common bond". Fifty-four percent of those who agreed mildly with the importance of a "common bond" indicated that they would use an ATM. The majority of respondents in all "common bond" categories except "strongly disagree" (which included only 1.9 percent of all respondents) indicated that they might or would use an ATM.

H_o^{3a}: There is no association between respondents' willingness to use a Visa card and whether or not respondents have used a regular share account.

Of the 711 members who responded to the questions concerning willingness to use a Visa Card and whether or not they had used a regular share account, 625 had used, and 86 had not used a regular share account. Of those who had used a regular share account, 291 indicated that they would use a Visa card, 192 indicated that they might use one, and 142 indicated that they would not use a Visa card. Of those who had not used a regular share account, 42 indicated that they would use a Visa card, 24 indicated that they might, and 20 indicated that they would not. The chi square value of .29 (degrees of freedom = 2, $p < .8650$) was not significant. In this study there is no statistically significant association between members' willingness to use a Visa card and whether or not members have used a regular share account.

H_o^{3b}: There is no association between respondents' willingness to use a Visa card and whether or not respondents have used a daily dividend account.

Of the 493 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used a daily dividend account, 246 had used, and 247 had not used a daily dividend account. Of those who had used a daily dividend account, 132 indicated that they would use a Visa card (112.77 expected), 68 indicated that they might use one (81.33 expected), and 46 indicated that they would not use a Visa card (51.89 expected). Of those who had not used a daily dividend account, 94 indicated

that they would use a Visa card (113.23 expected), 95 indicated that they might (81.67 expected), and 58 indicated that they would not (52.11 expected) (Table 18).

With a chi square value of 12.24 (degrees of freedom = 2, $p < .0022$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and whether or not members have used a daily dividend account.

Table 18

Willingness to Use a Visa Card and
Use of a Daily Dividend Account

DAILY DIVIDEND ACCOUNT	VISA CARD			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	132 (112.77) 53.7	68 (81.33) 27.6	46 (51.89) 18.7	246
Haven't Used	94 (113.23) 38.1	95 (81.67) 38.5	58 (52.11) 23.5	247
Column Total	226	163	104	493

$$\chi^2 = 12.24 \text{ (2df; } p < .0022)$$

H_0^{3c} : There is no association between respondents' willingness to use a Visa card and whether or not respondents have used a credit union loan.

Of the 730 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used a credit union loan, 498 had used, and 232 had not used a credit union loan. Of those who had used a credit union loan, 227 indicated that they would use a Visa card, 151 indicated that they might, and 120 indicated that they would not. Of those who had not used a credit union loan, 113 indicated that they would use a Visa card, 73 indicated that they might, and 46 indicated that they would not. The chi square value of 1.67 (degrees of freedom = 2, $p \leq .4344$) was not significant. In this study there is no statistically significant association between members' willingness to use a Visa card and whether or not members have used a credit union loan.

H_o^{3d} : There is no association between respondents' willingness to use a Visa card and whether or not respondents have used automatic transfer.

Of the 564 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used automatic transfer, 248 had used, and 316 had not used automatic transfer. Of those who had used automatic transfer, 139 indicated that they would use a Visa card (122.68 expected), 62 indicated that they might (74.31 expected), and 47 indicated that they would not (51.01 expected). Of those who had not used automatic transfer, 140 indicated that they would use a Visa card (156.32 expected), 107 indicated that they might (94.69 expected), and 69 indicated that they would not (64.99 expected) (Table 19).

With a chi square value of 8.08 (degrees of freedom = 2,

$p < .0176$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and whether or not members have used automatic transfer.

Table 19

Willingness to Use a Visa Card and
Use of Automatic Transfer

AUTOMATIC TRANSFER	VISA CARD			Row Total
	Would Use Observed (Expected) Row Percent	Might Use Observed (Expected) Row Percent	Wouldn't Use Observed (Expected) Row Percent	
Have Used	139 (122.68) 56.0	62 (74.31) 25.0	47 (51.01) 19.0	248
Haven't Used	140 (156.32) 44.3	107 (94.69) 33.9	69 (64.99) 21.8	316
Column Total	279	169	116	564

$$\chi^2 = 8.07 \text{ (2df; } p < .0176)$$

H_0^{3e} : There is no association between respondents' willingness to use a Visa card and whether or not respondents have used overdraft protection.

Of the 531 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used overdraft protection, 171 had used, and 360 had not used overdraft protection. Of those who had used overdraft protection, 101

indicated that they would use a Visa card (81.8 expected), 43 indicated that they might use one (53.78 expected), and 27 indicated that they would not use a Visa card (35.42 expected). Of those who had not used overdraft protection, 153 indicated that they would use a Visa card (172.2 expected), 124 indicated that they might (113.22 expected), and 83 indicated that they would not (74.58 expected) (Table 20).

With a chi square value of 12.79 (degrees of freedom = 2, $p \leq .0017$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and whether or not members have used overdraft protection.

H_o^{3f} : There is no association between respondents' willingness to use a Visa card and whether or not respondents have used a share certificate.

Of the 430 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used a share certificate, 155 had used, and 275 had not used a share certificate. Of those who had used a share certificate, 76 indicated that they would use a Visa card, 45 indicated that they might use one, and 34 indicated that they would not use a Visa card. Of those who had not used a share certificate, 122 indicated that they would use a Visa card, 91 indicated that they might, and 62 indicated that they would not. The chi square value of 1.00 (degrees of freedom = 2, $p \leq .6059$) was not significant. In this study there is no statistically significant association between

Table 20

Willingness to Use a Visa Card and
Use of Overdraft Protection

VISA CARD				
OVERDRAFT PROTECTION	Would Use	Might Use	Wouldn't Use	Row Total
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	101 (81.8) 59.1	43 (53.78) 25.1	27 (35.42) 15.8	171
Haven't Used	153 (172.2) 42.5	124 (113.22) 34.4	83 (74.58) 23.1	360
Column Total	254	167	110	531

$$\chi^2 = 12.79 \text{ (2df; } p < .0017)$$

members' willingness to use a Visa card and whether or not members have used a share certificate.

H_o^{3g} : There is no association between respondents' willingness to use a Visa card and whether or not respondents have used no fee traveler's checks.

Of the 655 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used no fee traveler's checks, 367 had used, and 288 had not used no fee traveler's checks. Of those who had used no fee traveler's checks, 185 indicated that they would use a Visa card, 109 indicated that they might, and 73 indicated that they would not. Of those who

had not used no fee traveler's checks, 126 indicated that they would use a Visa card, 90 indicated that they might, and 72 indicated that they would not. The chi square value of 3.54 (degrees of freedom = 2, $p < .1706$) was not significant. In this study there is no statistically significant association between members' willingness to use a Visa card and whether or not members have used no fee traveler's checks.

H_o^{3h} : There is no association between respondents' willingness to use an ATM and whether or not respondents have used direct deposit.

Of the 696 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used direct deposit, 430 had used, and 266 had not used direct deposit. Of those who had used direct deposit, 231 indicated that they would use a Visa card (204.5 expected), 114 indicated that they might use one (128.51 expected), and 85 indicated that they would not use a Visa card (97 expected). Of those who had not used direct deposit, 100 indicated that they would use a Visa card (126.5 expected), 94 indicated that they might (79.49 expected), and 72 indicated that they would not (60 expected) (Table 21).

With a chi square value of 17.15 (degrees of freedom = 2, $p < .0002$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and whether or not members have used direct deposit.

Table 21

Willingness to Use a Visa Card and Use of Direct Deposit

DIRECT DEPOSIT	VISA CARD			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	231 (204.5) 53.7	114 (128.51) 26.5	85 (97.0) 19.8	430
Haven't Used	100 (126.5) 37.6	94 (79.49) 35.3	72 (60.0) 27.1	266
Column Total	331	208	157	696

$$\chi^2 = 17.15 \text{ (2df; } p < .0002)$$

H_0^{31} : There is no association between respondents' willingness to use a Visa card and whether or not respondents have used payroll deduction.

Of the 632 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used payroll deduction, 354 had used, and 278 had not used payroll deduction. Of those who had used payroll deduction, 175 indicated that they would use a Visa card, 104 indicated that they might use one, and 75 indicated that they would not use a Visa card. Of those who had not used payroll deduction, 126 indicated that they would use a Visa card, 85 indicated that they might, and 67 indicated that they would not. The chi square value of 1.22 (degrees of freedom = 2,

$p < .5445$) was not significant. In this study there is no statistically significant association between members' willingness to use a Visa card and whether or not members have used payroll deduction.

H_o^{3j} : There is no association between respondents' willingness to use a Visa card and whether or not respondents have used a share draft account.

Of the 774 members who responded to the questions concerning willingness to use a Visa card and whether or not they had used a share draft account, 501 had used, and 273 had not used a share draft account. Of those who had used a share draft account, 227 indicated that they would use a Visa card (233.02 expected), 138 indicated that they might (151.47 expected), and 86 indicated that they would not (116.51 expected). Of those who had not used a share draft account, 83 indicated that they would use a Visa card (126.98 expected), 96 indicated that they might (82.53 expected), and 94 indicated that they would not (63.49 expected) (Table 22).

With a chi square value of 49.58 (degrees of freedom = 2, $p < .0000$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and whether or not members have used a share draft account.

H_o^{3k} : There is no association between respondents' willingness to use a Visa card and respondents' age.

Of the 754 members who responded to the questions concerning willingness to use a Visa card and their age, 243 were 29 years of age and under, 206 were 30-39 years of age, 133 were 40-49 years of

Table 22

Willingness to Use a Visa Card and
Use of a Share Draft Account

SHARE DRAFT ACCOUNT	VISA CARD			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Have Used	277 (233.02) 55.3	138 (151.47) 27.5	86 (116.51) 17.2	501
Haven't Used	83 (126.98) 30.4	96 (82.53) 35.2	94 (63.49) 34.4	273
Column Total	360	234	180	774

$$\chi^2 = 49.58 \text{ (2df; } p < .0000)$$

age, 94 were 50-59 years of age, and 78 were 60-89 years of age. Of those who were 29 years of age and under, 139 indicated that they would use a Visa card (113.44 expected), 64 indicated that they might (74.45 expected), and 40 indicated that they would not (55.11 expected). Of those 30-39 years of age, 95 indicated that they would use a Visa card (96.17 expected), 73 indicated that they might use one (63.11 expected), and 38 indicated that they would not use a Visa card (46.72 expected). Of those 40-49 years of age, 62 indicated that they would use a Visa card (62.09 expected), 38 indicated that they might (40.75 expected), and 33 indicated that

they would not (30.16 expected). Of those aged 50-59, 38 indicated that they would use a Visa card (43.88 expected), 25 indicated that they might (28.8 expected), and 31 indicated that they would not (21.32 expected). Of those 60-89 years of age, 18 indicated that they would use a Visa card (36.41 expected), 31 indicated that they might (23.9 expected), and 29 indicated that they would not (17.69 expected) (Table 23).

With a chi square value of 39.35 (degrees of freedom = 8, $p < .0000$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and members' age.

H_0^{3L} : There is no association between respondents' willingness to use a Visa card and respondents' occupation.

Of the 733 members who responded to the questions concerning willingness to use a Visa card and their occupation, 165 were classified employees, 217 were faculty, 131 were graduate students, graduate teaching assistants, and graduate research assistants, 61 were research associates unclassified or State employees, and 159 were U.S. government employees or other. Of those who were classified employees, 70 indicated that they would use a Visa card (78.34 expected), 55 indicated that they might use one (50.2 expected), and 40 indicated that they would not use a Visa card (36.47 expected). Of those who were faculty, 94 indicated that they would use a Visa card (103.02 expected), 68 indicated that they might (66.02 expected), and 55 indicated that they would not (47.96 expected). Of those who were graduate students, graduate teaching

Table 23

Willingness to Use a Visa Card and Member Age

MEMBER AGE	VISA CARD			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
29 and under	139 (113.44) 57.2	64 (74.45) 26.3	40 (55.11) 16.5	243
30-39	95 (96.17) 46.1	73 (63.11) 35.4	38 (46.72) 18.4	206
40-49	62 (62.09) 46.6	38 (40.75) 28.6	33 (30.16) 24.8	133
50-59	38 (43.88) 40.4	25 (28.8) 26.6	31 (21.32) 33.0	94
60-89	18 (36.41) 23.1	31 (23.9) 39.7	29 (17.69) 37.2	78
Column Total	352	231	171	754

$$\chi^2 = 39.35 \text{ (8df; } p < .0000)$$

assistants, or graduate research assistants, 73 indicated that they would use a Visa card (62.19 expected), 43 indicated that they might (39.85 expected), and 15 indicated that they would not (28.95

expected). Of those who were RAU or State employees, 29 indicated that they would use a Visa card (28.96 expected), 20 indicated that they might (18.56 expected), and 12 indicated that they would not (13.48 expected). Of those who were U.S. government employees or other, 82 indicated that they would use a Visa card (75.49 expected), 37 indicated that they might (48.37 expected), and 40 indicated that they would not (35.14 expected) (Table 24).

With a chi square value of 16.60 (degrees of freedom = 8, $p < .0345$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and members' occupation.

H₀^{3m}: There is no association between respondents' willingness to use a Visa card and respondents' perception of the importance of a "common bond".

Of the 528 members who responded to the questions concerning willingness to use a Visa card and their perception of the importance of a "common bond", 151 agreed strongly with the importance of a "common bond", 138 agreed mildly, 211 were neutral, 19 disagreed mildly, and nine disagreed strongly. Of those who agreed strongly that a "common bond" is important, 78 indicated that they would use a Visa card (69.21 expected), 42 indicated that they might use one (47.76 expected), and 31 indicated that they would not use a Visa card (34.03 expected). Of those who agreed mildly that a "common bond" is important, 65 indicated that they would use a Visa card (63.25 expected), 48 indicated that they might (43.65 expected), and 25 indicated that they would not (31.1 expected). Of those

Table 24

Willingness to Use a Visa Card and Member Occupation

OCCUPATION	VISA CARD			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Classified	70 (78.34) 42.4	55 (50.2) 33.3	40 (36.47) 24.2	165
Faculty	94 (103.02) 43.3	68 (66.02) 31.3	55 (47.96) 25.3	217
Grad, GTA, GRA	73 (62.19) 55.7	43 (39.85) 32.8	15 (28.95) 11.5	131
RAU, State	29 (28.96) 47.5	20 (18.56) 32.8	12 (13.48) 19.7	61
U.S., Other	82 (75.49) 51.6	37 (48.37) 23.3	40 (35.14) 25.2	159
Column Total	348	223	162	733

$$X^2 = 16.60 \text{ (8df; } p < .0345)$$

who had neutral feelings about the importance of a "common bond", 87 indicated that they would use a Visa card (96.71 expected), 73 indicated that they might (66.74 expected), and 51 indicated that

they would not (47.55 expected). Of those who disagreed mildly that a "common bond" is important, six indicated that they would use a Visa card (8.71 expected), four indicated that they might (6.01 expected), and nine indicated that they would not (4.28 expected). Of those who disagreed strongly that a "common bond" is important, six indicated that they would use a Visa card (4.13 expected), none of the respondents indicated that they might (2.85 expected), and three indicated that they would not (2.03 expected) (Table 25).

With a chi square value of 16.45 (degrees of freedom = 8, $p \leq .0364$) the null hypothesis was rejected. In this study there is a statistically significant association between members' willingness to use a Visa card and members' perception of the importance of a "common bond".

Discussion of Findings for the Third Null Hypothesis

In this study there was a statistically significant association between respondents' willingness to use a Visa card and eight of the 13 variables tested (Table 26). Members' willingness to use a Visa card was significantly associated with five of ten specified services: daily dividend accounts, automatic transfer, overdraft protection, direct deposit, and share draft accounts. In examining the discrepancies between observed and expected frequencies for these five services, a pattern of observed-greater-than-expected was found in the cells represented by the intersections of user of

Table 25

Willingness to Use a Visa Card and
Perception of the Importance of a "Common Bond"

"COMMON BOND"	VISA CARD			Row Total
	Would Use	Might Use	Wouldn't Use	
	Observed (Expected) Row Percent	Observed (Expected) Row Percent	Observed (Expected) Row Percent	
Agree Strongly	78 (69.21) 51.7	42 (47.76) 27.8	31 (34.03) 20.5	151
Agree Mildly	65 (63.25) 47.1	48 (43.65) 34.8	25 (31.1) 18.1	138
Neutral	87 (96.71) 41.2	73 (66.74) 34.6	51 (47.55) 24.2	211
Disagree Mildly	6 (8.71) 31.6	4 (6.01) 21.1	9 (4.28) 47.4	19
Disagree Strongly	6 (4.13) 66.7	0 (2.85) 0	3 (2.03) 33.3	9
Column Total	242	157	119	528

$$\chi^2 = 16.45 \text{ (8df; } p < .0364)$$

Table 26

Results of Hypothesis Testing: H_0^3

Willingness to use a Visa card and:	* <u>Significant</u> Chi square value (df; p)	<u>Not Significant</u> Chi square value (df; p)
Regular share account		.29 (2; .8650)
Daily dividend account	12.24 (2; .0022)	
Credit Union loan		1.67 (2; .4344)
Automatic transfer	8.08 (2; .0176)	
Overdraft protection	12.79 (2; .0017)	
Share certificate		1.00 (2; .6059)
No fee traveler's checks		3.54 (2; .1706)
Direct deposit	17.15 (2; .0002)	
Payroll deduction		1.22 (2; .5445)
Share draft account	49.58 (2; .0000)	
Age	39.35 (8; .0000)	
Occupation	16.60 (8; .0345)	
Respondents' perception of the importance of a "common bond"	16.45 (8; .0364)	

* Level of significance was established at $p \leq .05$

service/would use Visa card; nonuser of service/might use Visa card; and nonuser of service/would not use Visa card. More than 50 percent of the users of the five services indicated that they would use a Visa card. The majority of both users and nonusers of the ten services tested indicated that they might or would use a Visa card.

Respondents' age, occupation, and perception of the importance of a "common bond" were also significantly associated with willingness to use a Visa card. Fifty-seven percent of the respondents age 29 and under indicated that they would use a Visa card. This finding is higher than that of the 1981 Oregon Credit Union Survey (DeBeck, Frederickson, and Palmer, 1982), in which only 38 percent of the respondents age 29 and under actually held credit cards. However, one study measured attitude toward possession of a card and the other measured actual possession. Percentage discrepancies may be attributable to eligibility requirements. (More OSU FCU members may have been willing to use a card than were actually eligible to have one.) Findings in other age categories were consistent with past research (Ingram and Pugh, 1981; Porter, Swerdlow, and Staples, 1979). Respondents age 60-89 were the least likely to indicate that they would use a Visa card. In all age categories, the majority of respondents indicated that they might or would use a Visa card.

In comparing willingness to use a Visa card with occupation, more than 42 percent of the respondents in each occupation category indicated that they would use a Visa card. The respondents with

the greatest interest in a Visa card were graduate students, GTAs and GRAs; 90 percent indicated that they might or would use a Visa card. The majority of respondents in each occupation category indicated that they might or would use a Visa card.

In testing the association between Visa card and importance of a "common bond," the greatest discrepancy between observed and expected (observed greater than expected) was found in the strongly agree/would use a Visa card cell. More than 50 percent of those who agreed strongly with the importance of a "common bond" indicated that they would use a Visa card. In all categories except "disagree mildly" (which included only 3.6 percent of all respondents), the majority of respondents indicated that they might or would use a Visa card.

Table 27
Summary of Significant Findings

Services and Characteristics	H ₀ ¹ <u>Common Bond</u> chi square (df; p)	H ₀ ² <u>ATM</u> chi square (df; p)	H ₀ ³ <u>Visa Card</u> chi square (df; p)
Regular Share Account			
Daily Dividend Account	10.85 (4; .0282)	8.15 (2; .0170)	12.24 (2; .0022)
Credit Union Loan	26.28 (4; .0000)		
Automatic Transfer		6.12 (2; .0470)	8.08 (2; .0176)
Overdraft Protection	19.8 (4; .0005)	13.90 (2; .0010)	12.79 (2; .0017)
Share Certificate			
No Fee Traveler's Checks			
Direct Deposit	9.44 (4; .05)	7.45 (2; .0241)	17.15 (2; .0002)
Payroll Deduction	17.26 (4; .0017)		
Share Draft Account		25.05 (2; .0000)	49.58 (2; .0000)
Age	n/a	110.26 (8; .0000)	39.35 (8; .0000)
Occupation	n/a	19.64 (8; .0118)	16.60 (8; .0345)
Common Bond	n/a	22.61 (8; .0039)	16.45 (8; .0345)

* Level of significance was established at $p \leq .05$

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Oregon State Federal Credit Union (OSU FCU) members' attitudes toward proposed services, and the association between the importance rating of a "common bond" (loyalty) and use of selected services of the OSU FCU were examined. The study utilized data from the member survey commissioned in 1982 by the OSU FCU Board of Directors. Two samples were drawn for the survey. One sample (n=533) was drawn from a list of OSU FCU members who held a share draft account in their own name and had Corvallis addresses. The second sample (n=302) was drawn from a list of OSU FCU members who did not hold a share draft account, were 20 years old or older, and had Corvallis addresses. The size of each sample was representative of the respective groups in OSU FCU membership. A total of 835 members completed the four-page questionnaire for a response rate for each sample of approximately 80 percent. The two samples surveyed were combined for the analyses conducted in this study.

Three general hypotheses were used to test: 1) the association between the importance of a "common bond" and selected variables; 2) the association between willingness to use an Automatic Teller Machine (ATM) and selected variables; and 3) the association between willingness to use a Visa card and selected variables. Each of the null hypotheses was tested using crosstabulations and the chi square test for independence. The level of significance was established at

$p < .05$. Of the 38 associations tested, 21 were significant.

The importance of a "common bond" was associated with use of five OSU FCU services: daily dividend accounts, credit union loans, overdraft protection, direct deposit, and payroll deduction. A greater than expected number of users of these services agreed strongly with the importance of a "common bond". For all ten services tested, the majority of both users and nonusers agreed or had neutral feelings about the importance of a "common bond".

Willingness to use both an ATM and a Visa card was significantly associated with use of five services: daily dividend accounts, automatic transfer, overdraft protection, direct deposit, and share draft accounts. Approximately 50 percent of the users of each of the five services indicated that they would use an ATM and/or a Visa card. The majority of both users and nonusers of the ten services indicated that they would or might use the proposed services.

There were significant associations between willingness to use both an ATM and a Visa card, and member age, occupation, and perception of the importance of a "common bond". There was an inverse linear association between age and willingness to use an ATM. However, in each age category the majority of respondents indicated that they would or might use an ATM, a finding which was also true for willingness to use a Visa card. By occupation, a greater-than-expected number of graduate students, graduate teaching assistants (GTA), and graduate research assistants (GRA) indicated that they would or might use an ATM and/or a Visa card.

In all occupation categories, the majority of respondents indicated that they would or might use the proposed services. A greater than expected number of members who agreed with the importance of a "common bond" indicated that they would use an ATM and/or a Visa card.

Conclusions and Recommendations

"Common Bond". Some traditional beliefs about associations between member attitudes toward the "common bond" and member behaviors were not supported by this study. For example, share draft accounts and no fee traveler's checks have been assumed to be the "keys" to members' financial business. In this study, use of share draft accounts and no fee traveler's checks were not associated with members' perceptions of the importance of the "common bond". Based on these findings, the Credit Union should consider charging for traveler's checks as it now does for share drafts.

Three revenue-producing services of the Credit Union were statistically associated with members' perception of the importance of a "common bond". Members who had used direct deposit, payroll deduction, and credit union loans had stronger positive feelings about the "common bond" than those who had not used these services. Direct deposit and payroll deduction are convenience services. Researchers have stated that convenience and a full-service image are the key criteria in the decision to use any financial institu-

tion (DeBeck, Frederickson, and Palmer, 1982). The Credit Union's competition now offers ATMs, credit cards, and several will soon offer debit cards. Additionally, savings and loans can now make consumer loans and frequently offer competitive rates. OSU FCU cannot depend on member loyalty ("common bond") if more competitive services are offered elsewhere, and therefore may need to expand its convenience services to include an ATM and/or a Visa card, and to develop a marketing strategy that will emphasize the benefits of Credit Union loans and the full-service image of OSU FCU.

Segmentation of the OSU FCU Membership. In this study a larger percentage of users than nonusers of some Credit Union services indicated that they would use an OSU FCU ATM and/or a Visa card. If a decision was made by the Board of Directors to introduce a proposed service (ATM/Visa), it would be possible to develop a marketing campaign for specific member segments.

Due to the inverse linear association between age and willingness to use an ATM (53 percent of those age 40 and under indicated that they would use an ATM versus 20 percent of those age 50-89), specific segment-directed advertising could be developed for a younger and an older member segment. Differentiated marketing could be practiced for the two member segments: a promotional strategy for those under 50 could mass advertise the availability of the service; whereas an older segment would need to know the benefits of ATM usage.

Segmentation employing a behavioristic variable (user status) would also be possible. Since a positive association existed between

usage of share draft accounts and willingness to use an ATM and/or a Visa card, stuffing (only) share draft statement envelopes with a promotional message would be a cost-effective allocation of marketing resources to reach a targeted segment.

Service Mix. The majority of the 835 respondents indicated that they would or might use an ATM and/or a Visa card. This finding enables the researcher to recommend implementation of one or both of these proposed services. However, a cost:benefit analysis was beyond the scope of this study and must be included in the decisionmaking process.

Those services which were significantly associated with the criterion variables (importance of a "common bond", willingness to use ATM and/or Visa) were: daily dividend accounts, credit union loans, overdraft protection, direct deposit, payroll deduction, automatic transfer, and share draft accounts. A greater percentage of members who had used these services (compared to nonusers) had positive feelings about the importance of a "common bond" and/or indicated that they would use an ATM and/or a Visa card. The impact on member attitudes from changes in these services must be considered before the service mix is altered.

The competitive climate fostered by the deregulation of the financial industry has had an impact on the OSU FCU and its membership. Convenience and a full-range service mix are identified member demands which must be considered in developing a long range marketing plan.

Recommendations for Further OSU FCU Studies

1. It is recommended that willingness to use a debit card be investigated.

2. It is recommended that willingness to pay a fee per transaction for use of an ATM be investigated.

3. It is recommended that potential OSU FCU members be surveyed to determine why their financial business is handled elsewhere.

4. It is recommended that a member survey be conducted on a biennial basis in order to provide a current data base on member needs and attitudes as input for Board decisions.

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APPENDIX I

1982 Corvallis Share Draft Questionnaire

HOW LONG HAVE YOU BEEN A MEMBER OF OSU FEDERAL CREDIT UNION (OSU/FCU)? _____ YEARS

COMPARED TO OTHER FINANCIAL INSTITUTIONS, HOW WOULD YOU RATE OSU/FCU ON THE FOLLOWING CHARACTERISTICS?
CHECK THE BOX DIRECTLY BELOW THE CATEGORY WHICH BEST EXPRESSES YOUR FEELING?

	MUCH BETTER	SOMEWHAT BETTER	ABOUT THE SAME	SOMEWHAT WORSE	MUCH WORSE	DON'T KNOW
LOCATION	<input type="checkbox"/>					
BUILDING	<input type="checkbox"/>					
TELLERS	<input type="checkbox"/>					
PARKING	<input type="checkbox"/>					
VARIETY OF SERVICES	<input type="checkbox"/>					
OVERALL SATISFACTION	<input type="checkbox"/>					

COMPARED TO "CHECKING" SERVICES AT OTHER FINANCIAL INSTITUTIONS, HOW WOULD YOU RATE THE FOLLOWING ASPECTS OF OSU/FCU SHARE DRAFT ACCOUNTS?
PLEASE TRY TO RESPOND EVEN IF YOU DO NOT USE A SHARE DRAFT ACCOUNT.

	MUCH BETTER	SOMEWHAT BETTER	ABOUT THE SAME	SOMEWHAT WORSE	MUCH WORSE	DON'T KNOW
INTEREST RATE	<input type="checkbox"/>					
CARBONLESS COPIES (YELLOW SHEETS)	<input type="checkbox"/>					
SHARE DRAFT DESIGNS	<input type="checkbox"/>					
MONTHLY STATEMENTS	<input type="checkbox"/>					
SMALL (\$5) MINIMUM	<input type="checkbox"/>					
FREE DRAFTS (WITH DIRECT DEPOSIT)	<input type="checkbox"/>					
CONVENIENCE	<input type="checkbox"/>					
AUTOMATIC OVERDRAFT TRANSFER	<input type="checkbox"/>					
NO PER-ITEM TRANSACTION FEE	<input type="checkbox"/>					

WE WOULD LIKE TO TEST OUR EFFECTIVENESS IN GETTING INFORMATION TO OUR MEMBERS. WITHOUT LOOKING AT YOUR NEWSLETTER OR OTHER SOURCES, PLEASE ANSWER THE FOLLOWING QUESTIONS.
REMEMBER, THIS IS A TEST OF US, NOT A TEST OF YOU.

DO YOU REMEMBER READING ABOUT THE NEW "EARLY BIRD" DRIVE -UP TELLER SERVICE WHICH OPENS AT 8:00 AM EACH WEEKDAY?

Yes No

DON'T KNOW

WHAT IS THE OSU/FCU DIVIDEND RATE ON SHARE DRAFT ACCOUNTS?

4% 4 1/2% 4 3/4% 5% 5 1/4% 5 1/2% 5 3/4% 6%

DON'T KNOW

DO YOU OR MEMBERS OF YOUR IMMEDIATE HOUSEHOLD HAVE CHECKING, N.O.W., OR SHARE DRAFT ACCOUNTS?

Yes No

IF YOU ANSWERED "NO" PLEASE GO TO THE TOP OF THE NEXT PAGE.

IF YOU ANSWERED "YES" PLEASE CONSIDER THE FOLLOWING TYPES OF ACCOUNT (ACROSS THE TOP) AND FOLLOW THE INSTRUCTIONS (DOWN THE LEFT MARGIN).

	OSU FEDERAL CREDIT UNION SHARE DRAFT ACCOUNTS			ACCOUNTS AT OTHER FINANCIAL INSTITUTIONS	
	IN YOUR NAME ONLY	IN YOUR NAME JOINTLY WITH ANOTHER PERSON	IN ANOTHER MEMBER'S NAME ONLY	SAVINGS LOAN AND N.O.W. ACCOUNT	BANK CHECKING ACCOUNT
CHECK ALL THE ACCOUNTS YOU AND OTHERS IN YOUR HOUSEHOLD HAVE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>CHECK EACH OF YOUR ACCOUNTS WHICH HAS:</u>					
OVERDRAFT PROTECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AUTOMATIC TELLER (DAY & NIGHT TELLER, U-BANK, ETC.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GUARANTEE CARDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>CHECK THE ONE ACCOUNT:</u>					
WHICH IS USED TO PAY MOST OF YOUR REGULAR HOUSEHOLD BILLS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WHICH HAS THE LARGEST AVERAGE VOLUME OF CASH FLOWING THROUGH IT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
YOU USUALLY USE FOR ON-THE-SPOT PURCHASES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WHERE YOU "DIRECT DEPOSIT" YOUR PAY CHECK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
THAT IS "MOST IMPORTANT" TO YOU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

WHY IS THE ABOVE ACCOUNT YOUR "MOST IMPORTANT" ACCOUNT? _____

IN THE FUTURE, NEW SERVICES AND/OR FACILITIES COULD BE OFFERED TO MEMBERS OF THE OSU/FCU. HOW IMPORTANT WOULD EACH OF THESE BE TO YOU?

	<u>I WOULD USE IT</u>	<u>I MIGHT USE IT</u>	<u>I WOULD NOT USE IT</u>	<u>DON'T KNOW</u>
AUTOMATIC TELLER MACHINE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SAFE DEPOSIT BOX	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BILL PAYING SERVICE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SHARE DRAFT GUARANTEE CARD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VISA CARD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PREMIUMS (GIFTS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

HOW IMPORTANT IS THE FOLLOWING SERVICE TO YOU IN YOUR DECISION TO KEEP SAVINGS IN YOUR REGULAR SHARE ACCOUNT?

	<u>VERY IMPORTANT</u>	<u>SOMEWHAT IMPORTANT</u>	<u>NOT IMPORTANT</u>	<u>DON'T KNOW</u>
NO FEE SHARE LIFE INSURANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE EVALUATE EACH ITEM IN THE FOLLOWING LIST OF OSU/FCU SERVICES.

	<u>I HAVE USED THIS SERVICE</u>	<u>I HAVE NOT USED, BUT DO KNOW ABOUT</u>	<u>I DO NOT KNOW ABOUT THIS</u>	<u>I DON'T KNOW HOW TO ANSWER</u>
AUTOMATIC TRANSFER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
REGULAR SHARE ACCOUNT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OVERDRAFT PROTECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DAILY DIVIDEND ACCOUNT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SHARE CERTIFICATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FEE TRAVELER'S CHECKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DIRECT DEPOSIT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PAYROLL DEDUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CREDIT UNION LOAN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE IDENTIFY PLACES WHERE YOU HOLD THE FOLLOWING TYPES OF ACCOUNTS/

	<u>AT BANKS</u>	<u>AT S&L'S</u>	<u>AT OSU/FCU</u>
PASSBOOK OR DAILY INTEREST SAVINGS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
90 DAY SAVINGS OR REGULAR SHARES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MONEY MARKET CERTIFICATES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

IF YOU USE AN OSU/FCU SHARE DRAFT ACCOUNT, PLEASE ANSWER THE QUESTIONS IN THIS SECTION.
 IF NOT, PLEASE PROCEED TO THE NEXT SECTION.

WHAT DO YOU LIKE BEST ABOUT YOUR SHARE DRAFT ACCOUNT?

WHAT DO YOU LIKE LEAST ABOUT YOUR SHARE DRAFT ACCOUNT?

IF YOU DO NOT USE AN OSU/FCU SHARE DRAFT ACCOUNT, PLEASE ANSWER THE QUESTION IN THIS SECTION.
 IF YOU DO USE A SHARE DRAFT ACCOUNT, PLEASE PROCEED TO THE NEXT SECTION.

WHAT CHANGE IN OSU/FCU SERVICE MIGHT CAUSE YOU TO SIGN UP FOR A SHARE DRAFT ACCOUNT?

IF ANOTHER PERSON ASKED ME IF THEY SHOULD JOIN THE OSU FEDERAL CREDIT UNION, I WOULD ENCOURAGE THEM TO JOIN.

<u>AGREE STRONGLY</u>	<u>AGREE MILDLY</u>	<u>NEUTRAL</u>	<u>DISAGREE MILDLY</u>	<u>DISAGREE STRONGLY</u>	<u>DON'T KNOW</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THE OSU/FCU "COMMON BOND" IS IMPORTANT TO ME.

<u>AGREE STRONGLY</u>	<u>AGREE MILDLY</u>	<u>NEUTRAL</u>	<u>DISAGREE MILDLY</u>	<u>DISAGREE STRONGLY</u>	<u>DON'T KNOW</u>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PLEASE PROVIDE THE FOLLOWING INFORMATION ABOUT YOURSELF. THIS INFORMATION WILL HELP US IN OUR ANALYSIS. REMEMBER THAT YOUR RESPONSES ARE ANONYMOUS.

WHO MAKES THE PAYMENTS FOR YOUR HOUSEHOLD BILLS?

YOU YOUR SPOUSE ANOTHER FAMILY MEMBER OTHER

ARE YOU: EMPLOYED UNEMPLOYED RETIRED

ARE YOU: OSU CLASSIFIED OSU FACULTY GRADUATE STUDENT R.A.U. U. S. EMPLOYEE
 STATE EMPLOYEE G.T.A. OTHER

DO YOU PRESENTLY LIVE WITH YOUR SPOUSE? YES NO

YOUR PRESENT AGE: _____ YEARS YOUR SEX: MALE FEMALE

WHAT WERE YOUR PERSONAL GROSS EARNINGS DURING 1981? \$ _____

WHAT WAS YOUR HOUSEHOLD INCOME DURING 1981? \$ _____

THANK YOU VERY MUCH FOR YOUR ASSISTANCE. IT IS GREATLY APPRECIATED.