THE AUTOMATIC BANK MACHINE USER: DEMOGRAPHICS, IN-BANK VISITATION AND INHERENT PROMOTIONAL CONSIDERATIONS

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Abstract

Automatic Banking Machines, capable of handling a wide variety of bank transactions are now widely available. This paper examines the demographics of consumers who use ABM's together with the inherent promotional problems they bring to the bank with the decreasing use of bank premises.

Introduction

It was in the 1950s that the marketing concept was first introduced into the banking system. "Helpful Friendliness" (Ingram, 1981) was recognized as a key to retail banking marketing in this period, and in the years that followed other media such as T.V. advertising evolved (Sullivan, 1981). However, banks still seemed more comfortable with public relations than advertising.

In the 1960s product advertising, as opposed to institutional advertising was stressed. Banks started to issue credit cards, opened drive-up windows and viewed the customers more as individual market segments than as a mass market. We are looking back on a time when two-thirds of the wage earners did not use any bank services. We are presently in a time when over ninety percent of households have at least one chequing account. However, current literature reveals that banks are not successfully marketing their services to the consumer. Given increasing competition and a dynamic marketplace, something must be done for the banks to be successful.

Review of Previous Literature

Roll (1984) maintains that the future of consomer banks will require increasing sales volume to offset lower margins. Product line expansion will be important through "cross selling", which involves selling more products to each customer. It is less costly to sell an additional service to an existing customer than a new prospect. The fact ABM use is limiting the opportunity for the bank to see customers face to face means that such cross selling may have to be done through direct mail or telemarketing. Varble (1986) states marketing strategies must be implemented for this "self-service transaction form."

Studies on the ABM user have varied. Hood (1979) found the typical user was male, young with middle to high income. Ingram and Pugh (1981) found only 29% used this form of banking and were upwards of 29 years old. Stanley and Mochis (1983) explored the reasons customers were predisposed to use the automatic teller. Characteristics examined included whether the machine was near home or place of work and the convenience of banking hours. Users were found to be younger and more educated than non-users. Income did not seem to be related to bank machine usage.

Tyrus Reiman (1986) feels ABM's can enable banks to penetrate markets they were never able to reach in the past. However, they must be able to reach these consumers to inform them of their services. Before direct mail or other promotional campaigns can be directed to these consumers, precise information on the target audience is required. Murray Roman (1984) prefers a combination of phone and direct mail to bring in a positive response (2½ to 10 times greater) than a direct mail campaign alone.

Methodology

Statement of Hypothesis

Based on the previous literature review three general research hypothesis have been developed. These are:

I. Bank machine users are younger and better educated, with higher incomes than non-users.

II. Users of automatic teller machines use in-bank services significantly less often than they did previous to usage of bank machines.

III. Bank machine users and non-users obtain their information about banking services from different sources.

Data Collection and Analysis

To obtain market information, 540 telephone interviews were conducted during March 1986, using randomly chosen numbers from the Halifax/Dartmouth, Nova Scotia, Canada telephone directory. The questionnaire was designed to examine demographic profiles of ABM users, frequency of in-bank visits before and after becoming ABM users, and the various sources of information used to obtain knowledge of banking services. There were only six refusals to answer. These numbers were replaced by other randomly chosen numbers from the directory.

Given the strictly nominal nature of the data, cross tabulations were used along with chi-square tests for association between variables. Symmetric lamba was also employed to indicate the direction of the relationship between the variables. Cramer's V statistics were calculated to examine the absolute strength of the relationship between cross tabulated variables. Differences in percentages were examined for media usage and frequency of entry to bank premises, using sampling statistics based on the normal frequency distribution.

Results and Discussion

Use of Automatic Banking Machines

Results of the research showed that 61.7% of those sampled used automatic banking machines. Both age and education were strongly related to ABM usage with Chi-square significance levels of .0000 and .0005 respectively. (See Table 1.)

TABLE 1
CHI-SQUARE SIGNIFICANCE TESTS
SYMMETRIC LAMBDA AND CRAMER'S V STATISTICS

Variables Cross Tabulated with ABM Usage	X^2	df	Sig*	Lambda Coefficient with ABM Usage Dependent	Cramer's V
Age	70.821	5	.0000	.227	.370
Educa-tion	22.167	5	.0005	.056	.207
Income	1.895	4	N.S.	.000	.063

*Acceptable levels of significance used were .10 or better. The "conventional" levels of statistical significance were used, as lower levels would have provided a greater chance of rejecting a true hypothesis

The age variable showed a unique usage pattern. Those under the age of 45 tended to use ABM's, accounting for 86.6% of all ABM users. Those aged 45 and over tended to use ABM's less than their younger counterparts (see Table 2).

TABLE 2
CROSS TABULATION OF AGE BY ABM USAGE

		Uses Automatic Banking Machines		
Age		Yes	No	TOTAL
18-24	(Actual)	102	39	141
	(Row %)	72.3	27.7	
	(Column %)	32.0	19.7	28.3%
25-34	(Actual)	109	43	152
	(Row %)	71.7	28.3	
	(Column %)	34.2	21.7	29.4%
35-44	(Actual)	65	28	93
	(Row %)	69.9	30.1	
	(Column %)	20.4	14.1	18.0%
45-54	(Actual)	31	43	74
	(Row %)	41.9	58.1	
	(Column %)	9.7	21.7	14.3%
55-64	(Actual)	10	23	33
	(Row %)	30.3	69.7	
	(Column %)	3.1	11.6	6.4%
65 and over	(Actual)	2	22	24
	(Row %)	8.3	91.7	
	(Column)	.6	11.1	4.6%
TOTAL		319	198	517*
*23 non respondents		61.7%	38.3%	100.0%

Educational background also provided an interesting pattern of bank machine usage. Respondents with a grade school education tended not to use ABM's (66.7%). Those with some high school indicated a "turning point" in ABM usage. With almost a 50/50 split in usage habits. Of this group, 48.4% used the machines, and 51.6% did not. Those respondents with high school education and higher tended to use ABM's accounting for 65% of the ABM users (see Table 3).

TABLE 3
CROSS TABULATION OF EDUCATION BY ABM USAGE

	Uses Automatic Banking Machines		
Education	Yes	No	TOTAL
Grade School	9	18	27
	33.3	66.7	
	2.8	9.2	5.3%
Some High School	30	32	62
	48.4	51.6	
	9.5	16.3	21.1%
High School Grad.	72	45	117
	61.5	38.5	
	22.7	23.0	22.8%
Some College	104	59	163
	63.8	36.2	
	32.8	30.1	31.8%
College Grad.	90	32	122
	73.8	26.2	
	28.4	16.3	23.8%
Post Grad.	12	10	22
	54.5	45.5	
	3.8	5.1	4.3%
	317	196	513*
TOTAL	61.8%	38.2%	100.0%

*27 non respondents

A cross tabulation of income by ABM usage confirmed the results of Stanley and Machis (1983), that income is not a significant factor in ABM usage (see Table 4).

TABLE 4
CROSS TABULATION OF INCOME BY ABM USAGE

	Uses Automatic Banking Machines		
Income	Yes	No	TOTAL
Under 20,000	87	60	147
	59.2	40.8	
	29.2	34.9	31.3%
20,000 - 30,000	72	41	113
	63.7	36.3	
	24.2	23.8	24.0%
30,000+ - 40,000	71	35	106
	67.0	33.0	
	23.8	20.3	22.6%
40,000+ - 50,000	21	11	32
	65.6	34.4	
	7.0	6.4	6.8%
Over 50,000	47	25	72
	65.3	34.7	
	15.8	14.5	15.3%
TOTAL	298	172	470*
	63.4%	36.6%	100.0%

* 70 non respondents

An examination of the Lambda coefficients indicated that error in predicting ABM usage given knowledge of a respondent's age was reduced by 22.7%. This indicates that ABM usage was dependent on age. The Lambda coefficient for education showed a 5.6% reduction of error in predicting ABM usage given knowledge of a respondent's education. Thus, it appears that there is a stronger relationship between ABM usage and age than ABM usage and education. This assumption is sustained when Cramer's V statistics are examined to measure the absolute strength of the relationship. Interpreted similar to a correlation coefficient, the Cramer's V statistics for age and education were .370 and .208 respectively. These are reasonably strong for this type of test. However, it is clear that age is more strongly related to ABM usage than is education.

Frequency of In-Bank Services of ABM Users

Previous literature has raised concerns about the frequency of in-bank service usage following the broad use of automatic teller machines. The primary problems arising from frequent ABM use is the lack of face to face contact between customers and bank staff. This reduced personal contact creates difficulties in cross-selling of bank products and reduces the efficiency of other forms of in-bank promotion.

Survey results indicated that 65% of ABM users visit the machine at least once weekly. Only about 35% visit twice monthly or less frequently (see Table 5). Consequently, one would expect their in-bank visits to be greatly reduced given the frequent usage of the bank machines. Respondents have demonstrated this to be true when asked the frequency of their in-bank visits before and after their acquaintance with ABM's.

TABLE 5
FREQUENCY OF USAGE OF AUTOMATIC TELLER MACHINES

Frequency of Visits	Actual	Percent
Daily	51	9.9%
Weekly	159	30.8
Biweekly	70	13.5
Monthly	30	5.8
Longer	12	2.3
Never	195	37.7
	517*	100.0%

*23 non respondents

Prior to their use of ABM's, respondents indicated they seldom visited the bank on a daily basis. Only 2.3% did so. Following ABM usership, only .4% visit the bank daily. This shows a significant decrease in daily visits at the .01 level (see Table 6). Prior to ABM usage, the majority of respondents visited the bank once weekly (32.7%). This figure has dropped to 6% since the widespread of ABM's. This decrease is significant at the .01 level. Before ABM usage, 20.1% of respondents visited the bank once every two weeks. This figure has decreased to 11.9%, a difference significant at the .01 level as would be anticipated, since frequent in-bank visits have dropped off with the widespread use of ABM's, infrequent visits may have increased. This assumption was confirmed by the results of the survey. The largest percentage of customers (22.6%) now visit the branches once monthly. This is only one-quarter of the number of visits of the pre-ABM majority (32.7%) which visited the banks once weekly. It shows a significant increase (.01 level) of monthly bank visits from 5.4% previously, to a current rate of 22.6%. A similar trend is evident in even less frequent visits to the branches. Previously, only 1.5% visited the bank less than once per month. This figure has now increased to 15.2%. Again, the difference is significant at the .01 level. The survey also showed that a small group of respondents do all of their banking through the machine and never enter the branch at all. This group accounts for 5.7% of the customers surveyed. Given that this group did not exist before the use of ABM's, this growth is significant at the .01 level (see Table 6). Hence it appears that there is legitimate cause for concern that most customers use less in-bank services since the adoption of ABM's.

TABLE 6
SIGNIFICANT TRENDS OF IN-BANK VISITATION AMONG ABM USERS SINCE THE INTRODUCTION OF AUTOMATIC BANKING MACHINES

Frequency of Visits	In-Branch Business Before Use of ABM's	In-Branch Business After Use of ABM's	Z-Values*	Significance of One-Tailed Test**
Daily	2.3%	.4%	2.92	.01
Weekly	32.7	6.0	13.22	.01
Biweekly	20.1	11.9	4.77	.01
Monthly	5.4	22.6	-17.73***	.01
Longer	1.5	15.2	-26.35	.01
Not at all	0	5.7	-12.95	

*Z-value = $\frac{\text{Previous \% - After \%}}{Sp_{previous}}$

$Sp_{previous} = \frac{\text{Previous \% (1 - Previous \%)}}{n}$

** Z-Value = 2.33 (.01-One tail)

*** Negative Z-Value indicates increase in After %

NOTE: 38.2% did not use ABM's and did not respond to this question.

Sources of Banking Information of Users and Nonusers of ABM's

The results revealed that while there are differences among information sources of users and nonusers of ABM's, these differences are not very pronounced. Neither group makes extensive use of radio, television or professional consulting. However, ABM users do obtain information from radio more than nonusers (significant difference at .10). There are no significant differences in the use of professional consulting or television consumption between the two groups (see Table 7). Newspaper is used significantly more by nonusers than users of ABM's (.01 level). Also, word of mouth is more often cited as a source of banking information by nonusers (.05 level). Both groups listed other information sources frequently. However they were more prevalent among ABM-users than nonusers (.01 level). Of special interest was that the "other" source listed most predominantly was in-bank promotion, or promotional information in bank statements. This is important because this form of bank promotion is the most frequent form cited by both users and nonusers of automatic banking machines. If this is the main source of information used to obtain knowedge of bank services, this may indicate a problem in promoting to ABM users who do not visit the branch.

This problem would be compounded for ABM users who do not receive bank statements. The only reasonable alternatives for bankers to reach this group would be direct mail, or telemarketing, for they make little use of other popular media sources.

TABLE 7
SIGNIFICANT TRENDS IN SOURCES OF BANKING INFORMATION AMONG USERS AND NONUSERS OF ABM'S

Information Source	ABM Users	ABM Nonusers	Z-Value*	Significance of One-Tailed Test
Newspapers	6.7	16.5	-9.26***	.01
Radio	4.1	2.1	2.35	.10
TV	9.2	7.7	1.21	N.S.
Word of Mouth	24.4	28.4	-2.16	.05
Professional Consulting	8.9	9.8	-.73	N.S.
Other	46.7	35.6	5.16	.01

*Z-Value = $\frac{\text{\% ABM Users - \% Nonusers}}{S_{p\ users}}$

$S_{p\ users} = \frac{\text{\% Users (1 - \% Users)}}{n}$

**Z-Value = 2.33 (.01 One Tail) Z-Value = 1.64 (.05 One Tail) Z-Value = 1.28 (.10 One Tail)

***Negative Z-Value indicates a higher percentage among nonusers of ABM's.

CONCLUSIONS AND RECOMMENDATIONS

The research conducted has confirmed two of the three research hypotheses presented earlier. As postulated, bank machine users are younger (under 45) and better educated (high school or better) than nonusers. However, income is not significantly different between these two groups. This indicates that ABM's as a product offering will appeal more to younger, educated customers than other market segments. In-bank services should be maintained and improved to service these other markets. Also, it is possible to "target" automated services to the younger, better educated market segments. Segmenting the market based on income may work for some products, but not for automatic banking machines. However, it is reassuring to know

that ABM users can be segmented on the basis of age and education. It appears that there is a big untapped market for use of ABM's among older bank customers (45 years and over). It would be less expensive for banks if these customers would utilize the machines for routine transactions (Roll, 1984). Hence, bankers should be exploring ways of reaching this segment of the marketplace.

The second research hypotheses was also confirmed. Users of automatic banking machines do use in-bank services significantly less often than they did previous to adopting ABM's. As Lindgren (1985) points out a passive marketing strategy was successful only so long as the factors which affected the banking industry did not require active selling. The competitive environment has changed to the point where aggressive marketing techniques, such as cross-selling, requiring face-to-face contact between bank and customer, are necessary. The banks cannot rely on the personal selling process as the ABM's limit opportunities to see customers face-to-face. The implications of this study confirm the seriousness of the problem, and demonstrate that banks may have to seek other methods of promoting their services.

Our third hypothesis, that ABM users and non-users obtain their banking information from different sources, can only be partly rejected. While it appears that both groups obtain their banking knowledge from similar sources, there are significant differences in frequency between the two groups. Nonusers rely significantly more on newspapers than users of ABM's, and neither groups use radio, television or professional consulting extensively. However, both use word of mouth, and list in-bank/bank statement promotion as a primary "other" source of information. While differences between these two groups exist, they are not striking, but do demonstrate that in-branch banking is an important promotional tool.

Obviously more aggressive promotion must be used to reach ABM-users, particularly if they don't receive bank statements regularly. Future profitability requires cross-selling among ABM users so it is important that other selling approaches are used to reach this market segment. Previous research advocates the use of direct mail and telemarketing to counter less in-bank visitation among ABM-users, and fierce competition in the financial services industry. As Roman (1984) states a successful marketing strategy will require carefully developed production forms, tight controls and continuous supervision and training of telephone marketers. Bankers have complete customer mailing lists. They must use these lists to develop new marketing strategies for clientele who have developed different bank visitation patterns.

LIMITATION AND SUGGESTIONS FOR FUTURE STUDIES

While this study is enlightening, the data base is characteristic of Maritime Canada where unlike the United States, ABM's have only been in operation for approximately three years and may not be generalizable to other regions. This study is valid for exploratory purposes. Conclusive research should be conducted prior to making changes in promotional strategy. Given possible regional differences bankers should familiarize themselves with the unique characteristic of their own client bases and marketplaces. Research should address several key areas evident in this study. What promotional methods are suitable which do not require in-bank visitation? What can be done to create ABM users out of nonusers? Banks should explore reasons why customers prefer not to use ABM's. Do they distrust wholly automated systems? Do they fear a loss of privacy or friendly service? Perhaps they do not feel their funds are safe, readily accessible, or easily transferable. Reluctance to use ABM's could be due to a general discomfort in using computerized machines. Psychographic research may yield even more striking differences between users and nonusers of ABM's. More research is needed to gain a fuller understanding of the usage of automated teller machines.

REFERENCES

Anderson, Thomas W., "Bank Selection Divisions and Market Segmentation", Journal of Marketing, Jan. 1976, Vol. 40, No. 1, pp. 40-45.

Hood, Jerry M., "Demographics of ABM's", The Bankers Magazine, Nov./Dec. 1979, pp. 68-71.

Ingram, F. Jerry, "Consumer Usage of Financial Services", The Bankers Magazine, July/Aug. 1981, Vol. 164, No. 4, pp. 40-53.

Ingram, F. Jerry and Pugh, Olin S., "EFT and Bank Cards: Household Attitudes and Practices", Journal of Retail Banking, March 1981, pp. 45-61.

Lindgren, John H., "Bank Customer Contact Personnel: Training Needs and Issues", Proceedings of the Tenth Annual Conference of the Academy of Marketing Science, Anaheim, CA. April-May 1986, pp. 378-382.

Reiman, Tyrus, "To Market, To Market with Demographics", Canadian Banker, Vol. 93, No. 1, Feb. 1986, pp. 16-18.

Roll, Richard J., "Targeting Markets in Consumer Banking", The Bankers Magazine, Jan./Feb. 1986, Vol. 169, No. 1, pp. 45-50.

Roman, Murray, "Reaching out with Telephone and Mail", Sales and Marketing Management, Vol. 132, No. 8, 4 June 1984.

Stanley, Thomas J., "The ATM Prone Consumer: A Profile and Implications", Journal of Retail Banking, Spring 1983, pp. 45-51.

Sullivan, Michael P., "Bank Marketing Strategies - Past, Present and Future", The Bankers Magazine, July/Aug. 81, Vol. 164, No. 4, pp. 28-32.

Varble, Dale L. and Hawes, John M., "Profiling the Users of Automated Teller Machines", Proceedings of the Tenth Annual Conference of the Academy of Marketing Science, Anaheim, CA. April-May, 1986, pp. 369-371.