Consumer Use of Automated Teller Machines

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The banking industry has invested billions of dollars in electronic banking technology, with U. S. financial institutions focusing electronic banking efforts on automated teller machines (ATMs). But, Violano and Van Collie (1992) found that family members in one-half of American households had no experience with ATMs. And, most ATM users relied on the machines solely for cash withdrawals.

The government has begun using electronic funds transfer (EFT) to deliver benefits. The Debt Collection Improvement Act of 1996 mandated use of EFT for delivery of all federal payments other than tax refunds beginning in 1999 (U.S. Department of the Treasury [USDT], 1997).

Proponents of EFT claim it is more convenient for recipients than checks and offers faster access to funds. More importantly, EFT lessens security and safety problems (USDT). But, consumers not familiar with electronic banking may be apprehensive about using it. Consumers without checking accounts will be issued an Electronic Transfer Account (ETA) at a financial institution (USDT); however, they may lack skills in how to use such an account.

The purpose of this study was to examine consumer use of ATMs. Specifically, what were the roles of locus of control, attitude toward use of ATMs, and intention to use ATMs in predicting actual use?

Theoretical Framework

The Ajzen and Fishbein (1980) theory of reasoned action, comprising four distinct constructs of beliefs, attitudes, intentions, and behaviors, served as the conceptual framework for this study. Beliefs represent a person's cognitive knowledge about an object or behavior and link it with an attribute, such as a trait or outcome. The set of beliefs about ease or difficulty of a behavior help shape attitudes about performance of the behavior. That is, perceived control over intended behavior helps determine whether one will perform the action. Attitudes are formed when one decides whether an object or behavior is favorable based on beliefs about it. Intentions involve one's resolve to perform specific behaviors, while behavior is overt action that can be observed directly.

The primary hypothesis of the study was that given locus of control and attitude, the addition of intention to use ATMs will more

strongly predict actual use of ATMs. The secondary hypothesis was that internal locus of control and a positive attitude toward use of ATMs will predict increased intention to use ATMs.

Methods

Measures

The Ajzen and Fishbein framework facilitated development of a model to predict actual ATM use. Locus of control and attitude toward ATM use were examined to determine if ATMs were helpful in predicting intention to use them as well as actual ATM use. The proposed model, however, did not include an examination of beliefs about ATMs.

A locus of control index (Danes, 1991) represented the "perceived behavioral control" construct of the model. Locus of control indicates beliefs about the amount of power one has to affect life circumstances. It was measured by Likert-type items on a seven-point scale. Item answers were summed to form an index measuring perception of control on a continuum from internal control, belief in one's ability to control events, to external control, belief that life is controlled by fate or other people. Cronbach's alpha for internal consistency was 0.48.

Differently weighted statements about using ATMs constituted the attitude scale.[1] It included items such as, "Using an ATM serves a good purpose," and "I hate using an ATM." A scale value ranging from 11.0 to 1.0 was assigned to each statement, with higher scores representing more favorable attitudes. These were summed to form an index. Cronbach's alpha was 0.74.

Behavioral intention was represented in the proposed model by intention to use ATMs after graduation. Intention was measured with five response choices describing likelihood of use. Although behavior itself can be measured most accurately through direct observation, self-reporting of ATM use served as a proxy measure for actual ATM use. It was a dichotomous variable.

[1]This was a Remmers-type scale developed by Bues in 1934 (Shaw & Wright, 1967) to measure attitude toward any practice. The instrument was adapted for this sudy by replacing the words "this practice" with "using an ATM."

Sample

A convenience sample of 103 students preparing for careers as social service professionals at a midwestern university was used. Final sample size was 100 with completed usable data.

Of the 100 participants, 16 were male and 84 were female. Ages were measured in ranges, with 18-22 years as the youngest, and over 30 years the oldest. The majority of students (78%) were 18-26 years of age. Educational levels ranged from freshman to graduate students, with a median class standing of senior. Seventy-one percent reported they had used an ATM; 29% reported no use.

Statistical Analysis and Results

Multiple regression analysis was used. Alpha level was set at 0.05.

The primary hypothesis was that, given locus of control and attitude, intention to use ATMs would predict actual use. The hypothesis was partially supported ($R^{2*} = .24$, $p \leq .01$). Locus of control was not significant (see Table 1).

Table 1. Multiple Regression Results for Actual ATM Use

Variable	B	SE B	β
Intention	0.246	0.051	0.550*
Locus of Control	0.011	0.035	0.033
Attitude	-0.349	0.124	-0.321*
Constant	1.991	1.116	
$R^2 = .272$			
$R^{2*} = .240$*			

*$p \leq .01$

To determine if ATM use could be predicted by locus of control and attitude alone, intention was dropped from the model. Without intention, neither locus of control nor attitude predicted ATM use (see Table 2). R^{2*} was .02 ($p \leq .01$).

Table 2. Multiple Regression Results for Actual ATM Use

Variable	B	SE B	β
Locus of Control	0.395	0.040	0.122
Attitude	-0.134	0.133	-0.123
Constant	2.010	1.282	
R^2 = .024			
R^{2*} = .021			

There was partial support for the hypothesis that internal locus of control and positive attitudes toward the use of ATMs would increase intention to use ATMs after graduation (see Table 3). R^{2*} was .35, ($p \leq .001$). However, ability to predict intention to use ATMs was due primarily to attitude; locus of control was not significant.

Table 3. Multiple Regression Results for Intention to Use ATMs After Graduation

Variable	B	SE B	β
Locus of Control	-0.011	0.030	-0.029
Attitude	0.471	0.064	0.601*
Constant	0.446	0.862	
R^2 = 0.360			
R^{2*} = 0.347*			

*$p = \leq .001$

Discussion

The results of this study lend support to the importance of positive attitudes toward use of ATMs as a determinant of intention to use ATMs. Intention to use ATMs predisposes one to use them. But, does a positive attitude alone lead to ATM use? According to the findings of this study, use of ATMs was a function of both attitude and intention. Locus of control, however, was not related to either intention or use.

Interestingly, ***negative*** attitudes were related to actual use of ATMs, whereas ***positive*** attitudes predicted intention to use. One explanation might be that college students in this sample were required to use ATMs to access funds deposited by their parents in hometown banks. In fact, 99% of ATM users reported using ATMs to withdraw cash, while much smaller percentages reported other uses; such as, deposits (35%), purchases (30%), or bill paying (18%). The

negative attitudes could be replaced by perceived high transaction fees or inconvenience of obtaining money in this way. And, according to the theory of reasoned action, behavior provides feedback that could lead to new beliefs about behavior. These new beliefs sometimes result in a change in attitude (Ajzen & Fishbein, 1980). Actual use in this case may have increased negative attitudes. Note that those with positive attitudes were more likely to report intention to use ATMs after graduation.

Implications

In the current study, attitudes toward ATM use was a predictor of intention to use ATMs after graduation. That is, those with positive attitudes about using ATMs had every intention of doing so, lending strong support to this component of the model. The implication for the banking industry is clear; market ATMs in such a way that consumers will form positive attitudes about using them. Implications for professionals working with consumers are not so clear cut. Why would positive attitudes about using ATMs (or banking technology in general) be important for these professionals, since those with negative attitudes were using such technology anyway?

Koballa (1986) found teacher attitude and commitment toward a practice was related to both the quantity and quality of student behavioral change regarding the practice. These findings may apply to consumer educators and other professionals as they work with those needing guidance in appropriate use of electronic banking. If such professionals are biased against the use of computerized banking, their students may be less likely to plan to use this technology.

The subjects of this study, social service pre-professionals, will have the unique opportunity to ease the fears of consumers as they explore electronic banking options. High school teachers play a similar role. For students in low-income families, guidance by individuals with positive attitudes may be critical as the use of electronic banking technology in the delivery of government entitlements becomes more widespread. It is crucial that consumer educators initiate a change in the outlook of those uncomfortable with the process.

As the government moves toward the electronic transfer of benefits, professionals working with low income populations anticipate some misuse of ATM access to funds. For example, a consumer used to cash transactions may withdraw all available funds using one monthly ATM transaction. Such use of ATMs would eliminate the possibility of using ATM/debit cards for point of sale transactions or electronic bill payment. Basic money management education could lead to a positive change in

attitudes toward ATMs and more effective use of electronic banking by low-income families.

Although the findings of a study of college students cannot be generalized to the low-income population receiving government benefits electronically, it is these individuals who will be assisting such families as they adapt to EFT. Therefore, pre-professionals' attitudes toward the use of ATMs are important because they may influence clients' attitudes in making effective choices in an electronic banking era.

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