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An Empirical Study of Automated Teller Machine Users in Oman

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ABSTRACT

The Omani Banking sector is undergoing significant changes and growth. This study investigated the experiences of Bank Muscat (BM) and Bank Dhofar (BD) (hereafter BM and BD) customers with automatic teller machines (ATMs) in the Dhofar region of Oman. Primary data was collected from by a random sample of 200 ATM users by means of a semi-structured questionnaire. The data were analyzed using descriptive statistics and t-test. The study found that most of the users were male in the age group of 36-45 having a government job or doing their own business. The study also revealed that the main problems faced by the ATM users are machine out of order, long queue and poor visibility of statement. As regards to the differences between the two banks the study found that significant difference in the mean customer satisfaction between customers of BM and BD for the factor "Machine out of order." Management of these banks must take into account these factors while designing and implementing ATM based policy reforms.

Keywords: Automatic Teller Machine, Bank Muscat, Bank Dhofar, Customer Satisfaction, Challenges, Oman
JEL Classifications: G21, J11, M39, 053

1. INTRODUCTION

The banking law in November 1974 which came into effect on April 1975 established the Central Bank of Oman (CBO). CBO was made the regulator of Oman's financial services industry. This law also facilitated the entry of foreign-owned banks and permitted an increase in the number of local banks in the sultanate. The CBO plays a crucial role in maintaining financial stability, pursuing appropriate monetary policies, developing and strengthening financial institutions and markets, and supervising and regulating the banking sector.

The banking sector in Oman supports economic diversification initiatives and credit needs of the growing young population. The total assets of conventional commercial banks increased by 6.1 per cent to OMR 28.8 billion in May 2016 from OMR 27.1 billion a year ago. Of the total assets, credit disbursement accounted for 66.9 per cent and increased by 10.4% as at end May 2016 to OMR19.3 billion. Credit to the private sector increased by 12.2% to reach OMR17 billion as at the end of May 2016.

As now, there are nine local banks, nine foreign commercial banks, two specialized banks, and two fully-fledged sharia-compliant banks operating in Oman. These banks are having a total 1053 automated teller machine (ATMs) (of which 523 were off-site), 332 cash deposit machines (of which 32 were off-site) and 12 on-site banking facilities. Bank Muscat (BM) is the largest bank in the country, with local assets totaling OMR 9.73 billion ($25.2 billion) at the end of 2014, equivalent to 39.2% of total sector assets. Next in line is Bank Dhofar (BD), with assets of OMR 3.19 billion ($8.3 billion), followed by National Bank of Oman (NBO) with assets of OMR2.98 billion ($7.7 billion).

ATM, is a machine which performs the work of a bank teller by giving and taking cash. For using an ATM, we need a card and personal identity number (PIN). After verifying card and PIN, the home screen shows the various banking options available. Apart from cash withdrawal various other transactions such as balance enquiry, cash or cheque(s) deposit, transfer of funds to other account, changing PIN and Mini statement can be carried out at ATMs.

The main objective of the study is to determine the degree of satisfaction amongst respondents who patronize the service of ATM. To achieve this, it is necessary to determine the most

important factors that customers take into consideration in assessing this service. This study sought to find answers to the following critical questions:

1. What are the challenges faced by customers in the usage of ATM?
2. Are there any differences in the problems from the usage of ATM of BM and BD?

The following hypothesis was tested:
It was tested if there is a significant difference in satisfaction of ATM service between customers of BM and BD. Therefore, the following hypotheses were tested;

H_1: There is no significant differences between location of BM and BD ATMs.
H_2: There is no significant differences in the availability of cash at ATMs of BM and BD.
H_3: There is no significant differences between ATM being out of order for BM and BD.
H_4: There is no significant differences between withdrawal denomination at ATMs of BM and BD.
H_5: There is no significant differences in the quality of notes in ATMs of BM and BD ATMs.
H_6: There is no significant differences between length of queue at ATMs of BM and BD.
H_7: There is no significant differences between instances of card blocking at ATMs of BM and BD.
H_8: There is no significant differences between the ease of use of BM and BD ATMs.
H_9: There is no significant differences between the visibility of statement from ATMs of BM and BD.

2. LITERATURE REVIEW

Banking services of the 21st century have more or less become a necessity, utilized by all sections of a society. These services provided are aimed at ensuring the comfort, convenience and security of the customer. ATMs have become an essential and major part of banking. Tuli et al. (2012), described that the ATM is a modern technology, which accepts deposits, issues withdrawals, transfers money between accounts and collect bills.

Davis et al. (1996) studied the factors that influence ATM service quality. They found that costs involved in the use of ATM and efficient functioning of ATM influence the customer's satisfaction towards an ATM. Joseph and Stone (2003) in their study in USA found that easy access to location, user-friendly ATM and security, are key factors that impact majority of bank customers' opinion of ATM service quality. Shamsuddoha et al. (2005) in their study in Bangladesh, found that 24 h' service, accuracy, and convenient locations are the foremost factors for satisfaction of ATM customers. Their study also showed that lack of privacy, fear of safety and difficulty of operating the ATM machine as the major cause of concern for the customers. They have found that ATMs are used for various purposes and people would definitely make use of the new and modern technologies like ATMs to a greater extent of their banking activities not only at present but in the future also.

Robert (1999) stated that while the number of ATMs continues to grow, the average number of monthly transactions per machine has been slipping. In 1992 there were almost 7,000 monthly transactions per machine but by 1997 it had fallen to 5,500. He has proved that the growth in the number of machines is resulting in the shrinkage in average number of transaction per machine. Andrew's (2003) study on ATMs focused on the sharing of ATM facilities between banks and the charges for use of the ATMs. He has found that ATM networks have resulted in challenging pricing problems. Hayashi et al. (2003) stated off-site ATMs have not only enhanced consumer's accessibility, but also extended business opportunities for non-bank ATM operators as well as for ATM networks. They have stated that that ATM services are becoming increasingly accessible and convenient as more number of ATMs have been installed at convenient public places.

Prior studies of Al-Hawari, and Ward (2006) gathered a list of major items related to ATM service quality such as convenient and secured locations, functions of ATMs, adequate number of machines and user-friendliness of the systems and procedures. Their study found that these items constitute important aspects of ATM service quality.

Table 1: Demographics characteristics of respondents

Demographic characteristics	Frequency (%)	
	Bank A	Bank B
Gender		
Male	70 (70.0)	73 (73.0)
Female	30 (30.0)	27 (27.0)
Total	100 (100.0)	100 (100.0)
Age		
≤25	19 (19.0)	15 (15.0
26-35	34 (34.0)	36 (36.0
36-45	41 (41.0)	42 (42.0)
>45	6 (6.0)	7 (7.0)
Total	100 (100.0)	100 (100.0)
Occupation		
Student	21 (21.0)	18 (18.0)
Public servant	32 (32.0)	34 (34.0)
Business persons	30 (30.0)	33 (33.0)
Other profession	17 (17.0)	15 (15.0
Total	100 (100.0)	100 (100.0)
Educational level		
Diploma	22 (22.0)	25 (25.0)
Graduate	69 (69.0)	68 (68.0)
Others	9 (9.0)	7 (7.0)
Total	100 (100.0)	100 (100.0)
Time spent as customer (months)		
≤6	3 (3.0)	2 (0.0)
7-12	2 (2.0)	1 (1.0)
13-24	39 (39.0)	44 (46.0)
>24	56 (56.0)	53 (53.0)
Total	100 (100.0)	100 (100.0)
Switching intention		
Yes	42 (42.0)	47 (47.0)
No	58 (58.0)	53 (53.0)
Total	100 (100.0)	100 (100.0)

Kumbhar (2010) through an empirical study found the factors that affect customers' satisfaction of ATM service. Results showed that the cost effectiveness, easy to use and secure and responsiveness in ATM service were the most important factors in customer satisfaction. Chattopadhyaya and Saralelimath (2012) assessed the impact of the ATMs on customer services which leads to enhanced customer satisfaction. He analyzed the relationship between demographic variable and preference to use the ATMs. Data was collected using a structured questionnaire from 300 customers chosen conveniently in the city of Pune in India. Frequency and percentage analysis and chi-square tests were applied for data analysis. The study revealed that a majority of the customers are highly satisfied with ATM services and view them as essential services.

Sawalqa (2012) surveyed 132 users of ATM in Jordan and found that, privacy and security contribute significantly to the customer's financial needs. Furthermore, the demographic characteristic makes no differences in the financial needs satisfaction of ATMs users. He had suggested that banks should put more stress on the different aspects of privacy and security and provide training to increase the ATMs usage so that the customers can be satisfied. Karuna and Kumegan (2004) studied the awareness level related to the multi-function of the card and identified the attributes that has influenced the differences of attitude between the active and inactive smart ATM cardholders from a sample of 300 respondents. He has found out that the awareness level of the multi-function card was low. Moreover, the study also validated that attitude has influenced the usage level as dictated by the multi attitude model. The study suggested that the full utilization of the newly introduced smart ATM card is crucial for the financial institutions to capitalize their investment.

Davinson and Sillence (2014) studied the perceptions and behavior of ATM users while using new and advanced technology for carrying out the banking transactions. They found that ATM users feel safe and secure while carrying the banking transactions at the ATMs. Moreover, ATM users were aware of the fraudulent activities. Tunali and Tatoglu (2010) revealed in their study on ATM users in Turkey and found that ATM card users of households are affected by means of social, personal and economic factors. Haddad and Almahmeed (1992) in their study of ATM users in Kuwait studied various factors such as customer's awareness, usage patterns, reasons for using ATMs and problems associated with ATM usage. They have revealed age, nationality, marital status, occupation, income and educational level groups impacts the ATM usage.

Howcroft (1991) study showed that frequent interruption and breakdown of ATM results in dissatisfaction among ATM users. Lewis et al. (1991) study revealed that competition and technology-based new services lead to switching in the customers' loyalty. Donal et al. (2001) study found that customer's loyalty is influenced by location of ATMs. Joseph and Stone (2003) found that customer satisfaction is influenced by secure and convenient location, adequate number of ATM, user-friendly system and functionality of ATM. Dilijonas et al. (2009) found that service quality of ATM depends on an adequate numbers of ATMs, convenient and secure location, and user-friendly system, speed, minimum errors, high uptime, cash backup, cost and service coverage are essential.

Stemper (1990) stresses the positive dimension of ATMs based on freedom of transaction and also states that some customers do not like ATMs because of it impersonality, vision problem, fear of technology and reluctance to change and adoption of new mode of service delivery.

3. RESEARCH METHODOLOGY

Data was sourced from the customers of BM and BD in the Dhofar Region. Only the customers who were using ATM cards were asked to participate in the survey. In all 200 ATM card users (100 BM customers and 100 BD customers) were sampled. A semi-structured questionnaire was administered to each customer. The respondents were asked to rate the problems faced by them with respect to the various aspect of the ATM services of Banks on a scale of 1-5 (1-strongly disagree, 2-disagree, 3-niether agree or disagree, 4-agree, 5-strongly agree). Data analysis was done using statistical package for social scientists.

4. FINDINGS

Table 1 shows the demographic profile of the respondents. For both the banks the respondents were male in the age group of 36-45. Their occupation was mostly as public servants and business. Most of them were graduates and were using the ATM since the past 2 years with no intention of switching.

As shown in the Table 2, Machine out of order and long queue are the major problems for BM while for BD long queue is the major problem. For both the banks customers have no difficulty in use due to the sophistication of ATM machine.

Table 2: Problems faced while using the ATM services of banks (%)

Particulars	Bank	SD	D	NAD	A	SA
Unsuitable location	BM	35	36	6	14	9
	BD	31	38	4	15	12
Insufficient cash	BM	23	35	14	22	6
	BD	16	42	16	21	5
Machine out of order	BM	23	20	11	14	32
	BD	46	17	12	11	14
Denominations of withdrawal	BM	47	25	8	3	15
	BD	44	27	7	4	18
Poor quality of notes	BM	44	23	6	11	16
	BD	53	6	5	17	19
Long queue	BM	28	12	15	15	30
	BD	28	14	13	17	28
Card gets blocked	BM	44	41	11	3	1
	BD	42	39	13	4	2
Difficult to use (sophisticated)	BM	54	29	14	3	0
	BD	39	46	13	2	0
Poor visibility of statement	BM	44	21	4	16	15
	BD	41	19	3	17	20

BM: Bank Muscat, BD: Bank Dhofar, ATMs: Automatic teller machines, SD: Standard deviation

Table 3: t-test for comparison of ATM services of BM and BD

Location	Mean±SD	SEM	T	P	Decision
BM	2.2500±1.31330	0.13133	−0.724	0.470	Accept H_1
BD	2.3900±1.42059	0.14206			There is no significant difference between location of BM and BD ATMs
Insufficient cash					
BM	2.5300±1.23464	0.12346	−0.238	0.812	Accept H_2
BD	2.5700±1.13933	0.11393			There is no significant differences in the availability of cash at ATMs of BM and BD
Machine out of order					
BM	2.3000±1.48732	0.14873	−3.757	0.000	Reject H_3
BD	3.1200±1.59722	0.15972			There is significant differences between ATM being out of order for BM and BD
Denomination					
BM	2.6900±1.42627	0.14263	1.063	0.289	Accept H_4
BD	2.4700±1.50054	0.15005			There is no significant difference between withdrawal denomination at ATMs of BM and BD
Note quality					
BM	2.5200±1.69062	0.16906	0.463	0.644	Accept H_5
BD	2.4100±1.67027	0.16703			There is no significant difference in the quality of notes in ATMs of BM and BD ATMs
Queue					
BM	3.0500±1.62912	0.16291	0.174	0.862	Accept H_6
BD	3.0100±1.61742	0.16174			There is no significant difference between length of queue at ATMs of BM and BD
Card blocking					
BM	1.7500±0.84537	0.08454	0.869	0.386	Accept H_7
BD	1.8600±0.94302	0.09430			There is no significant difference between instances of card blocking at ATMs of BM and BD
Difficulty in use					
BM	1.6500±0.83333	0.08333	−1.295	0.197	Accept H_8
BD	1.8000±0.80403	0.08040			There is no significant difference between the ease of use of BM and BD ATMs
Statement visibility					
BM	2.3500±1.53987	0.15399	−0.892	0.373	Accept H_9
BD	2.5500±1.62912	0.16291			There is no significant difference between the visibility of statement from ATMs of BM and BD

BM: Bank Muscat, BD: Bank Dhofar, ATMs: Automatic teller machines, SD: Standard deviation, SEM: Standard error of mean

It was tested if there is a significant difference in satisfaction of ATM service between customers of BM and BD with regards to the various aspects. The results are shown in Table 3. The hypothesis H_3 (There is significant differences between ATM being out of order for BM and BD) was rejected while the remaining null hypotheses were accepted.

5. CONCLUSION AND RECOMMENDATIONS

ATMs were first introduced over 40 years ago and since then many features have been incrementally added to the machines. Modern ATMs offer a wide range of banking transactions. Banks are spreading their ATM networks as they are a cheaper alternative to opening branches. ATMs are getting more important for banks as they offer various advantages over branch banking. Consumers in Oman are becoming increasingly familiar and are fully aware about the working of ATM, they are at ease using ATM for their transactions. As the use of ATMs increases the quality of ATM services provided by a bank will be a crucial factor for customer retention and increasing the customer base.

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