Chapter 47
Electronic Payment Adoption in the Banking Sector of Low-Income Countries

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ABSTRACT

Banks in low-income countries are launching e-banking services such as Internet banking, SMS banking, ATM banking, card banking, point of sales (PoS) and mobile banking. Among these planned services, ATM is the most matured service in many private and state owned banks in Ethiopia. ATM is a recent phenomenon in low-income countries (Olatokun & Igbinedion 2009; Alaba, 2011), and is still being introduced in financial sectors in low-income countries (Angeli, 2008; Alaba 2011) making investigation of factors of ICT technology adoption in low income countries timely. The authors test context specific applicability of UTAUT (Unified Theory of Acceptance and Use of Technology) model. The authors' analysis of primary data suggests general applicability of the modified UTAUT model in explaining factors and antecedents of technology adoption but also identifies significant differences in the moderating factors of gender and age. Depending on whether they are above or below the age of 30, Ethiopian consumers of banking services exhibit highly differentiated levels of service credibility and technology risk acceptance towards ATM banking. This suggests that banking services sector in low income countries may like to clearly delineate and appropriately differentiate their awareness and reach-out strategies to their customers who belong to one or the other age group. Furthermore, women in this study are found to perceive themselves as more susceptible to fraud and other security risks in ATM banking, suggesting that special design considerations be incorporated in the way locations of ATMs are selected and in the way ATM technology features are accessed to ally such fears. The authors' work also shows research directions where other scholars may investigate an otherwise much diffused technology adoption in the low income countries of the world.

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1. INTRODUCTION

IT has provided significant value in terms of competence, competitiveness, and processes of firms, notably those in the financial sector (Giannakoudi, 1999). Advances in IT has also opened up new channels for service delivery in health, education, governance, and e-business. The financial service industry - especially banks - have excelled in utilizing such IT enablement to appropriately respond to their dynamically changing market conditions, including financial transactions and relationship based communications between banks and customers (Giannakoudi, 1999). Electronic payment facilitation (e.g., ATM) and Internet banking including mobile capabilities are apt examples in this regard.

In many parts of the world, particularly those that include the high-income countries, majority of bank customers regularly use ATMs. For instance, in UK alone more than five million consumers use ATM on a daily basis withdrawing a total of over £300 million per day (Federal Reserve System, 2013; LINK, n.d.). A survey conducted in the US concluded that up to 70% of bank consumers visit their banks just to use an ATM (Bank Marketing, 1997). Nevertheless, ATM is a recent phenomenon in low-income countries (Olatokun & Igbinedion 2009; Alaba, 2011), and is still being introduced in financial sectors in low-income countries (Angeli, 2008; Alaba 2011). For instance, there were just about 800 ATM machines deployed in Nigeria and about 2 million cards issued by 23 banks till 2006 (the number of ATM transactions had increased almost 15 fold between the years 2005 to 2006 though). However, these adoption rates are way below the expected levels compared to those in high-income countries. For example in US, the value of transactions settled through EPS has long ago been estimated to be about US $ 3 trillion (Forrester, 1999; Whitley, 2000) – magnitudes of difference when the intervening period of time is considered. On one hand, this confirms Odera et al. (1993) that IT systems in low-income countries are underutilized while on the other, it also shows the high potential benefits that IT adoption can provide to bank customers in terms of choice in banking channels and services and also in terms of reduced wait time for necessary services. This also suggests that investigation of factors of ICT technology adoption in low income countries is a timely and important issue now such that the benefits of these cost effective technologies can be appropriately extended to the much disadvantaged residents of low income countries.

Ethiopia is representative example of low income countries discuss above. Ethiopian banking industry is quite underdeveloped in comparison to the rest of the world (Worku, 2010). The predominant medium of exchange in transactions is still cash although the rapidly growing ICT technologies are poised to revolutionize the banking sector in Ethiopia (Endale, 2013) that is going through modernization initiatives to support real-time financial services. Anecdotal evidences suggest that banks have been putting aside significant portions of their budgets and launching e-banking services such as Internet banking, SMS banking, ATM banking, card banking, point of sales (PoS) and mobile banking. Among these planned services, ATM are already being launched now in many of the private and state owned banks in Ethiopia.

Ethiopian bank report in July 2010 showed that three private banks each contributing 30 million birr, had managed to install 60 ATM by S2M, a Morocco based company. By the same year, Awash International Bank (AIB) had announced the winning bidder who would supply 80 point of sale (PoS) terminals and 100 ATMs and in Ethiopia, which would thus increase AIB's total number of ATMs to 120. When the full consignment is commissioned, the Bank would rise to the top of the list among financial institutions that owned the largest ATM networks in the country, being next only to the Commercial Bank of Ethiopia (CBE).