

An Assessment of Users' Acceptance of Internet Banking: An Empirical Case of Egypt

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Abstract. Internet banking has been of interest to academics, business leaders and banks officials over the past four decades, particularly in terms of enhancing customer services. Although the usage of internet banking continues to develop, and be widely accepted by customers, the research usually focuses on other banking sector business activities. The research to date has not provided a consensus on users' acceptance of internet banking. Even though in recent years the topic of banking automated services has appeared in management literature with increasing frequency, internet banking remains poorly defined and the interpretation of its acceptance fragmented, particularly in developing countries. In this study, I extend knowledge with regards to factors that influence users' acceptance of Internet banking in light of the Technology Acceptance Model (TAM), using data obtained from customers of one of the largest banks in Egypt. I explored that factors that influence users' acceptance on Internet banking, and used quantitative research in the form of questionnaire survey to meet the objectives of the research. The results show that the main factor, which affected banks' customers' decision to use Internet banking service, was ease of use, followed by usefulness and trust and credibility of the service. Other external factors such as personal innovativeness, individual differences, computer and Internet use experience, promoting circumstances and service assistance, and communication, which determined the three antecedents, were applicable and valid in explaining users' adoption.

Keywords: Internet banking, Bank management, Internet uses, Technology Acceptance Model.

1. INTRODUCTION

The future of Egypt's banking industry has been a hot topic ever since the start of the "Economic Reform" policy in 1991. Sweeping changes like relaxing new banking rules and regulations, privatizing and restructuring the banking industry, and incorporating information technology aimed at enhancing banks' financial status and accounting standards, and allowing the banking sector, being one of the most promising sectors in the economy, to restore public confidence, improve performance and be in line with international measures. Influenced by remarkable advances in information technology, most banks in Egypt have started, or are in the process of starting, automating their activities and providing electronic banking services such as Internet Banking services as a new way of doing their business. Recently introduced in some banks in Egypt, online banking provides customers with a broad range of bank services such as getting access to their accounts and obtaining up-to-date information, transferring payments between their accounts, or performing other banking operations like ordering bank statements, checkbooks, viewing interest rates on time deposits, and so forth.

Literature reports that the continuous development and integration of technologies through computers, telephone networks, etc., has started to dominate and reengineer business transactions worldwide, and has accelerated globalization of business (Rao, S. et al. 2003). The break through of the internet and its implementation in conducting business has changed the way firms operate and deliver their products and services. Capitalizing on online trading solutions in business transactions has first appeared in the United States in the mid nineties (Chan & Lu 2004). However, it was accompanied by opportunities as well as perils. The internet provides many potential benefits among which are better and cheaper access to new markets, locally and across borders, and better reach to more collaborative entrepreneurial networks of wholesalers and trading organizations. On the other hand, administering business transactions through the internet requires a suitable infrastructure, committed and skilled labor, and is accompanied by several concerns such as security matters, mistrust among stakeholders, protecting personal privacy, preventing copyright violations, etc.

To modernize the Egyptian banking system, being a significant element of the financial sector, and the efficiency of which accelerates the economy's real sectors growth rate, Egypt inaugurated reforms to arrange for privatizing the country's state-owned banks, lure foreign investments, consolidate an over-banked sector, and, in general improve the economy by reining high inflation, reducing unemployment, and controlling the huge debt burden. Sweeping changes like relaxing new banking rules and regulations, privatizing and restructuring the banking industry, and incorporating information technology aimed at enhancing banks' financial status and accounting standards, and allowed the banking sector, being one of the most promising sectors in the economy, to restore public confidence, and improved its performance in efforts to be in line with international measures. Influenced by remarkable advances in information technology, most banks in Egypt have started, or are in the process of starting, automating their activities and providing electronic banking services such as Internet Banking services as a new way of doing their business, and enhancing their competitive edge. The success of Internet banking in Egypt, however, depends greatly upon customers' willingness to adopt it. Hence, understanding the elements which influence customers' adoption of this new technology should help decision makers in coping with increasing competitive forces, and meeting ever changing customers needs and demands.

The purpose of the research is three fold: a) Provide an overview of the reforms of the banking industry in Egypt, b) Understand users' acceptance of Internet banking based on the Technology Acceptance Model and its replications, and c) Further suggest ways to enhance consumer acceptance, particularly as regards ease of use, usefulness, trust and credibility of such technology.

Therefore, questions addressed by this paper are:

- What are the major developments in the banking sector of Egypt, which could create a favorable environment to the diffusion of Internet banking?
- What are the factors influencing users' acceptance of Internet Banking in Egypt?
- Are the factors drawn from the literature on Technology Acceptance Model applicable and valid in explaining and predicting people's adoption of Internet banking in the Egyptian culture?
- What are some suggestions and lessons learned that would help reduce barriers to users' acceptance of Internet banking in Egypt?

In addressing these issues, the first part of the paper should acquaint the reader with important elements of reforms in the Egyptian banking sector. The second part explores the internet banking as a competitive strategy and examines the challenges facing internet banking adoption in Egypt.

The third part aims at increasing the understanding of users' behaviors towards introduction of Internet banking in Egypt by reporting the outcome of a customer survey which measured users' acceptance of the newly introduced services provided by some banks. Finally, the last section outlines crucial issues of online banking introduction and adoption and further provides research conclusions.

2. The Banking Sector of Egypt

The banking system in Egypt comprises the Central bank of Egypt, 28 commercial banks (of which 4 are state owned), 26 investment banks, and 3 specialized banks, two of which are state owned banks. Commercial banks is the most significant sub-sector as it represents about 78% of the total banking industry assets (The Economist Intelligence Unit). The four public sector banks, the National Bank of Egypt, Bank of Alexandria, Banque du Caire, and Banque Misr, lead the sector with 48% of total deposits and 58.3% of total assets. They finance major public sector projects such as the Aswan High Dam, state companies, as well as certain industries like textiles, steel, tourism, and so forth. And despite the fact that state-owned banks dominate the sector, non-state-owned banks are greatly accountable for the development of retail banking, a field previously untapped by the public sector banks (The Economist Intelligence Unit). Joint venture commercial banks, most of which adopt western banking standards in their daily operations, and are the most profitable in the Egyptian banking industry, were established to promote foreign direct investments in Egypt (Abu-Musa 2003: 46-48). Investment banks account for 13.4% of the total banking system, and comprise private, joint venture, and off-shore banks or foreign banks which were permitted, ever since 1993 to deal in the local currency provided they keep a minimum requirement of \$15 million worth of capital assets (Abu-Musa 2003: 46-48). Specialized banks comprise about 5.9% of the total banking sector in Egypt, and are accountable for promoting the Egyptian industrial, agricultural, and construction projects by providing long-term loans (Abu-Musa 2003: 46-48).

Reforms of the banking system:

Reforms in the banking system started ever since the 1970s to privatize state-owned banks, attract foreign investors, consolidate an over-banked sector, and achieve economic growth. Reforms started with the adoption of the "Open Door" policy by terminating state monopoly of the banking sector, and allowing foreign banks to operate and form joint ventures in Egypt. The four state-owned banks, however continued dominating the banking environment and market share, both directly, and indirectly through their shares in joint venture banks, and used their authority, as holders of majority of stakes, in restricting entry, opening of new branches, or introducing new activities. The performance of public banks was very modest, however. In fact, the World Bank's report on Egypt's financial liberalization between 1960 and 1990 indicated that public banks, in general kept very unproductive portfolios characterized by restricted diversification, and high rates of non-operating loans (Roe 1998).

The second wave of reforms came in the 1990s when the government initiated the Economic Reform and Structural Readjustment Program (ERSRP) with the purpose of achieving a faster economic development rate, a more competitive position and a sound business environment through privatization, financial liberalization, trade liberalization, export promotion, coordination between fiscal and monetary policies, and deregulation (Hassanein 2004; Korayem 1997; Metwally 2003). The blooming privatization plan has helped banks to capitalize on new investment fields, diversify their portfolios, and reduce their financial risks. The banking privatization process included selling the equity stakes of state-owned banks in joint venture banks to local buyers employees, or investors. The strategy was to start by releasing public ownership

share to less than 50% as a first step, which was to be followed by another reduction to less than 20%. Further, the Banking Act was amended and a law was created to allow foreign majority ownership of up to 100% in the equity capital of banks in Egypt, thereby ceasing the 49% ceiling on non-Egyptian shareholding in joint-venture and private banks working in both local and foreign currency (Salama 1996). The strategy also involved selling from 20 to 30% of equity stakes in one of the four public sector banks in efforts to restructure the banking industry ownership (Abu-Musa 2003: 46). Examples of privatization of state banks' stakes in joint venture banks started with the sale of 50% of total National Bank of Egypt's shares in the Commercial International Bank, estimated at 42%, by issuing Global Depository Receipts (GDRs) estimated at \$120 million in London Stock Exchange in mid 1996. Simultaneously, the Egyptian American Bank was privatized through offering its shares to the public (Roe 1998). Despite these accomplishments, the hope of the private sector taking over is still remote (Caprio & Cull 2000).

To promote transparency and appropriate accounting and supervision standards, several banking laws were relaxed like Law No. 205 of 1990 for privacy of bank accounts, Law No. 38 of 1994, to control dealings in foreign exchange, and Law No. 155 of 1998 to regulate the contribution of the private sector to the capital of public sector banks (The Central Bank, The Banking Sector and Money Law Number 88 for 2003) where by several measures and regulations were introduced, which allowed:

- Public companies to deal with private banks.
- Banks to independently determine their lending and deposits rates, and competition among banks conformed to market forces. This eventually helped banks to start offering non-customary services like brokerage, investment counseling, asset assessments and sales, and joint fund transactions, all of which contributed to advancing capital market services (The Banking Sector in Egypt).
- Setting exchange rates of the Egyptian pound according to market conditions (Central Bank of Egypt, Annual Report: 2002-2003).
- Removing the ceiling on nominal interest rates, using the treasury bill auctions to manage liquidity, and abolishing foreign exchange controls, which in effect, resulted in some positive improvements such as the revival of the stock market, changing the "Dollarization" phenomenon, and achieving greater efficiency in financial agreements. (Abu- Musa 2003: 45; Metwally 2003)
- Improving banks' financial positions with new provisions against non-operating loans, maintenance of liquidity reserves, and the introduction of risk management techniques.
- Adopting and implementing international accounting and supervision standards such as verification of banks' financial positions and their conformity the banking system legislations, evaluation of their performance with regards to capital requirements, assets quality, liquidity and profitability ratios, as well as management, and so forth (CBE Annual Report 2002-2003).
- Developing an efficient financial system by assigning two independent auditors, changeable every two years, to review banks' records, ensure disclosures of banks' financial statements that are published on a quarterly basis (Abu-Musa 2003: 44-45), and requesting international financial firms to audit and assess banks' operations are examples of applying such practices (The Banking Sector in Egypt).

To further modernize the Egyptian banking system, and with the rapid development of information technology, Egyptian banks have been making speedy changes in their banking activities providing a wide range of products and services and investing heavily in information technology. Broad areas of development of the banking sector included the following:

Development of Information Technology:

In cooperation with the Ministry of Communication and Information Technology, the Central Bank of Egypt and the banking community launched several projects in efforts to create a business environment which is conducive to information technology development. More than 70% of banks in Egypt have developed automation activities, such as electronic banking for both wholesale and retail banking products and services, or are in the process of doing so (The Central Bank of Egypt: 2003).

Examples of whole-sale products & services include though not limited to: Providing automation to core banking operations (The Central Bank of Egypt: 2003), such as interest payments on savings or deposits accounts, exchange rates, and in linking a bank's branches together in one network, which enhanced operating efficiency, and changed work patterns and management techniques (Website of the Arab Republic of Egypt). Also, developing the information infrastructure to assist in the decision making process in the fields of finance comprising both investment and credit, so that in 2003, 37 banks were linked to CBE credit risk information network (The Central Bank of Egypt: 2003). Wholesale products/services further included developing an electronic network for clearing checks by automating Cairo, Alexandria & Port-Said Clearing Houses, which started in 2002. The new system shortened the number of days required to clear a check from 20-25 days to only 1-3 days. Latest advances also included automating the Central Bank Clearing House for government transactions and linking it to Cairo clearing house in March 2003 (The Central Bank of Egypt: 2003; The Economist Intelligence Unit), and developing a foreign currency exchange system (The Central Bank of Egypt: 2003).

Banking retail products and services include introducing new products and services into the retail market which rely on computer facilities examples of which are:

- Automatic Teller Machines (ATMs): Banks which have incorporated ATM services in their banking functions allowed their customers to access banking functions all the time to make cash withdrawals, deposits, balance inquiries, checkbook orders, account statement requests, and transfer of funds between accounts. They also provided other banks' customers who hold a Visa or Master Cards with the facility of withdrawing cash and making inquiries on their accounts in their respective banks (Abu-Musa 2003: 51).
- Credit cards and visa cards: Banks that offered credit cards and visa cards allowed customers to purchase products and services, and obtain emergency and medical services without having to use money. Customers in Egypt, however, are somewhat reluctant in using this service despite security measures undertaken by issuing banks (Abu-Musa 2003: 51). According to World Development Indicators (2003), the total number of credit cards in Egypt is 633,000, and cards per 1000 people is only 10 as compared to 469 in the United Arab Emirates, 106 in Saudi Arabia, 416 in Bahrain, 41 in Morocco, and 669 in Kuwait (El Shenawi 2004).
- Online Banking: recently introduced by some banks, online banking provides the bank's customers with banking services such as account balances and transactions inquiries, checkbook orders, interest and exchange rates information, transfer of funds between accounts, settlements of bills, and so forth (Abu-Musa 2003: 51-52).
- Phone bank: In banks that introduced phone banking, customers performed their banking transactions and obtained account statement inquiries over the phone (Abu-Musa 2003: 51).

Also, developments in the banking sector of Egypt included passing the electronic signature law with regards to authentication of signatures, and issuing the Unified Law 88 of 2003 to keep up with international standards, adjust macro-economic imbalances, and ensure the independence of the Central Bank of Egypt from the state. The new law also helps maintain the stability of the local currency, speed consolidating an over-banked sector, and redresses macro-economic balances in general. Moreover, it allows “transparency and depth” as it dispenses with the six laws that had previously regulated the banking sector to use one and unified code. It sets conditions for minimum capital requirements. For example, for Egyptian banks, minimum capital requirements were increased from L.E. 100 million to L.E 500 million, whereas for foreign banks it was increased from \$15m to \$50m. By March 2003 the majority of banks complied with these regulations including the state-owned banks. The new law also sets conditions for liquidity ratios, and maintaining secrecy of accounts, and establishes penalties for whoever commits any violation of the provisions of the articles of the law (Website of The Central Bank of Egypt).

The Technology Acceptance Model

A major factor influencing users' acceptance of Internet banking in Egypt is cultivating consumers demand with respect to awareness of usefulness, ease of use, and trust and credibility of technology. To understand impediments on the demand side,

This research explores the factors contributing to using Internet banking drawing on the Technology Acceptance Model (TAM) and its replications.

TAM was basically introduced by Fred Davis (1989) to enhance understanding users' acceptance of newly introduced technologies. TAM hypothesized that acceptance of computer technologies is jointly determined by two behavioral beliefs, namely: perceived usefulness and perceived ease of use (Chan & Lu 2004). TAM was based on Fishbein and Ajzen's (1975) Theory of Reasoned Action (TRA), which assumed that an individual's Behavioral Intention (BI) to act in a certain way is dependent on his attitudes towards carrying out a certain behavior (Attitude Toward Performing the Behavior), and other people's perception about what he should or should not perform (Subjective Norm). TRA was later extended by Ajzen (1985 & 1991) to improve predictability of performance of behaviors and intentions. The new model, the Theory of Planned Behavior (TPB), included an additional variable called "Perceived Behavioral Control" which improved predicting behavioral intentions to carry out an action (Chan & Lu 2004: 23; Yu et al: 2003: 207).

Several scholars believed that the TAM was valid and parsimonious in explaining and predicting people's adoption of different information technologies, and that it provides a framework to examine the influence of external variables on the use of technology (Adams et al 1992, Chin and Todd 1995, Segars and Grover 1993, Venkatesh and Davis 2000). Some studies, however, such as Moore and Benbasat (1991), criticized the TAM for being over simplistic being dependent on a limited number of key variables, and perceived that using only these two constructs might not adequately help understand system usage behaviors. In this respect, some studies utilized the TAM, and further extended it in efforts to explain or forecast additional usage behaviors toward other new technologies such as communication technologies, databases, e-mail, and so forth (Kamel & Hassan 2003). With the computer evolution, several researchers have focused on investigating variables influencing computer technology adoption (Davis 1989, Davis et al 1989, Mathieson 1991, Moore and Benbasat 1991, and Taylor and Tod 1995). The application of new technologies to various financial systems, triggered others to target understanding users' acceptance of electronic banking (see for example, Chan, S. & Lu, M. 2004, Kamel, S. & Hassan, A. 2003,

Wang, Y. et al. 2003). And with the burst of Internet usage, and the growing perceived benefit of Internet banking, other constructs were needed to reflect on concerns pertaining to the acceptance of Internet banking. In this respect, some studies utilized the TAM, and further extended it in efforts to explain or forecast Internet banking acceptance. Wang et al. (2003), for instance, used the TAM as the theoretical model for explaining determinants of user acceptance of internet banking, and introduced "perceived credibility" as a third antecedent to users' acceptance of internet banking, and Kamel and Hassan (2003) further considered the impact of "trust" on the uses of electronic banking as an addition to the TAM.

In this research, therefore, drawing on literature on the TAM, as well as some of its replications, the three significant antecedent of users' willingness to adopt internet banking will be perceived usefulness, perceived ease of use, and perceived trust and credibility. Individual differences, communication, and promoting circumstances and service assistance were three external factors identified to have an impact on antecedents of users' acceptance of Internet banking.

According to TAM, "Perceived usefulness is defined as the extent to which a person believes that using a particular system will enhance his or her job performance" (Wang et al 2003). The relationship between perceived usefulness and users' intentions to use technologies has been of interest to several researchers (examples are Agarwan and Prasad 1999, Davis et al. 1989, Venkatesh 1999 & 2000, Vankatesh and Davis 1996 & 2000, Vankatesh and Morris 2000, Wang et al. 2003) who emphasized that perceived usefulness is a critical antecedent of perceived usefulness. Further research on usage patterns of banking technologies investigated and asserted the relationship between usefulness and adoption of electronic banking (Chan and Lu 2004; Kamel & Hassan 2003; Wang et al 2003).

Originally, perceived ease of use in the TAM model referred to the mental effort exerted when using a technique (Davis et al. 1989). Then as described further, "Perceived ease of use is defined as the extent to which a person believes that using a particular system will be free of effort" (Wang et al 2003). Previous research carried out by, for example, Al Gahtani and King 1999, Venkatesh and Davis 1996, confirmed that ease of use has a positive effect on usage intentions towards in internet banking. The effect of perceived ease of use on usage intentions could be either direct or indirect through the effect of perceived ease of use on perceived usefulness (Agarwal and Prasad 1999, Chan and Lu 2004; Davis et al. 1989, Venkatesh and Davis 1996 & 2000, Venkatesh and Morris 2000, Wang et al. 2003, Yu and Yao 2003).

Both perceived ease of use and perceived usefulness are influenced by external factors such as individual differences, and social power. Further, both are separate constructs despite the fact that perceived ease of use is assumed to foretell perceived usefulness. In fact, since improvements in perceived ease of use helps enhance performance, and since enhanced job performance explains perceived usefulness, it follows then that perceived ease of use positively influences perceived usefulness (Wang et al. 2003, Yu and Yao 2003).

Morgan and Hunt (1994) defined trust as "the belief that another party can be relied on with confidence to perform role responsibilities in a fiduciary manner" (Chiou et al. 2004). Trust has two dimensions: perceived credibility and benevolence. Perceived credibility is the degree to which an individual is certain that the other party has a suitable experience to carry out the task in a predictive and effective way (Wang et al. 2003). On the other hand, benevolence is the extent to which he is concerned about the other partner's interests, and has intentions which are favorable to this other partner. Scholars (such as Zaheer et al. 1998) have shown that benevolence is basically a catalyst in repeated buyer-seller interactions. In that context, however, only the first dimension of trust, perceived credibility, will be used as an independent variable, and will be used interchangeably with trust. The other dimension, benevolence, will be out of the scope of this

study, which is only concerned with testing users' willingness to adopt internet banking (Wang et al. 2003).

Studies showed that, in addition to perceived ease of use and perceived usefulness, "trust" has a significant influence on users' adoption of online financial solutions (Hoffman et al 1999, and Friedman et al 2000), and will fix upon the features of many businesses as well as the social arrangements (Gefen et al. 2003; Wang et al. 2003). In assessing the introduction of electronic banking in Egypt, Kamel & Hassan (2003) further considered the role of "trust" as an external construct influencing consumer acceptance and usage of "electronic banking" or the various electronic channels and payment methods provided by banks in Egypt, through its influence on perceived ease of use and perceived usefulness. The study indicated that questionnaire respondents showed minimal interest in using internet banking, and suggested spending extra efforts particularly in the area of awareness and trust building among bank clients.

Wang et al (2003) introduced the variable "perceived credibility" to reflect upon users' security (information safety from unauthorized interferences), and privacy interests (perceived fears of disclosing their personal information) and further explicated users acceptance of internet banking by demonstrating that perceived credibility is a significant antecedent of users' willingness to adopt internet banking. In addition, people will find new technology less threatening as they find it easy to use, which indicates that perceived ease of use could also have an indirect positive effect on usage intentions through its impact on perceived credibility (Wang et al. 2003).

Individual Differences:

Prior studies on TAM (such as Agarwal and Prasad 1999, Hong et al 2001, and Venkatesh and Morris 2000) have found out that Individual differences could influence technology acceptance in various fields including marketing, production, and information systems. Factors such as individual differences in computer competency, internet experience, personality traits, cognitive, experience, and even demographic or situational factors could account for differences in technology acceptances (Wang et al 2003: 504).

Defined by Wang et al. as the "judgment of one's ability to use a computer", computer self-efficacy significantly contributes to explicating individuals' information technology usage patterns. Empirical studies carried out by some researchers like Agarwal et al. 2000, Compeau et al. 1999, and Hong et al. 2001 have examined the "computer self-efficacy" construct to understand the influence of computer knowledge on people's response to information technologies, and explain individuals' information technology usage patterns. Research has proposed a positive link between individuals' familiarity with computer technology and their tendency to use it (Agarwal and Prasad 1999; Chan and Lu 2004; Wang et al. 2003). Further, a positive relationship was demonstrated between the ability to use a computer and perceived ease of use (see Davis 1989, Venkatesh and Davis 1996, Venkatesh 2000, and Wang et al. 2003), and between computer efficacy and perceived usefulness (see Wang et al. 2003). A negative relationship, however has been assumed between one's ability to use computers and perceived credibility. Research carried out by some scholars like Chau 1996, and Jiang et al. 2000 also indicates a positive relationship between computer and internet use experience and usage patterns by affecting perceived usefulness, while Agarwal & Prasad 1999 confirmed such relationship through its impact on perceived ease of use (Yu et al. 2003). Empirical support for a positive relationships between computer and internet use experience and internet banking, through its influence on perceived ease of use, perceived usefulness and perceived credibility, has also been provided (Wang et al. 2003).

According to Yu et al. 2003, personal innovativeness, defined in information technology literature (e.g. Agarwal and Prasad 1998) as the "willingness of an individual to try out any new information

technology", was found out to be positively related to people's acceptance to use information technology through its impact on perceived usefulness. Accordingly, personal innovativeness could be considered as an external variable affecting users' acceptance of internet banking too.

Gender, age, and income, economic status are other variables recognized as influential on individuals' acceptance and usage of new technologies. Igarria et al. (1995) developed and tested a model of computer usage, and the results of which confirmed the impact of individual, organizational, and system characteristics on the TAM two behavioral dimensions, perceived usefulness and perceived ease of use. Agarwal and Prasad (1999) further examined the relationship between individual variations and acceptance of technologies to find out those individual levels of education has an impact on IT acceptance (Yu et al. 2003).

Communication:

According to Duncan and Moriarty (1998), people communicate to keep in touch with each other and form relationships. Linking individuals together could be through newsletters, mails, field visits, meetings, and so forth. Communication could also be formal or informal, but to be effective, it has to be a two-way-type of connection (Chiou et al. 2004). One public relations communications model (of the late Patrick Jackson) emphasized stimulating behavioral changes through building awareness, developing a latent readiness, and triggering natural or planned events. The growth of the internet has further accelerated communications, and is considered as the second source of organizational contact right after the human factor (Seitel 2004). Literature (e.g. Anderson and Narus 1990 & 1986, and Duncan and Moriarty 1998) has already revealed and emphasized the link between communication and trust and assumed that communication is a critical precedent of trust (Chiou et al. 2004). For example, in testing the effect of franchisors' communication on franchisees' intentions to remain in the franchise system, Chiou et al (2004) revealed that communication is a critical factor in strengthening franchisees' perceived trust and total satisfaction with the franchise relationship. The significance of trust in business transactions, particularly those ones carried out electronically, has been pointed out by Lee (1998) and has been viewed by several researchers (e.g. Viega et al. 2001) as being critical for building long-term connections with customers (Yu et al. 2003). Therefore, as communication is an antecedent of trust, and trust is an important antecedent for users' acceptance of electronic banking in general, and internet banking in particular (Kamel and Hassan 2003), bank executives should understand that communication is the base of gaining customers' acceptance of internet banking, through perceived credibility.

Supporting Conditions:

Previous research on technology acceptance has found that promoting conditions such as provision of support and handy guidance have a positive impact on perceived usefulness, and perceived ease of use, which in turn had a significant effect on information technology usage patterns (Venkatesh 2000; Yu et al. 2003). Yu et al. 2003, for example, considered the role of "facilitating conditions" as an external variable influencing consumer acceptance of wireless internet via mobile devices (WIMD), and proposed a positive relationship between these conditions and perceived ease of use and perceived usefulness of (WIMD).

Strategic Factors Influencing Development of Internet Banking

According to the United Nation's E-commerce and Development Report, "Internet banking refers to the development over the Internet of retail and wholesale banking services. It involves individual and corporate clients, and includes bank transfers, payments and settlements,

documentary collections and credits, corporate and household lending, card business and some others" (UNCTAD 2002:134). Internet Banking Products and Services are either retail or whole sale. They are either informational like balance inquiries, transactional like transfer of funds, payment of bills or wire transfers, or interactive the purpose of which is improving customer relationships through suggestions, complaints or feedback from customers (Furst, K. 2002: 12-14; Comptroller of the Currency Administrator of National Banks 1999: 4-5).

Banks are triggered by numerous elements to use Internet banking. Internet banking allows banks to enhance customers' satisfaction and retention. It also supports bank branding and positioning by differentiating a bank's products and services from its competitors, and by affecting the way a specific market niche understands such products and services to form an image, and earn customers' trust and credibility. Through Internet banking, banks also achieve cost efficiencies. On average, each internet transaction costs the bank one cent compared with 27 cents for each ATM, or 54 cents for each phone transaction, and \$1.07 every time a customer goes up to a tellers counter and performs a manual transaction (Comptroller of the Currency Administrator of National Banks 1999).

Further, a strategic fact that must be considered in incorporating Internet banking is the anticipated future competitive power produced by the development of the Internet. Banks encounter competition not only from their customary rivals within the banking sector, but also, and at a wider scale, from banks from remote areas (Carlson, J. et al 2001). Traditionally, competition among banks depended on several factors among which were the bank size, specialization advantages, service, the size of the community, and location. The size of the bank should determine the size of businesses dealing with it. The larger the bank assets, the larger will be businesses seeking credit facilities from it since there are limits to the funds that a bank can lend to a customer compared to its assets. Specialization in one area of service or in one type of clients should make one bank gain a competitive advantage. A bank distinguished in customer services should also attract customers more than others, and the greater the size of the community the more enhanced will be the competition among banks. The location of the bank should, moreover determine the type of businesses or customers who seek the bank. And a bank in the neighborhood of many large business firms will be comparatively advantageous in comparison to others in a residential area (Cox 1986:2).

However, this type of competition tends to decline due to the invasion of technologies and the introduction of new products and services which rely on computer facilities in banks' operations and daily activities (Abou Musa 2003). The break through of teller machines, electronic funds transfers, automatic telephone payments, online banking, and so forth (Cox 1986) changed the way banks operate their businesses and face competition. Continuous development and reliance on technologies further dominates business transactions worldwide, which, in effect accelerates globalization of businesses (Rao et al. 2003). With the revolution in information technology, organizations do not have to depend totally on exclusive physical capabilities when combating their rivals. Rather, exclusive conceptual capabilities, or information, can be utilized as well in reaching strategic objectives (Mcleod, R. & Schell, G. 2001: 26-41). Technology is assuming the "front office" functions in customer relationship management, and competitive boon will more and more rely on deploying the right blend of technological and human factors with clients (Rayport, J.F. & Jaworski, B.J. 2004). Electronic banking is, therefore, a competitive strategy which banks now adopt to help them keep existing customers, widen their market share, lure additional business (Liao & Cheung 2003), and cut costs (American Chamber of Commerce).

Technology, however, has also perils. It could be a threat to banks if they do not sustain their product innovations, continue being up-to-date with new innovations, markets, competitors' actions or if new technologies are unmet by demand and consumer acceptance (Liao & Cheung 2003). In

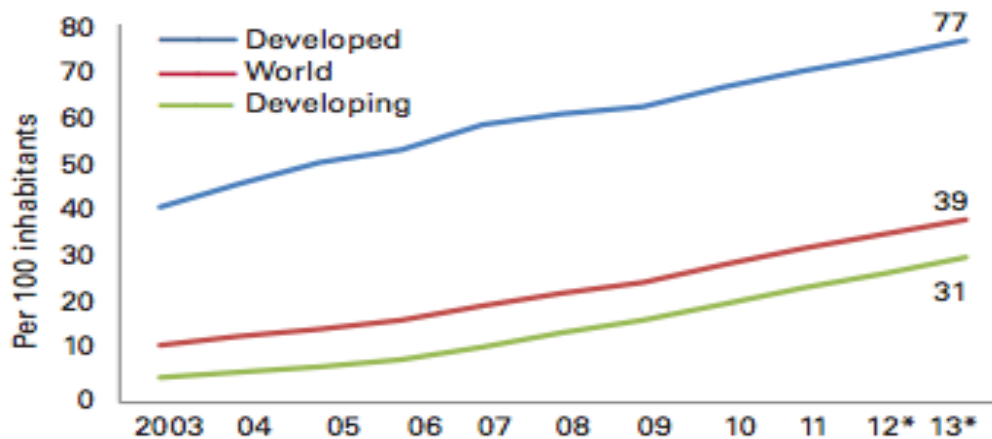
fact, the banks which proved successful and had competitive advantage in using Internet banking, for example, were those with sophisticated products and services, updated technologies and a strong customer support (UNCTAD 2002:134).

And from Customers' viewpoint, Internet banking allows easy access to their accounts 24 hours per day and on banks' holidays or weekends, and access to information on banks' products and services that are up-to-date. Also, by moving money between current and savings accounts or time deposits customers might be able to improve the aggregate interest earned by their funds (UNCTAD 2001: 156).

Status of Internet Banking Worldwide

The current status of Internet banking indicates that the number of households using Internet banking has been increasingly growing in developed countries as compared to the world and developing countries (see Figure 1). Relying on online trading solutions, or e-commerce activities has first appeared in financial institutions in the United States in the mid nineties when banks brought in online banking into its activities to enhance customer services (Chan & Lu 2004). Figure 1 (Internet Users by Development Level) shows that the developed countries dominate Internet banking worldwide, with about 77 million users. Figure 2 (Internet Users by Region) shows that Europe has the lion's share with 75 million users, followed by the Americas, with 61 million users. Thus, Egypt falls a way behind developed regions with regards to the number of users of Internet banking, whether it is considered as an Arab state or a country in Africa.

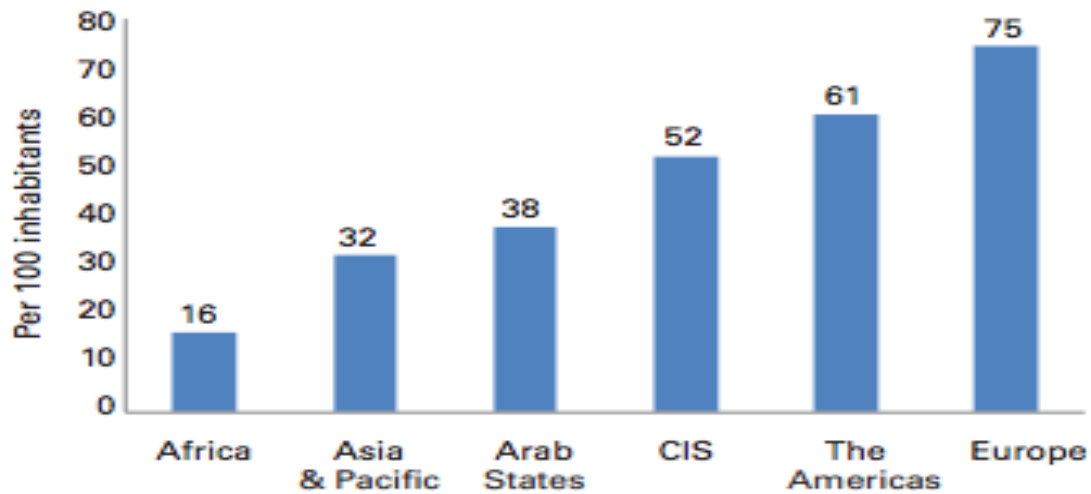
Figure1: Internet Users by Development Level (2003-2013)



Source: ITU World Telecommunication ICT Indicators database

Note: * Estimate

Figure 2: Internet Users by Region



Source: ITU World Telecommunication /ICT Indicators database

Note: * Estimate

Internet Banking in Egypt

At the time Internet banking was introduced in Egypt, only nine banks were licensed by the Central Bank of Egypt to carry out Internet banking activities. Internet retail banking services offered in Egypt include getting a consolidated inquiry of balances, getting details of transactions formed, making transfers between a customer's various accounts, making donations, settling credit cards, getting alerts through e-mail or SMS messages when a client's checks are collected, his/her time deposit is due for redemption or renewal, and so forth (Websites of Arab Bank, Commercial International Bank (CIB), Hong Kong and Shanghai Banking Corporation (HSBC), and Faisal Islamic Bank). "In progress also are providing services like making wire transfers, and making transfers from a client's account to other people's accounts", declared Mr. Osama Mohamed Salem, Head of CIB branch at the American University in Cairo.

Challenges to Internet Banking in Egypt:

Despite the efforts made by some banks in Egypt to speed up development in information technology, still there are some constraints to the diffusion of Internet banking in Egypt. Among these constraints are:

Internet penetration rate:

In 2009, the number of Internet users was more than 20 million (See Table 1), holding the rank of 21 among other world countries, as compared to 3.9 million in 2004 (MCIT Website 2005). Such consumer base might look promising if we consider the increase of Internet users in absolute terms. However, if we try to compare the percentage of population connected to the Internet in Egypt with other countries, such as Finland (89.4%), Germany (83%), North America (78.6%), and the United

Kingdom (83.6%), we find that the Internet penetration rate in Egypt is 35.6% (Internet World Stats 2012). As such, Egypt's Internet penetration rates are still low as compared to developed countries.

Table 1: INTERNET USERS: EGYPT IN COMPARISON TO THE WORLD

RANK	COUNTRY	INTERNET USERS	DATE OF INFORMATION
1	<u>China</u>	389,000,000	2009
2	<u>United States</u>	245,000,000	2009
3	<u>Japan</u>	99,182,000	2009
4	<u>Brazil</u>	75,982,000	2009
5	<u>Germany</u>	65,125,000	2009
6	<u>India</u>	61,338,000	2009
7	<u>United Kingdom</u>	51,444,000	2009
8	<u>France</u>	45,262,000	2009
9	<u>Nigeria</u>	43,989,000	2009
10	<u>Russia</u>	40,853,000	2009
11	<u>Korea, South</u>	39,400,000	2009
12	<u>Mexico</u>	31,020,000	2009
13	<u>Italy</u>	29,235,000	2009
14	<u>Spain</u>	28,119,000	2009
15	<u>Turkey</u>	27,233,000	2009
16	<u>Canada</u>	26,960,000	2009
17	<u>Vietnam</u>	23,382,000	2009
18	<u>Colombia</u>	22,538,000	2009
19	<u>Poland</u>	22,452,000	2009
20	<u>Pakistan</u>	20,431,000	2009
21	<u>Egypt</u>	20,136,000	2009

The World Fact Book

<https://www.cia.gov/library/publications/the-world-factbook/rankorder/2153rank.html?countryName=Egypt&countryCode=eg®ionCode=afr&rank=21#eg>

Personal computers density rate:

Diffusion of Internet banking in Egypt was impeded by the poor number of computers that customers had. And despite the fact that Egypt's computers density rate has been increasing greatly ever since the 1990s, still the country's competitive position is weak compared to other countries. In 2002, the number of personal computers per capita was 1.66 in Egypt, as compared to 43.13 in Germany, 40.57 in the United Kingdom, 65.89 in the United States. In 2005, Egypt's rank was 109 compared to world countries as the number of personal computers was 37.821 per 1000 people; whereas, it was 864.584 in Switzerland, 763.012 in Sweden, 699.928 in Canada, the first ranking countries in the world (World Development Indicators Database).

Number of telephone lines:

In 2011, Egypt's rank was the 24th, with 8,714,000 lines and 0.106 per capita, as compared to 51,800,000 lines in Germany and 0.636 per capita, 16,438,000 in Canada and 0.483 per capita (Telephone Lines of the World), which is considered modest as compared to some other developed countries.

Low Literacy Rate:

Egypt suffers from a low literacy rate of 72% (2010 estimates) among world population (UNESCO Institute for Statistics). Further, when compared to the literacy rates of the top ten countries like Finland and Luxemburg (100%), Estonia (99.8%), or Georgia (99.7%), and with some countries in the Middle East like Qatar (96.3%), Kuwait (93.3%), or some African countries like Zimbabwe (90.7%), Kenya (87.4%) (Index Mundi: Literacy Rates), Egypt is behind so many countries (See also Figure 3), which represents a critical obstacle to not only Internet banking but also to Internet diffusion in general.

Figure 3: Global Literacy Rates

QuickTime™ and a
decompressor
are needed to see this picture.

Low awareness of new innovations:

Illiteracy among people could be accountable for absence of people's awareness of new innovations like e-commerce in general, and Internet banking in specific. Well-educated people are more informed and knowledgeable, and understanding to ongoing issues. They are also, as far as the Internet usage is concerned, are the ones who make use of it. However, this segment of the population is very limited. For example, while, as per 2001 estimates, university graduates comprise 5.6% of the total population, those with basic and secondary enrolment constitute 83%. Therefore, low levels of awareness can be attributed to low levels of literacy as well as low levels of education (Mubarak & El-Messier 2003: 82).

Language barrier:

In Egypt, the official language is the Arabic language, whereas English and French are broadly understood by the educated people (The World Fact Book). Most of the web content is in the English language, however, and the Arabic language speakers, in general represent only 1% of Internet users compared to 54% of the English language speakers (American Chamber of Commerce in Egypt 2002). But the language barrier is becoming less and less threatening with many sites, including those of banks that translate their websites to the Arabic language.

Research Methodology

To answer the questions addressed by the paper, the researcher conducted personal interviews with the Head of the Commercial International Bank branch at the American University in Cairo, two employees at the CIB bank (Hoda Shaarawi branch), and one employee at HSBC bank (Heliopolis branch) to find out the critical elements which affect users' acceptance of Internet banking in Egypt. Interviews were also conducted with some banks' customers to find their perceptions about the Internet banking service. A customer survey was then conducted to measure acceptance of Internet banking services provided by some banks in Egypt by gathering information about the participants' banking habits.

Sample Selection/Size:

A purposive sample was used to collect information by targeting a specific group which can provide the desired information. The sample chosen comprised faculty and staff of an Egyptian university in Cairo as they conform to the following criteria:

- All faculty and staff have a bank account with Commercial International Bank (CIB).
- All faculty and staff have good access to computers and to the Internet since the university applies ICT in its everyday operations whether in the academic or administrative areas.

The respondents chosen according to the above mentioned criteria are most advantageously located in a position to provide the desirable information by virtue of having the requisites of access to bank accounts, computers, and Internet services. Using this sample also ruled out some impediments to internet diffusion which are language barriers and illiteracy. This sampling is appropriate in the early steps of an exploratory research despite the fact that its results can not be easily generalized due to the fact that the sample is non-random, and is not representative of the whole population of bank account holders (Cooper 1999; Sekaran 2003; Wimmer and Dominick 2003).

The participants approached for this study survey were 452 persons. Only 131 valid responses were obtained, however, with a response rate of 29.31%. Participants were informed at the beginning of the questionnaire that data is collected anonymously, and will exclusively be utilized for research purposes.

The Questionnaire:

Data was gathered by conducting a survey using a self-administered questionnaire to answer the research questions. The questionnaire consisted of 48 closed-ended and open-ended quantitative and qualitative questions to allow in-depth investigation of the acceptance of Internet banking among university faculty and staff. Of those questions, eight gathered general information about the participants, eleven gathered banking information, and twenty- nine revealed and determined respondents' Internet banking habits. The approximate time to complete the questionnaire was 10 minutes.

Results and Discussion

Of the 131 respondents, 29.31% reported they used Internet banking. The following are key results of the study:

Part 1: General Information:

With regards to age, the participants' ages were between 31-40, and those dominated the users group, whereas those aged 21-30 dominated the non-users group. Males represented 58% of Internet banking users; whereas, females represented about 75% of the non-users' group. Of all participants, 84.5% of Internet banking users was postgraduate degree holders as opposed to only 43.3% among the non-users. For future research, this could be interesting to see the impact of different educational levels on Internet banking acceptance.

Results showed that 88.6% of users of Internet banking reported that they were very comfortable using the Internet applications, as compared to only 65.3% of those who didn't use the service. Computer skills of users were higher than those of non-users with percentages of 72.6% and 50.3% respectively. Navigating the net was not a problem for respondents, and it was assumed that this was due to the fact that they all had good access to computers and the Internet. Both users and non-users of Internet banking accessed Internet services easily from both their homes and offices.

Part 2: Banking Habits:

As apparent from table 1, users and non-users of Internet banking have different usage patterns with regards to the types of banking accounts. Users, for example, exceed non-users with regards to using all types of bank accounts with the exception of savings accounts. Non-users, on the other hand, are heavy holders of savings accounts as 80.5% of them reported they had such accounts.

Table 1: Type of bank account

	Users	Non-Users
Type of Bank Account	Percent	Percent
Current	68.4	43.3
Savings	64.9	82.5
Time/fixed Deposits	20.3	8.9
Credit card	62.9	31
Personal loan	21.6	10.9
Overdraft	12.9	3.4

The type of bank transactions most frequently used by users and non-users of Internet banking were somewhat different as follows:

Table 2: Type of bank Transaction

	Users	Non-Users
Type of Bank Transaction	Percent	Percent
Cash withdrawal	100	85.4
Cash deposit	35.3	31.4
Transfers	56.4	7.9
Payment of bills	46.3	25
Balance inquiry	57.3	37
checkbook order	11.8	15.6

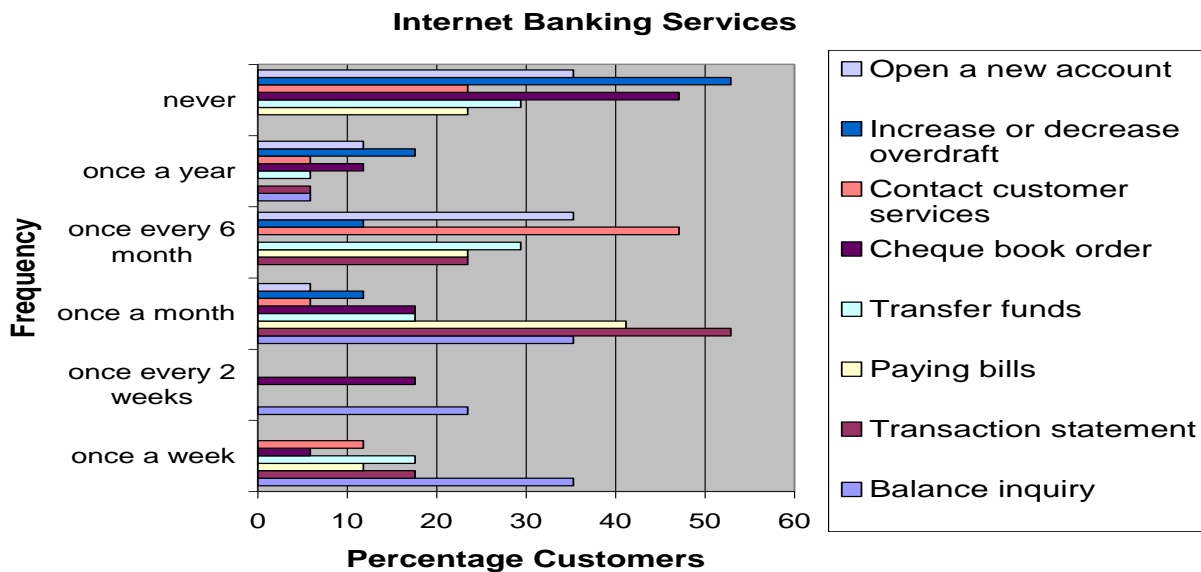
Assessing confidence in banks' transactions:

The majority of users of Internet banking had more confidence in carrying out bank transactions as compared to non-users. In fact, 88.6% of users reported they felt safe in conducting bank transactions in comparison to only 71.2% of the non-users.

Part 3: Internet Banking Habits:

As regards users of Internet banking, 64.7% knew about the service from banks' employees which highlights the important role banks play in supporting such new service, 29% knew about it through advertising channels, whereas only 6.3% got acquainted with the product through word of mouth. In stating the reasons they used Internet banking, 59.9% said they adopted the service because of its usefulness, 65.6% said they feel it is easy to use, while 56.4% declared that it was credibility and trust of the service that triggered them to use it. Internet banking services used varied greatly among users (see figure 4 for Internet banking services used, frequency of usage, and the percentage of customers using the different products):

Figure 4: Internet Banking Services Used



CONCLUSION

This research examined a number of factors that may have influenced users' acceptance of Internet banking to provide evidence of the appropriateness of the Technology Acceptance Model, as well as its replications, in explaining factors influencing users' acceptance of technologies. The results showed that the main factor, which affected banks customers' decision to use Internet banking service, was ease of use, followed by usefulness and trust and credibility of the service. Further, external factors such as personal innovativeness, individual differences, computer and internet use experience, promoting circumstances and service assistance, and communication, that determined the three antecedents of users acceptance of new technologies, were applicable and valid in explaining users' adoption of Internet banking in Egypt.

On the other hand, easy access to the Internet and computers were not sufficient for Internet banking usage, and neither was language a complete barrier. Thus, it is apparent that lack of awareness and perception of the value added of the service among non users are the main causes behind low internet banking acceptance. Increasing customers' awareness of products and services which banks introduce should be helpful in obtaining greater numbers of internet banking adopters. In this respect, optimal strategies to attract existing and potential customers to Internet banking are to:

- 1) Give more attention to non-users and try to improve their perceptions of usefulness of Internet banking by constantly increasing their awareness and learning of Internet banking as a powerful tool for improving customer satisfaction through the bank's channels (e.g. through video presentations), as well as non-bank channels (e.g. advertising and public relations).
- 2) Emphasize personalized interaction and communication to counteract decreased loyalty among remote customers. Banks should seek a thorough understanding of their customers' needs; demographics, cultural impediments, as well as they know their own products and services. Banks' employees should also communicate effectively with customers. Only then will they be able to find out what their customers feel is missing, and accordingly find niches in areas which will appeal to them, successfully position their products and services, and out do their competitors. And as an old baseball saying "hit it where they ain't" or "claim an unclaimed space".
- 3) Focus on increasing customers' trust and credibility in Internet banking services by ensuring confidentiality of the bank's transactions from any unauthorized Internet traffic.
- 4) On the macro level, the promotion of an open-minded business culture that values innovativeness and technological advances, ratification of laws concerning digital signature, and privacy protection, which will help build customers' trust and confidence, are highly recommended.

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