



# **E-Banking Diffusion in the Jordanian Banking Services Sector: An Empirical Analysis of Key Factors**

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## **ABSTRACT**

*Grounded in the technology–organization–environment (TOE) framework, we have developed an extended model to examine factors, particularly technological, organizational and environmental factors, which influence e-banking adoption in Jordanian banks. This article added some constructs to (TOE) framework, other factors were excluded. The independent variables are the (technology readiness or competence, bank size, financial resources commitment, IT/Business strategy alignment, adequacy of IT professionals, availability of online revenues, competition intensity or pressure, and regulatory support environment) while e-banking usage constitutes the dependent variable. Our empirical analysis demonstrates several key findings related to the technological, organizational, and environmental aspects of the banks. This article can help further understanding of their role in the adoption of e-banking and examines the impacts of e-banking usage on banks' performance in terms of sales-services-marketing, internal operations and coordination & communication. This could enable greater e-banking usage that could improve the overall economy.*

*Keywords:* bank performance; e-banking; e-business; Jordanian banking sector; technological innovation adoption; technology-organization-environment (TOE) framework

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## **INTRODUCTION**

The banking and other financial services sector is one of the most advanced in the usage and diffusion of technologies. Being essentially information business, they do not produce physical products and have been trading electronically for decades. For these reasons hardly any other

sector is better suited for e-business which, in fact, is progressing very quickly. ICT impacts on all aspects of the activity and is undoubtedly one of the main driving forces in the sector.

The financial services industry differs in important ways from industries such as manufacturing or retailing, and its use of IT and e-business technologies reflect those differences (Olazabal, 2002). Financial institutions

are linked to customers and each other in an extensive network of interrelationships that is more complex, reciprocal, and less linear than traditional manufacturing and retailing industries (Mulligan and Gordon, 2002). There is a primary market in which customers interact with financial institutions such as retail banks, insurance agencies, real estate agencies and stock brokers. There is also a larger secondary market in which those institutions interact with each other and with others such as mortgage brokers, commercial banks, insurance companies, and investment bankers (Hess and Kemerer, 1994). Financial services, which are both immaterial and relatively standardized, and have hence already been widely affected by information technology innovations (Buzzacchi, and Mariotti, 1995), would therefore be one of the first arenas where that “new information economy” would arise (Dewan, Freimer and Seidmann, 2000).

The nature of IT in this industry is complex and heterogeneous. On the front end, IT is used to execute and record customer transactions, whether they are handled in person, by phone, by electronic funds transfer, or on the Internet. On the back end, funds are transferred among institutions via electronic transfer systems, such as Fedwire, CHIPS, and Swift, which handle hundreds of trillions of dollars in transactions yearly. Financial EDI systems are used to support information flows among institutions. Internal IT systems include a mix of packaged and custom applications that maintain account records and support internal financial and managerial functions.

E-business technologies have the potential to add significant value in all of these areas. Most striking is the potential for Web-based applications to improve customer service. Loan applications and insurance forms can be filled out, stock trades initiated, bills paid, and funds transferred online with no human interaction required. Research tools such as mortgage calculators or retirement planning applications can be made available, and account information can be accessed online. On the back end, applications based on common Internet

standards can enable data sharing across firms in an industry marked by limited standardization of IT systems. Internally, e-business applications can likewise improve integration of various proprietary systems to move toward “straight-through processing,” improving the links between decision (swap, credit extension, trade) and execution (funds transfer, account updates, settlement finality).

There is substantial evidence to suggest that e-banking is being embraced by financial institutions in developed and emerging markets to the extent that explosive growth is almost at hand. There are two different strategies for Internet banking. First, an existing bank with physical offices can establish a web site and offer Internet banking to its customer as an additional delivery channel. A second alternative is to establish an Internet-only bank or virtual bank, almost without physical offices. Recent years have seen the industry rapidly moving towards a “click and bricks” strategy that emphasizes an online supplement to the conventional banking services. Banking institutions are using their web sites not only to provide classical operations such as fund transfer or accounts information, but also to provide stock trading, bill payments, credit card request and investment advice.

Electronic banking (e-banking) covers various operations that can be conducted from home, business or on the road instead of at a physical bank location (Turban et al., 2003). These operations include: retrieving account balances and history of accounts, fund transfers, check-book request, opposition to check and credit card payments. Some banks also offer other services such as security trading, bill payments, etc.

Internet E-banking technology represents a variety of different services, ranging from common automatic teller machine (ATM) services and direct deposit to automatic bill payment (ABP), electronic transfer of funds (EFT), and computer banking (PC banking) (Kolodinsky et al., 2004).

The common motivation for banks to implement e-business is to provide a faster, easier, and more reliable service to clients, to

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