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## Internet Banking in Emergency Markets The Case of Jordon - A Note

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### Abstract

The goal of this paper is to replicate the Diniz (1998) survey using the case of Jordan as an example of an emerging market. The Diniz framework was developed in order to learn about Web banking models and their adoption in the United States.

The findings clearly indicate a gap between Jordanian bank web application and American bank web application. In a more general framework we can extrapolate this commentary to the gap between web usage in developing and developed countries. Kurtas (2000) found that American banks use their web sites not only to provide classical operations such as fund transfer or account details, but also to provide stock trading in the world markets, financial calculators, investment advice, and bill payments. American bank are now using very high technology in encryption in order to provide safety and privacy. They have reached a stage where a number of banks are operating entirely via web without any need for physical location. On the other hand, very limited evidence of web usage at this level was found among Jordanian banks. Both American and Jordanian banking industries do however exhibit weaknesses in the advanced levels of all web opportunities, particularly with regards to customer relationships.

Our preliminary results indicate that Jordanian banks have been successful in the introductory phase of web banking. What is now required is to focus on moving Jordanian web banking usage forward with a view to conducting real financial transactions and improving electronic

**customer relations. This objective can be generalized to banks in developing economies who can no longer ignore the internet as a strategic weapon and distribution channel for their services.**

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## Introduction

The goal of this paper is to replicate the Diniz (1998) survey using the case of Jordan as an example of an emerging market. The Diniz framework was developed in order to learn about Web banking models and their adoption in the United States.

Jordan was chosen for the study and as a model for a developing country for a number of reasons; firstly, from its inception in 1993, the internet market has expanded dramatically. Nonetheless, there is an absence of a well constructed national telecommunications infrastructure in Jordan. Regular phone lines are still heavily relied upon and special leased lines are scarce. In addition, a well-suited legal system governing data transmission is still lacking. With these difficulties, the available evidence shows that Jordanian businesses and especially banks are risk taking by investing in on-line business and web banking. Secondly, consistent with numerous other developing economies, the Jordanian banking sector makes a significant contribution to the Jordanian GDP (estimated at 20%). The ability of banks to capitalize on the World Wide Web will not only enhance their contribution to country growth but will also help in making financial services cost effective and competitive and more accessible for customers. Additionally, web banking better allows banks to satisfy their customers characterized more by individuality, mobility, independence of place and time, and flexibility.

Today, virtually all banks provide an internet site for both new and existing customers. Alongside internet technology is the development of new banking services. The direct result of such service developments are reductions of walk-in customers and a reduced reliance on new branches. According to Shuman (1998), the federal reserve documented more than 63 billion consumer and commercial paper checks were written in 1996 in the United States alone. Assuming there were 1.5 additional back office transactions per check, a total of more than 157 billion non-cash paper-based transactions took place in 1996. This presents the Web Banking advocates with compelling evidence as to its potential and viability. Churbuck (1998), for example, found that as of the beginning of 1997 only 30,000 accounts of a leading International Investments firm were conducted on-line. One year later the number exceeded one million. In summary, as the number of internet users is growing, banks are increasingly viewing web banking as a viable option.

There are a number of factors which further motivate banks to develop on-line servers, for example:

### **Low cost:**

The average cost of a direct banking transaction via web is \$0.010. In comparison an ATM transaction costs \$0.27, phone transaction \$0.54, and a physical branch transaction \$1.07 (Kurtas, 2000).

### **Increased use of the web:**

There is an increasing trend in the use of the web worldwide. In France, for example, the growth in the use of web banking is about 75% annually (Kurtas, 2000).

### **Ease of Access to the Internet:**

Today the Internet can be accessed through phone lines, GSM technology as well as many other emerging technology.

### **Convenience:**

Many customers now prefer to do their financial operations from home and office.

### **Efficiency and profitability:**

Investing in Internet banking will reduce banking costs and raise profitability.

The primary objective of the study is to assess the application of web banking in Jordan and in emerging markets in general. A secondary issue is to examine the extent to which Jordanian banks are applying evolving technology to achieve efficiency in their operations. In general, the objectives of this

research are threefold 1) Examine the extent to which web banking is practiced in Jordan, 2) Identify barriers to web banking and 3) Offer future directions for both practice and research.

## Literature Review

Over the past decade banks have invested heavily in the information technology field.

The banking sector, in both developed and emerging markets, is clearly recognising the importance of information technology to their continued success. For example, Pollalis (1994), linked the success of banks surveyed to the use of integrating technology in the strategic plan, while Van Aswegen (1993) found that investments in technology increased shareholder value. Eze (1999) reported that the management of 58% of Nigerian commercial banks believe that investing in information technologies will improve their competitive advantages, such as, customer retention, cost reduction, and in forming alliances or mergers. By the end of 1997, a survey of United States banks with more than \$1 billion in deposits by Martin (1998) found that 45 percent offered Personal Computer direct banking while another 38 % planned to offer the service. While not all banks offered internet banking services, 53 percent have such service menus under development. In addition, Martin found that almost all small and money center banks maintain websites where clients can see the services offered.

One of the main incentives that encourage banks to adopt new technologies of operations is not only maintaining operational efficiency but also achieving competitive advantages. Banks that exploit new technologies can gain competitive advantages through market share, customer satisfaction, and overall business performance. Peffers (1991) argues that banks which were early adopters of Automated Teller Machines (ATM) gained significantly more than later adoptees. He claims that the use of even a single information technology application can affect a wide range of performance variables. Information technology also impacts organizations in other ways, such as, changing the decision structure of banks to better deal with competition (Clarke, 1989).

It is becoming apparent that companies as well as individuals are becoming more likely to manage their accounts and do their banking operations through the web. Web banking can, for example, allow a relatively small company to structure and issue basic financial tools such as letters of credit. Other companies are attracted to online banking because it enables them to monitor accounts on a 24-hour basis. As online banking evolves, it is giving some corporations more than just an account monitoring tool. Several banks for instance provide corporate online banking and allow their clients to invest overnight funds. This can generate substantial profits for a company that has significant, but temporarily, idle cash funds (Martin, 1998). Companies will also be able to do some sophisticated bargaining and comparison shopping for banking services, since the size and location of the client becomes less important. Other banks have developed online banking products specifically tailored to their smaller business clients.

From an individual perspective web banking is a very attractive choice. It is proven to be fast, economical, and flexible. Chatzky (1998) focuses on four major web banking services. First, direct deposit, where a customer can manage deposits, reimbursements, social security payments, mutual fund distributions, and tax refunds. Second, electronic bill payment where lenders and vendors are authorized to withdraw the amount from a customer's account. Third, automatic investing plans, which debit the customers account monthly. Finally, electronic budgeting, where some financial packages offer advice to manage income and make key financial decisions.

Specifically, before examining the status of web banking in Jordan, it is useful to review electronic commerce in the Arab world. Jarrah (1999a) reported that Arab electronic shoppers spent approximately 95 million US Dollars in April 1998. Payments were made mainly by credit cards (82%), followed by bank transfers (11%), cash upon delivery (9%), and checks (3%). 78% of online shoppers said they believed fax transmission of private financial information was secure enough, versus telephone at 70%, and E-mail at confidence of 50%. This suggests that opportunities are available to banks in order to strengthen their on-line presence and assure both security and privacy of their operations to customers.

Jarrah (1999b) also presented descriptive statistics that provide a good overview of Internet usage in the Arab world. It is estimated that the total number of users in thirteen Arab countries was close to one million in April 1999. Egypt ranked highest in terms of users with 207,200, followed by UAE with

204,000, Saudi Arabia with 112,500, and Kuwait with 62,800, while Jordan ranked sixth with approximately 50,000 users. Jarrah argues that the growth percentages in this industry are very impressive and are expected to spur the development of electronic business and other online services in the region. In Jordan, banks are now establishing their web sites and offering what is called a new generation of financial services.

## Methodology

The framework used in the current study was a model developed by Eduardo Diniz (1998) of the University of California at Berkeley and published in the electronic Journal of Internet Banking and Commerce (JIBC).

## The Diniz Model

The Diniz model was centred around the three different opportunities information systems can bring to banks, namely:

1. As an information Vehicle.
2. As a channel for conducting transactions.
3. As a tool to improve customer relationship.

For each of these opportunities, there exists three different levels of interactivity; basic, intermediate, and advanced. At the basic level, a new front is opened with limited applications. At the intermediary level, the web is used to improve services and activities done by banks, but it does not significantly impact major operations. The advanced level opens the possibilities for business transformation and the creation of new business opportunities. Under each level of interactivity, Diniz spelled out a set of activities that banks engage in. The result is a matrix of 3 X 3 (Opportunities X Level of Interactivity). Summarized as,

1. Information systems as a vehicle of information:
  - Basic Level (e.g., ways of contact, electronic brochures, and special events).
  - Intermediary level (e.g., search engines, reports download, and economic information).
  - Advanced level (e.g., subscriptions, interface customization, and advertisements).
2. Information systems as a channel for conducting transactions:
  - Basic Level (e.g., opening accounts, check book requests, and card requests).
  - Intermediary Level (e.g., balance inquiry, bill payments, and fund transfers)
  - Advanced Level, (e.g., virtual banks working primary via web (such as, electronic cash, electronic signature, and electronic checks).
3. Information systems as a tool to improve customer relationships:
  - Basic Level (e.g., electronic mail, suggestions and complaints forms, and feedback forms).
  - Intermediary Level (e.g., advising tools, what-if calculations, and calculators).
  - Advanced Level (e.g., videoconferences, and service developments).

Diniz found that larger banks are more effective than smaller ones in information delivery and transaction fields. However, no difference was found between small and large banks in any interactivity level in terms of customer relationship. On the transactional field, and in addition to some cultural and

organizational aspects, barriers for implementation were mainly technological. As Diniz points out, banks have already developed technologies to advise their customers at higher levels than they show in their web sites. In sum, the study showed that the field of web banking is not yet fully developed. The potential is however vast, and banks need to expand their web capabilities and enrich their sites through innovative ideas.

## Sample

Including three non-Jordanian banks there are thirteen full commercial banks operating in Jordan. An initial survey revealed that one of these foreign banks does not maintain a specialized web for the local market, while two other banks allocated only a limited page site for Jordan in their global site and were excluded from the sample. The final sample consisted of 10 Jordanian banks that keep and maintain an active web site.

## Instrument

As mentioned previously, the research instrument for this study was adopted with limited modifications from the work of Diniz. The 3X3 matrix was transformed into a comprehensive checklist that included all opportunities and interactivity levels.

## Data Collection and Findings

Data was collected on the sample banks between June and July of 2001. All information contained on the web site was examined and evaluated. The major findings in the paper are contained in Tables 1, 2, and 3. The tables present summary information using the various dimensions of the Diniz Matrix. Table 1 documents the utilization of web banking in Jordan as a Information Vehicle site. Banks using their web sites to conduct transaction is depicted in Table 2, while in Table 3, the use of the web site as a way to build relationships with customers is shown.


## Analysis

In general, the findings demonstrate that banks in Jordan are not fully utilizing concepts and applications of web banking. In comparison to developed international markets, it is fair to say that this sector is largely undeveloped.

### Web application as an Information Vehicle:

As shown in Table 1, the concentration of services in Jordan is on the basic level. All Jordanian banks present in their web sites detailed institutional information, promotional information and branch locations. The majority of banks also supply facts about their board of directors, contact details and information on special events.

**Table 1** N = 10  
**Information Vehicle**

Interactivity Level & Dimensions	Number
	

<b>Basic Level:</b>	10
- Institutional information	◆◆◆◆◆◆◆◆
- Promotional Information	10
- Ways of contact	9
- Special events	9
- Addresses and Branches	◆◆◆◆◆◆◆◆
- Board of Directors information	10
- News letters.	7
- Welcome letters.	0
	1

	◆◆◆◆◆◆◆◆
	1
	◆◆◆◆◆◆◆◆
	8
<b>Intermediate Level:</b>	
- Search engines	◆◆◆◆◆◆◆◆
	0
- Report downloads	
- Stock information	◆◆◆◆◆◆◆◆
	1
- Recruitment forms	◆◆◆◆◆◆◆◆
- Job offers	1
- Hot links	◆◆◆◆◆◆◆◆
	7
- Economic Information	
- Financial Markets Information	◆◆◆◆◆◆◆◆
	3
- Detailed Articles	◆◆◆◆◆◆◆◆
	1
	◆◆◆◆◆◆◆◆
	1

	◆◆◆◆◆◆◆◆
	4
<b>Advanced Level:</b>	
- Ability to customize the interface	◆◆◆◆◆◆◆◆
	1
- Subscription options	◆◆◆◆◆◆◆◆

- Online chat with customer service	0
- Discussion groups	0
- Advertisement and Promotion	0

On the intermediary level, reports downloads headed the list with 8 out of 10 banks showing financial information using such applications. 7 banks were found to provide their customers with a list of related links and 3 banks supplied national economic information. Even though it is now considered a very basic technology, only one bank allocated part of its site to make a search engine available to customers. Furthermore, no bank revealed stock information through the site. The remaining 5 services in the intermediary level were practiced by only one bank.

With reference to the advanced level, online chatting with customer service units, discussion groups, and promotional advertisements were not contained in any Jordanian Bank web sites. Four sites did, however, give customers the option of customizing the interface. Customizing in all four cases was limited to changing the interface language from Arabic to English or vice versa.

#### **Web Application as vehicle for Conducting Transactions:**

As shown in Table 2 the majority of Jordanian banks do not conduct transactions on line. Indeed, only two banks offered a limited number of services through their web. One of these two banks expanded its online service to include loan applications and exchange rate inquiries which the other bank provided a credit card request service. No Jordanian bank offers an online opening accounts service or on line investment application service.

**Table 2**

N = 10

#### **Conducting transactions**

<b>Interactivity Levels &amp; Dimensions</b>	<b>Number</b>
<b><i>Basic level :</i></b>	0
- Opening accounts	1
- Card requests	1
- Loan applications	0
- Investment applications	1
- Exchange rates inquiry	2
- Check book request	
<b><i>Intermediate level:</i></b>	0
- Bill payment	2
- Fund transfer	2

- Balance inquiry	2
- History of the account	0
- Stock trading	
<b>Advanced level :</b>	0
Virtual banks with solutions such as e-cash, e-signature and e-checks	

At the intermediary level, the same two banks provided fund transfer, balance inquiry, and history of client account service. No Jordanian banks applied on-line bill payments or stock trading.

On the Diniz one dimensional advanced level service there was no evidence even to suggest that total virtual banking was being contemplated.

#### **Web applications as a vehicle for building Relationship with Customers:**

Table 3 clearly shows that services of this type are highly concentrated in the basic level. For example, the use of majority E-mail facilities and suggestion and complaints forms. On the intermediary level, only one bank chose to provide financial advising tools, such as, a calculator. On the advanced level, there was no provision for services such as videoconferencing.

**Table 3**

N=10

#### **Relationship with customers**

<b>Interactivity Levels &amp; Dimensions</b>	<b>Number</b>
<b>Basic level:</b>	9
- E-mail	7
- Suggestions and complaint forms.	
<b>Intermediate Level:</b>	1
Providing tools to make financial decisions.	0
- What if calculations	
<b>Advanced level:</b>	0
- Video conferencing.	0
- Information Gathering on products and services.	

## **Discussion**



It is clear that the gap between Jordanian bank web applications and American bank web application is significant. In a more general framework we can extrapolate this commentary to the gap between web usage in developing and developed countries. Kurtas (2000) found that American banks use their web sites not only to provide classical operations such as fund transfer or account details, but to also to provide stock trading in the world markets, financial calculators, investment advice, and bill payments. American bank are now using very high technology in encryption in order to provide safety and privacy. They have reached a stage where a number of banks are operating entirely via web without any need for physical location. On the other hand very limited evidence of web usage at this level was found among Jordanian banks. Both American and Jordanian banking industries do however exhibit weaknesses in the advanced levels of all web opportunities, particularly with regards to customer relationships.

Developing nations, such as Jordan, have a number of inherent difficulties in promulgating a web banking culture. Web banks live in the domain of an electronic business environment and E-commerce. The key element of success in this environment is the development of telecommunication infrastructure. The major challenge facing further development of web banking in Jordan, is, for example, the high cost of telecommunication. Another element is the non-availability of information technologies, packages, solutions, and human resources, which facilitates optimum use of technology.

In a more general framework Kurtas (2000) articulated a set of factors that hinder web-banking applications. These included computer piracy and general security issues, telecommunication infrastructure, and possible social implications, such as, downsizing and lay offs.

## Conclusion

Online banking is increasingly used by banks and other financial service providers to gain competitive advantages, operational efficiencies and direct marketing opportunities.

It is important to reaffirm that Electronic banking is a new phenomenon. We have observed a major change from metal and paper money, to plastic cards, to smart cards, to online payments and fund transfers.

Our preliminary results indicate that Jordanian banks have been successful in the introductory phase of web banking. What is now required is to focus on moving Jordanian web banking usage forward with a view to conducting real financial transactions and improving electronic customer relations. This objective can be generalized to banks in developing economies who can no longer ignore the internet as a strategic weapon and distribution channel for their services.

Future research should focus on methods of advancing the interactivity levels towards the higher end of the matrix. Specifically, linkages between investments in web banks and organizational performance need to be anchored. These linkages are crucial so as to provide feedback to decision-makers in both banks and concerned governmental and non-governmental bodies.

## References

Chatzky, J. S. 1998. Taking time to automate. Money Magazine, Vol.27,issue12,P.196

Churbuck, D. 1998. What are you waiting for? , Forbes,Vol.161,Issue 12, P.261.

Clark, R. 1989. Congruence between strategy, IT, and decision making at the unit level: A comparison of U.S.A and Canadian retail banks. Unpublished dissertation, University of Massachusetts.

Diniz, E. 1998. Web Banking in USA. Journal of Internet Banking and Commerce. [www.arraydev.com/commerce/jibc/9806-06.htm](http://www.arraydev.com/commerce/jibc/9806-06.htm)

Eze, E. 1999. The potential use of IT for competitive advantage: An empirical examination of Nigerian commercial banks. Unpublished dissertation, Walden University.

Jarrah, F. 1999a. Internet shoppers in the Arab world spend US\$ 95 million. [www.dit.net/itnews/newsjune99/newsjune22.html](http://www.dit.net/itnews/newsjune99/newsjune22.html)

Jarrah, F. 1999b. Internet users in the Arab world close to one million. [www.dit.net/itnews/newsmay99/newsmay77.html](http://www.dit.net/itnews/newsmay99/newsmay77.html)

Kurtas, A. 2000. Analytical study of investment opportunities in direct and internet banking (Translated). Arab Banks Union Magazine. June, P. 35.

Martin, J. 1998. Say goodbye to bankers hours. Management Review, Vol.87, Issue1, P.33.

Peffer, K. G. 1991. IT impact on performance: An investigation on investment and ATMs. Unpublished dissertation, Purdue University .

Pollalis, Y. A. 1994. Understanding the impact of IT based coordination on the performance of information-intensive firms: A Gestalt approach in the banking industry. 1994. Unpublished dissertation, University of Pittsburgh.

Shuman, J. R. 1998. Banking services harness technology and come up with a winning business strategy which continues to serve public interest. Business America, Vol.119, Issue1, P.27.

Van Aswegen, J. 1993. The IT investment of South African deposit taking institutions and the impact of this investment on industry performance. Unpublished dissertation, University of Pretoria.