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Research paper

Introduction to the Development of the Banking Sector in Iraq

Modern Technology – Knowledge and Infrastructure

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Overview

This paper aims to address the following question: What is the most effective approach to developing the Iraqi banking sector? To this end, I have focused on the required infrastructure, knowledge, and technology, relying on what exists in the British banking sector. This paper reviews infrastructure at the national and banking sector levels, as well as the banking sector in general, highlighting the mechanisms used and the methods of transferring knowledge and technology to the banking sector. The paper concludes with five recommendations directed at the Iraqi government, the Central Bank, the banking sector, and banks. The most important recommendations focus on seeking knowledge and technology and attracting their owners through available means and methods.

Introduction

It is no secret to workers, observers, and analysts in the Iraqi banking sector that there is a genuine intention and desire among decision-makers at all levels to develop this vital sector, which represents the central nucleus for the country's economic development. Accordingly, many in-depth studies have been conducted by successive Iraqi governments, as well as a major comprehensive study by the World Bank in 2011 titled "The Iraqi Financial Sector" (Nasar, 2011), to research how to do this in cooperation with Iraqi cadres and international expertise. However, this study, despite its importance, has not seen its key points and recommendations come to light, as a decade has passed without considering the specificity of Iraq and the nature of Iraqi society.

This study was followed by individual initiatives and projects, such as the salary nationalization program, which introduced more than 2.5 million new personal accounts, as well as annual financial inclusion initiatives, the spread of some

automated teller machines (ATMs) in shopping centers, and finally, the Iraqi Trade Bank issuing a mobile phone program in 2021, which allows customers to access their accounts via their phones—this being, according to the author’s knowledge, the only Iraqi bank to offer this service.

All developments in Iraq in this field are minimal, and their impact is almost invisible compared to those of neighboring countries and developed countries, for several economic, political, and social reasons. When analyzed carefully at the level of the Iraqi economy, and when analyzed broadly at the sector level itself, we see that there are internal obstacles within the sector, including the absence of banking sector infrastructure such as ATM networks, payment and receipt programs, comprehensive programs linking bank branches—especially government ones—to each other, monitoring, follow-up, and analysis programs, and others. Additionally, there is a lack of trained competencies and accumulated experience due to Iraq’s distance from the technological and banking development track during the years of wars, sanctions, and what followed.

This paper will shed light on the mechanisms of transferring knowledge and technology, examine the obstacles that hinder their implementation, and present the main proposals for developing the banking sector in Iraq.

Definitions

Development: The University of Sussex (2021) defines economic development as the increase in productivity or the expansion of the economy. This paper describes development in the banking sector as the transition from one point to another by providing banking solutions and delivering banking services and products to the customer or institutions at the lowest costs and easiest means, measured by capturing a larger share of the sector than before by attracting new

customers, as well as customer trust and satisfaction with sound risk management and increased profits.

Knowledge: According to the Oxford Dictionary (2021), knowledge is defined as the information, understanding, and abilities that an individual acquires through education or practical experience. The University of Cambridge (2021) also defines knowledge transfer as a comprehensive term that refers to activities facilitating cooperation between institutions, such as universities, companies, and the public sector.

This paper defines knowledge transfer as the transfer of information or experience from one person to another or from one institution to another using the known mechanisms for its transfer: either through direct transfer, i.e., training and teaching, as happens in schools and universities when the teacher or lecturer transfers information to educate the student, or through training, as defined by Frishman and Lemley (2006) with the concept of “knowledge spillover,” which is similar to the overflowing of water from a cup to spread everywhere.

Traditional infrastructure is no longer mentioned in studies and research papers because most countries in the world have surpassed it, meaning that we no longer hear about infrastructure such as electricity, water, sewers, and transportation in developed countries. However, when discussing infrastructure, what is meant is electronic infrastructure and the transition to artificial intelligence, which enhances the accuracy and speed of information access.

Thus, infrastructure is one of the shared cumulative effort factors between several sectors. The infrastructure in the banking sector is divided into two main parts:

Visible Infrastructure

This is what the customer uses, such as bank branches, ATMs, point-of-sale and payment terminals, electronic payment services, electronic transaction services for opening bank accounts, applying for loans through smartphone programs or electronic websites affiliated with the bank (see Figure 1).

Figure 1: Visible Banking Infrastructure

English	Definition	Role
Branch Network	Bank branches	To facilitate access to customers and beneficiaries
ATM	Automated Teller Machine	To reduce the need for customers to access their money once, and increase access when needed
Point of Sales (POS)	Points of sale and purchase	To reduce the use of cash and facilitate purchase and sale operations electronically
Online Payments	Electronic payment services	To facilitate bank transfers
Online Banking	Online banking services	To facilitate access to bank products and services, such as opening accounts or inquiring about products
Mobile Banking	Mobile phone services	To facilitate access to bank products and services, such as opening accounts or inquiring about products

Source: Prepared by the author of the paper

The importance of visible services lies in their primary role in building customer trust, which is a key factor in the banking sector. Without trust, customers begin to search for alternatives within the banking sector, which undermines the sector's importance and its primary role in supporting the national economy.

The presence of bank branches, ATMs, and easy-to-use payment methods will increase the use of the banking sector by individuals and institutions, building trust between the industry and its customers. This trust is fostered as customers feel close to their money when needed, which gives them a sense of security and confidence.

In addition, the use of modern technology, such as banking services provided via mobile phones, will build greater trust among customers and also reduce the pressure on branch employees and call centers.

Invisible Infrastructure

This is divided into three parts: infrastructure shared with other sectors, which is a fundamental part of the state's general infrastructure; infrastructure for the banking sector; and infrastructure specific to the bank itself. The banking sector can utilize them to provide banking services and deliver them to customers, thereby achieving financial inclusion for both individuals and institutions, while also ensuring compliance with local and international banking laws and regulations (see Figure 2).

Figure 2: Invisible Infrastructure

English	Definition	Role
Electronically Identification	The Civil Status Directorate issues electronic identification	To confirm individuals for banks without the need for the customer to present documents
Company House	Company registry	To allow banks to confirm company registration
Tax Office	Tax directorate	To allow banks to confirm that individuals or institutions are not tax evaders.
Land Registry	Land registry	To enable banks to access the property register and determine the owner, as well as identify any existing liens against the property.
Credit Reference Agency	Agency linking all institutions providing credit services	To inform banks about the credit status of an individual or institution
Legal Website	Website preserving all economic and banking laws and legislation	To update and develop laws and instructions to keep up with developments

English	Definition	Role
Economic Court	A court for resolving legal disputes	To resolve economic disputes
Economic Police	Economic police	To monitor and enforce laws and rulings

Source: Prepared by the author of the paper

The presence of established services and infrastructure, such as electricity and high-speed, advanced internet, is significant and essential. Still, the state infrastructure mentioned above will help bank operations and reduce bureaucracy, such as the need for clearance certificates or proof of issuance. It will help develop and expedite decision-making regarding lending or entering a banking transaction, as these institutions play a significant role in protecting themselves and the national economy by combating organized crime, while also safeguarding banks and their investors.

Electronic Identification

In Iraq, citizens are required to present proof of documents to open a bank account, followed by evidence of issuance and other relevant documents. However, the Ministry of Interior has developed an electronic register for every citizen, allowing the Ministry to link this register with the individual bank systems. This enables banks to verify the information provided directly, providing fast services and protecting individuals and society. The same system is linked to the other institutions mentioned in Figure 2.

Laws and Regulations

Because they are constantly updated, there must be an official website to verify the latest local instructions and laws, and this should be part of the e-government.

Economic Court

Such a court is available in Iraq, as well as judges specialized in economics; however, there is a need to activate it more and clarify its role more clearly in cooperation with the economic police.

The presence of infrastructure represents an integrated network within the national economy, and any sector can benefit from it. This is its importance, as it is a fundamental part of the state's infrastructure, which facilitates the transition to e-government.

Banking Sector Infrastructure

The development of the banking sector is undoubtedly everyone's responsibility, with the primary responsibility lying with the banks themselves, who aim to provide the best banking services to everyone.

The banking sector consists of integrated institutions, each relying on the other to provide services to the customer, facilitate dealing with him, and protect the banking sector in general, especially in payment and information exchange processes, which increases trust in the industry and raises its capacity for development by relying on technology, as shown in Figure 3.

Figure 3: Banking Sector Infrastructure

English	Definition	Role
ATM Network	Network of ATMs	Allows the use of ATMs regardless of the card issuer or ATM owner, reducing costs for the customer and bank
POS Provider	Companies providing POS devices	Facilitates electronic payment operations through websites or direct payment devices
Fast Payment System	Fast payment system	Helps pay from individual and institutional accounts within the country

English	Definition	Role
Standing Orders	Standing order system	Provides regular transfers from the accounts of individuals or institutions
Direct Debit	Direct debit system	Facilitates the collection of bills by institutions without the need for monthly follow-up by the customer, such as electricity bills or installments
Communication Platform	Communication program between banks	Facilitates reporting thefts and violations urgently

Source: Prepared by the author of the paper

ATM Network

It is noticeable in the Iraqi banking sector that customers cannot use their cards except with the bank that issued the card. However, in most countries around the world, cardholders can use their cards to access any ATM, regardless of the bank's ownership. Yes, there are fees for use, but banks should not deduct those fees because, in the end, all banks will benefit from providing this service, and there is no need for some to pay others.

Another problem lies in the inability of companies and service providers to collect bills. However, the direct debit system will help overcome this problem, as it increases revenues, allowing banks to collect monthly loan payments automatically without requiring customers to wait in line.

Interbank Communication System

This is to facilitate urgent notifications and correspondence between banks, particularly regarding reports of violations, identity theft, and theft.

Bank Infrastructure

Banks generally provide services tailored to the environment, customer needs, and market requirements. Consequently, some banks strive to be comprehensive,

offering a wide range of services, while others specialize, such as commercial banks and investment banks.

Note: Investment banks are those that provide investment services in local and global financial markets, as well as manage deposits and other financial assets.

Legitimate competition is the basis for the development of any sector, especially the banking sector. Still, the banking sector produces products and provides organized services that follow local and international laws that cannot be bypassed under any circumstances, so the means of competition are limited, and the most important are the services and means that help to gain a larger share of the market, as well as providing protection and following instructions and laws, and from here lies the importance of some necessary infrastructure for banks—figure 4.

Figure 4: Bank Infrastructure

English	Definition	Role
Banking Core System	Unified system linking bank branches	To link bank branches with each other
Audit and Follow Up	Audit and follow-up program	To audit all daily transactions, such as opening accounts and verifying information.
Payment Monitoring System	Payment monitoring program	To monitor payments and financial movements
Analysis Systems	Data analysis program	To help in risk management and financial analysis for individuals and institutions
Specialized Departments	Specialized departments and offices	Such as the commercial department, investment department, individual accounts, and support departments
Training Centre	Training and education center	To develop and train employees

Source: Prepared by the author of the paper

Unified System

Also known as the comprehensive system, it is the primary system for accounts and storing information specific to each account. It facilitates access to this information from any branch or department, enabling the provision of services to customers and aiding in monitoring and follow-up.

Audit and Follow-up Program

This is a primary tool for follow-up and auditing administrative changes in accounts, such as changing the address or name, and information provided by or about the customer. Auditing is also used to protect customers from identity theft and maintain control over their accounts, as well as to comply with laws and risk management regulations.

Payment Monitoring and Financial Movements Program

It is similar to the audit and follow-up program, but it focuses on the movement of funds in and out of the account.

Financial Data Analysis Program for Individuals and Institutions

These programs are a key component of risk management tools, particularly in credit risk management. This tool is used to analyze the final accounts of companies and individuals, enabling decision-makers to assess the ability of companies and individuals to provide sufficient cash to repay loans and monitor cash flow in the final accounts of institutions.

Specialization and Administrative Division

The most critical infrastructure in any company is specialization and correct administrative division, ensuring that the right person is employed in the right

place to train and develop in their specialty.

Training and Education Center

This paper has discussed many programs and tools at the sector or bank level. As explained, the banking sector is a highly organized sector that complies with local and international laws and is undergoing rapid development. Hence, the role of the training center is to develop and update employees' skills and train them on new laws, products, or services.

This paper reviews the technology that aids in developing infrastructure and the banking sector, as well as at the bank level. It is easy to say that banks must develop themselves in this area, and they need this tool or that program.

However, this paper emphasized the height of competition in the banking sector, whether at the local or international level, as well as the fact that regional and international laws and regulations govern the industry.

Accordingly, the Iraqi banking sector finds itself in a technologically backward position for two main reasons:

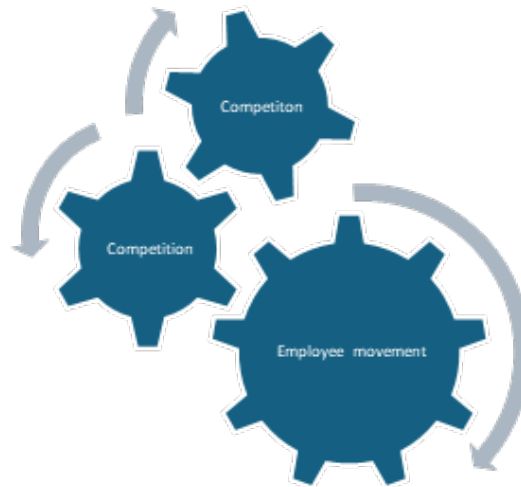
First: Lack of knowledge of these technologies or the need for them
Second, the reluctance of companies to transfer their modern technologies to Iraq.

The following section will discuss the tools and means of transferring knowledge and technology to the banking sector.

The well-known English saying goes (we do not know what we do not know), meaning that a person is unaware of what he lacks in knowledge and the tools. It is considered one of the essential skills for institutions and individuals to know what they do not know, as the question is: How can the banking sector understand what it lacks in capabilities, skills, and technology?

The answer lies in forming partnerships of all kinds with those who possess knowledge and technology, thereby transferring knowledge and technology through established and recognized channels. This process is known as the mechanism of knowledge and technology transfer. This mechanism is based essentially on cooperation with everyone, with the most important of these being the foreign investor. It is divided into two parts: the horizontal mechanism and the vertical mechanism.

Figure 5: Horizontal Mechanism of Knowledge Transfer



Employees

The movement of employees within the banking sector or the recruitment of employees from competing markets transfers their knowledge, awareness, and experience to the new place.

Competition

Competition in the sector drives competitors to know what is available and

provide their best products. For example, a bank offers special services to university students, so another bank provides improved services to the same target group or a new group.

Imitation

This refers to the blind imitation of a similar product or service, such as offering payment cards or Internet services.

As is clear, the horizontal mechanism plays a role in directly transferring knowledge and experience, and it is essentially based on reverse knowledge transfer, i.e., from customers or those connected to the company. For example, the customer requests that the bank develop a service or utilize technology that is already familiar to them. Thus, knowledge is transferred in reverse from the customer to the institution. As for working with other institutions in different sectors, it is with those that can assist, for example:

- Providing technological support and necessary expertise
- Providing material support
- Providing training
- Helping the bank find new customers

As for transferring technology and knowledge through foreign investments, this is achieved by entering into genuine partnerships with owners of knowledge and technology, which come in various forms, as illustrated in Figure 6.

Figure 6: Horizontal Mechanism of Knowledge Transfer



Source: Hill, 2005

Partnership

This is considered the most effective and efficient method for transferring knowledge and technology between two parties. For instance, when a local bank enters a partnership with an international bank, it is in the interest of the global bank to bring its expertise and introduce modern technology to the local market.

Agency

This occurs when agencies enter the market directly, for example, payment companies and their agencies, and the brand owner is obliged to transfer technology and knowledge.

Licensing

This primarily applies to technological programs and tools, meaning that the owner of the technology grants a license to Iraqi banks to use their technology in exchange for a monthly subscription or a contractual agreement.

Research and Development Partnership

This is a method used by two institutions in the same sector or another sector to research and develop programs and technological tools that find solutions or facilitate their use.

Investment

This is when the bank invests in technology companies to obtain their products, but has no direct role in their day-to-day operations.

Recommendations

- The government should make efforts to transition to e-government and link government institutions to each other.
- The government, represented by investment bodies and in cooperation with the Central Bank, should help stimulate and encourage international banks to enter the Iraqi market.
- The Central Bank, through its offices, should follow up and hold accountable banks that do not develop, and urge them to merge and seek genuine partnerships.
- Banking sector institutions should cooperate to develop technology within the sector and exert pressure through available means to establish a genuine partnership between the banking sector and the relevant state institutions.

- Banks should enter into genuine partnerships with technologically and knowledgeably advanced global banks to transfer their expertise and technology.

This paper has reviewed the necessary infrastructure at the country, banking sector, and bank levels, because the lack of infrastructure is the main reason that hinders the development of the Iraqi banking sector, as well as ignorance and lack of knowledge of the required technology, which hinders the banking sector from searching for that technology and expertise. This paper has also reviewed the mechanisms and necessary tools to reach that technology and knowledge. In conclusion, this paper has presented five recommendations for the government, the Central Bank, the banking sector, and the banks themselves.

Limitations

Discussing the development of the banking sector in general necessitates numerous in-depth studies; however, this paper has chosen to base its approach on the transfer of knowledge and technology as a foundation for developing the related infrastructure in Iraq. The author had to translate some terms literally and provide explanations for them because there were no equivalents in the Arabic language. All references are in English.

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The center aims to utilize the vast amount of potential in Iraq's human resources by organizing programs to prepare and develop promising young people, including leaders capable of proposing, adopting and implementing visions and future plans that advance society and preserve its value-system based on the commitment to a high moral standard and rejection of all types of corruption.

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