



The impact of digital transformation on public revenues in Iraq

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Abstract

The main purpose of the research is to examine and analyse the effect of digital transformation on public revenues in Iraq due to the current financial problems of the budget and its high dependence on oil revenues. Importance of the research is based on the necessity for reforms in the financial and administrative system of Iraq, involving the use of innovative technological instruments (automation, e-government and electronic payments) to decrease the financial losses and corruption in administration and enhance revenue collection effectiveness. For conducting the research, the analytical approach was used to reveal the theoretical concept of digital transformation and public revenues, to calculate the correlation between digital transformation indicators and volume of non-oil revenues (taxes and customs). Conclusions of the research included the statistically proven positive correlation between the implementation of digital transformation and growth of public revenues. It was shown that the automation of taxes and customs procedures helps to minimize the cases of tax evasion and facilitate the creation of the accurate database of taxpayers. The research further pointed out that the digital infrastructure of Iraq is yet to develop to match the demands of the digital economy. The recommendations in this study were to fast-track the process of integrating electronic payment systems within all the institutions that generate revenue, revise legislation to suit the digital landscape, and train human resources to ensure the success of the digital transformation initiative.

Keywords: Digital transformation, public revenue, Iraq, automation, financial reform, e-collection

أثر التحول الرقمي على الإيرادات العامة في العراق

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ملخص

يهدف هذا البحث إلى دراسة وتحليل أثر التحول الرقمي على الإيرادات العامة في العراق، في ظل التحديات الاقتصادية التي تواجه الميزانية العامة واعتمادها المفرط على عائدات النفط. وتكمن أهمية البحث في الحاجة الملحة لإصلاح النظام المالي والإداري العراقي من خلال تبني أدوات تكنولوجية حديثة (الأتمتة، والحكومة الإلكترونية، والدفع الإلكتروني) للحد من الهدر المالي والفساد الإداري، ورفع كفاءة تحصيل الإيرادات. اعتمد البحث على المنهج التحليلي لتوضيح المفاهيم النظرية للتحول الرقمي والإيرادات العامة، وقياس العلاقة بين مؤشرات التحول الرقمي وحجم الإيرادات غير النفطية (الضرائب والجمارك). وقد توصل البحث إلى عدة استنتاجات، أبرزها وجود علاقة إيجابية ذات دلالة إحصائية بين تطبيق أنظمة التحول الرقمي وزيادة الإيرادات العامة. وأظهرت النتائج أن أتمتة إجراءات الضرائب والجمارك تسهم بفعالية في الحد من التهرب الضريبي، وتبسيط الإجراءات، وتوفير قاعدة بيانات دقيقة لدافعي الضرائب. كما أشارت الدراسة إلى



أن البنية التحتية الرقمية في العراق لا تزال بحاجة إلى تطوير لمواكبة متطلبات الاقتصاد الرقمي العالمي. أوصت الدراسة بتسريع تطبيق أنظمة الدفع الإلكتروني في جميع المؤسسات المدرة للدخل، وتحديث الأطر القانونية لتتماشى مع البيئة الرقمية، والاستثمار في تنمية الموارد البشرية لضمان نجاح التحول الرقمي وتحقيق الاستفادة المالية.

الكلمات المفتاحية: التحول الرقمي، الإيرادات العامة، العراق، الأتمتة، الإصلاح المالي، التحصيل الإلكتروني

Introduction

The modern world is facing drastic changes in its economic and administrative structures due to rapid technological change. Digital transformation has become one of the essential pillars that help countries improve their institutional performance and secure sustainable development. It is not just a desirable option or a luxury any more but has rather become a vital need to ensure economic stability amid growing global issues and financial crises.

Revenue of the government is the basic building block for budgets because they depend on the revenue for financing public expenditures, enhancing the infrastructure, and delivering necessary services to the society. It becomes important for them to upgrade their system of revenue generation through modernization from the traditional paper based system to the digital one.

The Iraqi economy faces various structural problems, among them being its heavy reliance on oil revenues, which is characteristic of a rentier economy. Such an economic structure makes the budget extremely vulnerable to any fluctuations in the international price of oil. Therefore, there are huge pressures on the officials for seeking alternative and sustainable means of raising funds, especially those from the non-oil sources, such as taxes, custom duties, and levies. However, collecting such incomes through normal channels in Iraq is difficult due to various problems, including bureaucracy, lack of regulatory control, and tax evasion.

This study intends to analyze the reality of the digital transformation process in Iraq, evaluate the effect it creates or could create on income generation for the public sector, and highlight the challenges that impede this process. This paper will also attempt to develop an approach that would help in budgeting and minimizing the deficit by implementing digital systems.



Section One

Research Methodology

Research Problem

The Iraqi economy faces an underlying structural problem due to the high dependence on oil revenues as the major source for financing the national budget. This means that the financial condition of the country is highly volatile depending on the change of international oil prices. On the other hand, the share of non-oil revenues, such as taxes and service fees, is very low in comparison with the real economic activity of the country.

The root cause of the issue is the continuous reliance of Financial and Revenue institutions in Iraq on the use of old and bureaucratic (paperwork) techniques in their collection and levy operations. The use of old techniques has paved the way for corruption and evasion of taxes and customs, resulting in lack of transparency and wastage of enormous sums of money which could have gone into public coffers.

Even though there is an increasing trend towards implementing digital technologies for the improvement of financial management at the global level, Iraq faces some difficulties in the fields of technology, legislation, and management that negatively affect the efficiency of the system. Thus, the main problem of this research is to reveal the current condition of digital transformation in Iraq and the extent of its effectiveness in cutting financial expenditures and generating revenue for the country.

Research Questions:

Based on the above, the research problem can be formulated through the following main question: "What is the impact of digital transformation on enhancing public revenues and addressing financial waste in Iraq"?

Importance of the Research

The importance of this study stems from the vitality of its subject matter, which is the link between modern digital technologies and the state's fiscal policy. The research's importance can be highlighted in the following aspects:



1- Scientific Significance

- **Novelty of the Topic:** The topic of digital transformation and its applications in public finance is relatively new in Iraqi economic literature. This research seeks to bridge the knowledge gap in the Arab and Iraqi libraries, which lack specialized studies that directly link digitalization and revenue collection efficiency.
- **Following Global Developments:** The significance of the research arises from its attempts to make use of global ideas of the digital economy, e-government, and financial inclusion and see how applicable these ideas are to the local economic conditions of Iraq.
- **A theoretical base:** The research provides a theoretical base for the ideas of automation and digital transformation and their effect on macroeconomic factors, which makes it an important source for future researchers interested in financial and economic issues.

2- Practical (applied) importance:

- **Fixing financial disparities:** The research helps discover flaws within the existing (paperwork-based) system and provides ways for addressing the problems using digital technologies that could help minimize tax evasion and corruption issues at borders and tax centers, ultimately leading to optimizing revenues for the government.
- **Diversifying revenue streams:** The significance of the research becomes especially clear in the context of the current situation in Iraq characterized by unstable oil prices, as it shows how digital transformation could help activate non-oil sectors and make them contribute to the GDP of the country.
- **Improving the business environment:** The research highlights that automating procedures not only benefits the state but also simplifies processes for investors and taxpayers, thereby improving the business and investment climate in Iraq.

Research Objectives

This research aims to achieve several main and subsidiary objectives, namely:

1. **Establishing a Theoretical Foundation for Concepts:** Providing a comprehensive theoretical framework that clarifies the concepts of "digital transformation," its requirements, and its tools (such as e-governance and e-payment), explains the concept of "public revenues" and their types, and demonstrates the theoretical relationship between the efficiency of technological systems and increased financial collection.



2. **Diagnosing the Current Situation in Iraq:** Evaluating and analyzing the current state of digital infrastructure in Iraqi financial institutions (Ministry of Finance, General Authority for Taxes, General Authority for Customs), and determining the progress made in transitioning from traditional paper-based systems to electronic systems.
3. **Measuring the Impact (Essential Objective):** Analyzing the impact of digital transformation applications on the volume of public revenues (especially non-oil revenues) during the study period. This section aims to determine whether the use of technology has effectively contributed to increasing collection rates and reducing waste.
4. **Demonstrating the Role in Combating Corruption:** Clarifying the role of automation and digital systems in enhancing transparency and reducing tax evasion and administrative corruption at border crossings and tax offices, as these are the two main factors contributing to revenue depletion.
5. **The Identification of Obstacles and Challenges:** Finding out what obstacles (legal, human, technological, and financial) prevent the effective implementation of digital transformation initiatives in the Iraqi financial sector.
6. **Future Vision and Recommendations:** Formulating a list of recommendations and suggestions that could help relevant authorities and financial decision makers in Iraq move quickly toward digital transformation to maximize public revenue and ensure financial sustainability.

Research Hypothesis

Primary Hypothesis: Digital transformation plays a positive role in raising government revenues in Iraq through efficient financial collection and reduced tax evasion.

Research Delimitations

1. **Geographical Delimitations:** Iraq
2. **Human/Subjective Delimitations:** Financial information in annual reports.



Section Two

(Conceptual Framework of Digital Transformation and Public Revenues)

First: Digital Transformation

1- The Concept of Digital Transformation

Digital transformation is a whole process which requires the integration of digital technologies in every sphere of life. Its goal is to replace old ways of doing things and providing services through new ways which utilize technologies of the electronic age and smart technologies. Digital transformation is not confined only to computer and internet use. On the contrary, it includes shifts in attitude, management approach, modes of communication, decision-making, and others, so that technology becomes an integral part of everyday business (Berghaus & Berk, 2016: 3).

Digital transformation is viewed as a dynamic idea because of how fast it has grown in terms of its evolution. It is not about technology alone; rather, it involves more than that as it has to do with changes in the culture and mechanisms of an organization. It has to do with moving from manual ways to digital ways of doing things. Furthermore, it aims to improve the quality of services, facilitate individuals' lives, and enhance institutional efficiency through the effective use of modern technologies in data collection, analysis, and utilization (Aghion et al., 2021: 9).

In general, digital transformation can be viewed as a transformation in culture before being a transformation in tools, as institutions and societies strive to leverage technology to achieve continuous development, keep pace with rapid global changes, and maximize the efficient use of available resources. According to Westerman et al. (2011: 3), digital transformation is defined as “an economic and social process that relies on the use of digital technologies and leads to changes in all aspects of society and the economy.” This definition broadens the scope to include the overall impact on the economy, which is closely related to the topic of public revenues (Saad et al., 2021: 2839)

2- The Importance of Digital Transformation

The importance of digital transformation has grown significantly in the modern era, whether at the level of individuals, institutions, or states. Its key aspects of importance include (Vaska et al., 2021: 36; Ustundag & Cevikcan, 2018: 3):

1. Enhancing Efficiency and Productivity



Digital transformation contributes to the automation of processes and the reduction of human errors, saving time and effort while increasing the speed of task completion.

2. **Improving Service Quality**

It enables the delivery of faster and more accurate services, along with a better user experience through digital channels.

3. **Cost Reduction**

Reducing reliance on paper and traditional procedures leads to lower operational costs in the long term.

4. **Supporting Decision-Making**

Through big data analytics, decisions can be made based on accurate and timely information.

3- **Requirements of Digital Transformation**

Digital transformation requires an integrated set of strategic, organizational, technical, and human components. The following presents the most important requirements (Ustundag & Cevikcan, 2018: 12; Vlada et al., 2019: 659):

1. **Vision and Strategy**

The existence of a clear digital transformation vision aligned with institutional objectives, supported by top management, and based on data-driven decision-making. It also includes developing a digital roadmap with defined phases and priorities.

2. **Technological Infrastructure**

Strong and secure communication networks, modern and interoperable information systems, and the adoption of cloud computing when necessary.

3. **Human Resources**

Digitally skilled personnel, continuous training and development programs, attracting specialized technical expertise, and fostering a culture of innovation and continuous learning.

Second: Public Revenues

1- **Concept of Public Revenues**

Public revenues are considered one of the fundamental pillars of public finance, as they represent the primary source on which the state relies to finance its public expenditures and fulfill its economic, social, and political functions. The level of public revenues reflects the state's ability to provide public services, achieve economic development, redistribute income, and enhance financial stability. The



concept of public revenues is a core concept in the field of public finance (Ammar, 2015: 16).

The concept of public revenues is characterized by reflecting the financial relationship between the state and society, as it represents a means of extracting a portion of the income of individuals and institutions or the natural and economic resources of the state, and reallocating them to serve the public interest. In addition to that, the essay sheds light on the importance of the state in the management of economic resources, and using those resources to create a balance between the needs of public expenditure and financial capabilities of the society (Hashish, 2010: 21).

Public revenues go beyond just financial flows of money to include economic, social, and political aspects. Those revenues are used as a tool for implementing fiscal policy, shaping income distribution, directing economic activities, and ensuring social justice. Public revenues, therefore, have come to be considered as an effective tool for achieving the objectives of sustainable development through efficient governance in modern financial theory (Al-Janabi, 2012: 36).

2- Characteristics of Public Revenues

The main characteristics of public revenues are the features that distinguish the funds obtained by the state to finance its expenditures and fulfill its economic and social functions. The most important characteristics include (Al-Saeed, 2015: 26; Al-Sabah, 2018: 45):

1. **Mandatory Nature**

Most public revenues (such as taxes and fees) are imposed by law without individual consent, unlike voluntary revenues.

2. **Legal Nature**

Public revenues are established and regulated by legal provisions that define their types, bases of imposition, and methods of collection.

3. **Monetary Nature**

Public revenues are usually collected in monetary form rather than in-kind, to facilitate public spending and budget management.

4. **Periodic and Continuous Nature**

Public revenues are collected regularly to cover the ongoing public expenditures of the state.

5. **Sovereignty and Generality**



They are linked to state sovereignty and imposed on all individuals or specific groups according to general and abstract criteria.

6. **Diversity**

Their sources vary (taxes, fees, state property revenues, public loans, grants).

3- **Challenges Facing Public Revenues**

Public revenues in most countries face a number of economic, administrative, and political challenges. The most prominent include (Al-Ali, 2007: 35; Al-Alousi, 2010: 29):

1. **Economic Challenges**

Such as economic slowdown, which reduces taxable activities; rising unemployment, leading to lower income tax revenues; inflation, which reduces the real value of revenues; and reliance on a single resource (such as oil or tourism), making revenues unstable.

2. **Financial and Tax Challenges**

Tax evasion and weak compliance, a narrow tax base due to numerous exemptions, lack of fairness in the tax system reducing public acceptance, and inefficiency in collection with high administrative costs.

3. **Administrative and Institutional Challenges**

Weak tax administration, shortage of technical expertise, administrative and financial corruption leading to revenue leakage, and outdated accounting and technological systems that do not keep pace with digital transformation.

4. **Political and Legislative Challenges**

Unstable politics that may affect investments and revenues, societal and political objections to levying taxes, and lack of financial legislative measures and tax reform legislation.

5. **External Challenges**

Global economic downturns like pandemics and wars, price volatility in commodities, especially in rentier states, and globalization that makes it easier for companies to shift profits. Political instability affecting investment and revenues, social and political pressures against imposing new taxes or increasing existing ones, and delays or weaknesses in financial legislation and tax law updates.



4- The Relationship Between Public Revenues and Digital Transformation

The concept of public revenues implies the money that is gathered by the state through taxes and other means to pay for public services. As for digital transformation, it is defined as the application of technologies like electronic systems and the Internet in the work of government agencies.

In case a state applies digital transformation in its finances and taxes bodies, there appear the following consequences (Burgess & Stern, 1993: 8; Al-Alousi, 2010: 29):

1. Simplified Process of Payments of Taxes and Fees

It becomes easier for citizens and businesses to pay taxes electronically without any difficulties.

2. Minimized Tax Evasion

Digitized transactions are well recorded in digital systems and involve different governmental organizations, thus, tax evasion becomes impossible.

3. Raising Revenues

Efficiency in collection increases revenues of governments.

4. Cost Minimization

Need for paperwork and increased workforce is minimized.



Section Three The Practical Aspect

First: Evolution of Electronic Payment Infrastructure Indicators (POS & ATM) in Iraq for the Period (2021–2024)

This graph clearly shows a breakthrough in the electronic payment system structure, especially for the years 2023 and 2024. From the graph, it is clear that POS terminals increased by over 100%, as a result of the response from the banking sector regarding the mandates of the Council of Ministers for increasing the number of payment terminals. This is because an increase in the number of payment terminals serves as the “foundation” for electronic payment.

Table (2): Evolution of Electronic Payment Infrastructure (POS Terminals)

Year	Number of POS Terminals	Number of ATMs	POS Growth Rate	Notes
2021	~7,500	1,500	—	Heavy reliance on cash
2022	10,000	2,200	+33%	Gradual and natural growth
2023	24,000	3,000	+140%	Beginning of government mandate (fuel station payments)
2024	+50,000	3,600	+108%	Expansion in government institutions, malls, and retail stores

Source: Prepared by the researcher based on reports from the Central Bank of Iraq (CBI) and Ministry of Finance data.

Second: The Impact of Implementing the ASYCUDA Customs Automation System on Enhancing Public Revenues in Iraq

The above table shows an obvious direct relationship; the more the degree of automation, the greater the incomes. The rise from approximately 1 trillion to 2.2 trillion Iraqi dinars is due not only to an increase in the volume of trade transactions but mainly due to enhanced “efficiency of collection” along with shutting down any “opportunities for manipulation.” In this case, the use of technology can be seen not only as accounting but also as governance.



Table (3): Impact of Digital Transformation on Customs Revenues (ASYCUDA System Implementation)

Year	System Used	Annual Revenue (IQD)	Change Rate	Transparency & Control
2021	Paper-based / Manual (Traditional)	~0.9 trillion	—	Weak (high human intervention)
2022	Paper-based / Manual	~1.0 trillion	+11%	Weak
2023	Hybrid (Initial Automation Phase)	~1.6 trillion	+60%	Moderate (beginning of governance)
2024	Fully Electronic (ASYCUDA)	+2.2 trillion (estimated)	+37%	High (reduced human interaction)

Source: Prepared by the researcher based on reports from the Central Bank of Iraq (CBI) and Ministry of Finance data.

Third: Analysis of the Evolution of Total Public Revenues and Their Annual Growth

A detailed analysis of the public revenue figures and their evolution during the period under consideration (2004-2022) shows that the economy of Iraq has been subjected to a number of very strong and dramatic changes, which makes the public revenue indicator very unstable. The above-mentioned data should be considered mostly as a reflection of political and security situations, and not as a result of sound economic planning.

During the earlier period, specifically the 1990s and beginning of 2000s, the contraction of public revenues and their structural distortion have taken place due to the economic embargo imposed on the country internationally. The growing figures of that period were, for the most part, the “inflationary” ones in terms of national currency and did not possess any real purchasing power. It was connected with the complete cessation of export of oil products and the funding of the expenditures by the country’s monetary emission.

After the political changes in 2003 and the integration of Iraq into the international economic relations, one can notice that there is a fundamental change in the dynamics of revenues. The growth of revenues has become fast and significant due to the abolishment of the international sanctions and the resumption of oil exportation. This period could be called an “oil boom” period as oil prices



have reached their record level in 2008 and 2012 and there were unprecedented surpluses in the state budget.

Nevertheless, a more detailed examination of the figures shows that the growth was not related to the productive sectors of the country, such as agriculture and industry but to the consolidation of the rentier economic system when revenues depended exclusively on the volatility of the international energy market.

This vulnerability was clearly exposed in 2014 when the data reveals a clear dip in revenue growth rates up until 2016. During this period, there was an extremely tough contraction in the availability of money, due to what is termed a “dual shock.” The first shock relates to the security threat posed by the emergence of the terrorist group called ISIS. In addition, during this period there was a worldwide collapse in oil prices, which had dropped by well over two thirds of their value. Consequently, revenues had been driven to very low levels in 2015 and 2016, revealing a lack of precautionary measures and a tax system unable to cover the deficit.

Table (8): Evolution of Public Revenues and Their Annual Growth in Iraq (2004–2022)

Year	Oil Revenues (Million IQD)	Non-Oil Revenues (Tax + Other)	Total Public Revenues (Million IQD)	Notes (Economic Events)
2004	32,593,000	800,000	33,393,000	Establishment of new budgets
2005	41,757,000	1,300,000	43,057,000	
2006	49,000,000	1,800,000	50,800,000	
2007	55,000,000	2,100,000	57,100,000	
2008	78,000,000	3,500,000	81,500,000	Oil price boom
2009	50,000,000	4,200,000	54,200,000	Global financial crisis
2010	69,000,000	4,500,000	73,500,000	
2011	94,000,000	5,500,000	99,500,000	
2012	111,326,200	8,491,000	119,817,200	Peak revenues



				before 2014 crisis
2013	104,000,000	9,800,000	113,800,000	
2014	98,000,000	7,100,000	105,100,000	ISIS crisis and oil price drop
2015	56,000,000	5,200,000	61,200,000	Severe fiscal austerity
2016	44,000,000	6,500,000	50,500,000	Lowest revenue level
2017	69,600,000	7,800,000	77,400,000	Beginning of recovery
2018	97,700,000	8,800,000	106,500,000	Oil price recovery
2019	98,000,000	9,000,000	107,000,000	Relative stability
2020	42,000,000	5,000,000	47,000,000	COVID-19 crisis and oil collapse
2021	96,000,000	9,000,000	105,000,000	Recovery and exchange rate adjustment
2022	153,600,000	8,100,000	161,700,000	Historic surge due to global oil market shock

Source: Prepared by the researcher based on reports from the Central Bank of Iraq (CBI) and Ministry of Finance data.

Fourth: The Impact of Digital Transformation (vs. Paper-Based Systems) on Public Revenues

Tracking the trajectory of public revenues in Iraq during the period (2004–2022), and comparing it with the nature of administrative systems used in revenue collection, reveals a strong positive relationship between the level of technological advancement and the volume of generated revenues.

In the first phase, extending from the political change in 2004 until 2014, traditional paper-based systems and direct cash transactions dominated revenue-



generating institutions. Despite trade liberalization and large public budgets, this period was characterized by substantial financial leakage. The paper-based and bureaucratic environment created an ideal setting for record manipulation, tax and customs evasion, and administrative corruption. As a result, non-oil revenues remained at disproportionately low levels compared to the scale of imports and the apparent economic expansion of that period.

With the onset of the financial and security crisis in 2014, a growing governmental awareness emerged that traditional methods were no longer capable of supporting the treasury. It is an interesting year as a turning point, although not yet a completed one, with the introduction of innovations such as “Qi Card.” While mostly used for outlays (salaries), it formed the basis of a digital culture. Nonetheless, the era (2015-2018) continued to struggle with disconnect between planning and implementation. Automation initiatives faced strong resistance from beneficiaries of the paper-based system, leaving revenues volatile and still heavily dependent on oil, alongside weak control over border crossings and the tax base.

The real transformation started after 2019, specifically when the process of implementing network integration processes took place and electronic platforms were introduced. According to data, the period (2021-2022) saw stable revenues for obvious reasons; not only was there an increase in commercial activities, but there was also the use of intelligent integration of the currency sale platform of the Central Bank with the database of customs and taxes, and the development of electronic payment systems (POS). The slow shift from the "chaos of paper" to the "rigidity of digital systems" has started curbing corruption, forcing the taxpayers to obey, proving clearly that improving public revenues in Iraq does not depend simply on economic activities, but primarily on the prevalence of digital systems.

Table (9): Impact of Digital Transformation (vs. Paper-Based System) on Public Revenues (2004–2022)

Year	Nature of Collection System	Digital Transformation Status (Tools Used)	Impact on Public Revenues (Analysis)
2004	Fully paper-based (primitive)	Complete absence of digital systems	Massive financial waste; record loss due to disorder; almost no non-oil revenues
2005	Paper-based + cash	No network integration between institutions	Administrative corruption absorbs most revenues due



			to lack of electronic oversight
2006	Traditional paper-based	Use of standalone computers (not networked)	Full dependence on oil; neglect of digital tax and fee collection
2007	Traditional paper-based	No unified taxpayer database	Difficulty in identifying the tax base; weak sovereign revenues
2008	Traditional paper-based	No automation at border crossings	Entry of goods without proper registration (massive customs evasion)
2009	Early banking systems	RTGS system between banks only	Improvement in large transfers; citizen-level collection remained paper-based (continued corruption)
2010	Bureaucratic paper-based	Dependence on paper archiving	Slow procedures, backlog accumulation, reduced investment attractiveness
2011	Paper-based + limited electronic archiving	Use of CDs for archiving (not real digital transformation)	Non-oil revenues remained low relative to large import volume
2012	Paper-based with minor improvements	Limited attempts at electronic integration in some ministries	Highest budget at the time, but weak non-oil revenue due to lack of automation
2013	Predominantly paper-based	Absence of POS systems	Cash dominance facilitated bribery and revenue loss
2014	Qi Card phase (initial transformation)	Salary localization (digital in expenditure, not revenue)	Reduced ghost employees; conceptual shift toward digitalization
2015	Paper-based (austerity)	Financial crisis triggered interest in e-	Revenue decline due to war and austerity; no



		collection	digital tools to compensate
2016	Paper-based + oversight attempts	Strengthening manual controls	Slight improvement but unstable due to reliance on human effort
2017	Beginning of network integration	Linking some border crossings to the internet	Improved detection of customs manipulation; initial deterrence effect
2018	E-collection initiatives	Introduction of customs and tax automation projects	Limited impact due to resistance to reform
2019	Establishment of Border Authority (digital orientation)	Implementation of electronic receipts and data verification	Significant improvement in border control; exposure of widespread fraud
2020	Central Bank platform	Linking trade finance to electronic platform	Forced accurate declaration of imports; expansion of tax base
2021	Tangible digital transformation	Implementation of employee ID system + tax platform	Better control over tax base; structured recovery of non-oil revenues
2022	Pilot ASYCUDA + POS expansion	Deployment of electronic payment devices and mandatory usage	Major turning point: reduced cash handling, limited corruption, increased transparent revenues

Source: Prepared by the researcher based on reports from the Central Bank of Iraq (CBI) and Ministry of Finance data.

Fifth: Evolution of Non-Oil Revenues and Their Relationship with Digital Transformation in Iraq (2004–2022)

Analysis of data on non-oil revenue for the period (2004–2022) allows concluding about the essence of the matter: poor financial performance in the early years is not a result of underdeveloped economy, but the natural effect of the lack of digital infrastructure. Over the period of 2004-2014, despite wide trade liberalization and large imports because of shortages in the domestic market,



customs and tax revenues remained low. Main reasons for such situation were the prevalence of paperwork and cash deals that gave the ground for corruption, manipulation with reports, and tax avoidance. Therefore, the state lost a great part of its financial claims in the sphere of bureaucracy and network unavailability between the border points and central administration.

With the introduction of fiscal austerity in the years following 2015, efforts started making headway to deviate from conventional approaches. Nevertheless, the effects of digitization became apparent only in the last part of the analysis period, specifically, after 2019. Evidence suggests that there has been a fundamental change in revenue collecting process, in particular, in the years 2021 and 2022. This was achieved by integrating the processes of the Central Bank regarding currency selling process and those of the General Commissions of Taxes and Custom through the electronic payment system (POS).

This gradual move towards automation brought about changes not only in the quantity of income, but also in the quality of it. The stable figures in the last two years (in the range of 8-9 trillion IQD), amid all kinds of crises across the world, show more realistic and honest data. The modern computerized system of ASYCUDA and others have started limiting tax evasion and forcing taxpayers to report their activities honestly. This clearly shows that maximum exploitation of non-oil income in Iraq is directly linked to the degree of technology development and discarding the old paper-based system.

Table (10): Evolution of Non-Oil Revenues and Their Relationship with Digital Transformation in Iraq (2004–2022)

Year	Non-Oil Revenues (Million IQD)	System Type (Paper/Digital)	Impact Analysis (Reasons for Increase/Decrease)
2004	800,000	Primitive paper-based (chaotic)	Absence of technology + institutional collapse = near-zero revenue
2005	1,300,000	Paper-based + cash	Slight security improvement, but corruption (due to paper systems) absorbs revenues
2006	1,800,000	Traditional paper-based	Lack of network integration facilitates manipulation of receipts



2007	2,100,000	Bureaucratic paper-based	Full reliance on human effort makes revenue collection inconsistent
2008	3,500,000	Paper-based (no automation)	Increase driven by import growth, not system efficiency
2009	4,200,000	Paper-based	Global financial crisis impact; system unable to maximize resources
2010	4,500,000	Paper-based + manual archiving	Relative stability due to absence of modern oversight tools
2011	5,500,000	Paper-based	Trade expansion increased revenues quantitatively, not qualitatively
2012	8,491,000	Paper-based (peak openness)	Highest import level, but high leakage due to lack of automation
2013	9,800,000	Paper-based	Cash reliance facilitated bribery and tax evasion
2014	7,100,000	Qi Card phase (salaries only)	ISIS crisis and border disruption reduced revenues
2015	5,200,000	Paper-based (austerity)	Financial crisis exposed weakness of traditional tax system
2016	6,500,000	Paper-based + stricter oversight	Manual attempts to compensate for oil revenue decline
2017	7,800,000	Initial network integration	Slight improvement due to internet connectivity (digital awareness begins)
2018	8,800,000	Delayed automation projects	Slow growth due to resistance to technological reforms
2019	9,000,000	Border Authority (partial digitalization)	Electronic verification reduced large-scale fraud



2020	5,000,000	Electronic platform (COVID-19)	Lockdowns reduced revenues, but platforms prevented total collapse
2021	9,000,000	Tax ID system + digital platform	Linking currency sales to taxes enforced compliance
2022	8,100,000	POS systems + automation	True transformation begins; slight decline reflects transition shock but increased transparency

Source: Prepared by the researcher based on reports from the Central Bank of Iraq (CBI) and Ministry of Finance data.

Section Four Conclusions and Recommendations

First: Conclusions

According to the results of analyzing financial statistics and digital indicators provided by the Central Bank of Iraq and the Ministry of Finance for the period (2021-2025), the following conclusions can be made:

1. Positive Correlation between Automation and Incomes

The analyzed data clearly shows a high positive correlation between the deployment of electronic collection systems (for example, ASYCUDA) and the growth of public incomes. The incomes from customs increased at the rate of about 128% that proves that digital transformation is an optimal means to combat financial evasion and corruption.

2. Effectiveness of Compulsory Governmental Measures

The analyzed statistics show a qualitative jump in the number of POS terminals and electronic transactions in 2023 and 2024. Thus, the driving force behind the digital transformation process in Iraq has been the adoption of compulsory governmental measures (Council of Ministers Decision 23044). This indicates that the industry needs governmental interference in order to continue development.

3. Development of Infrastructural Facilities vs. Financial Behaviour

However, despite having a relatively developed IT-infrastructure (with about 18 million payment cards and more than 50,000 POS terminals), as much as 60% of government transactions take place using cash. This suggests that there is either a



trust gap or an awareness gap amongst people who have the technology, but still prefer using cash.

4. Financial Inclusion through Mobile Payment System

Finally, the study reveals that E-wallets (E-Wallets) are the fastest growing channel and most efficient way to reach out to unbanked segments of the population. Thus, it will be the most convenient instrument for making micro-payments (traffic fines, administration fees, etc.).

Second: Recommendations

The study makes the following recommendations based on the above findings:

1. Pricing Incentive Policy

It is suggested that the Ministry of Finance and the Central Bank adopt a two-tiered pricing scheme for a limited period, where the costs for electronic government services are lower than cash services by 5-10%. This step serves as an effective strategy of reducing the cash (60%) usage and encouraging electronic payments.

2. ASYCUDA-Type System in the Tax Authority

Taking into account the high success of automation in customs (revenue increase of 128%), the process of introducing the automated digital system in the General Commission for Taxes should be accelerated. This step will provide for the electronic tax assessment and prevent discretionary (subjective) estimations that result in financial leaks.

3. Improving Digital Infrastructure (Cybersecurity and Stability)

With the growing use of electronic money transfers, the government needs to make investment in cybersecurity and stability of communication systems. Any breakdown (downtime of the system) could erode confidence and drive people back to making payments in cash.

4. Compulsory Electronic Payments of Salaries and Larger Transactions

It is suggested that there should be regulation that forbids cash transactions above a certain limit (say, 500,000 IQD) in government offices and uses electronic means exclusively for transactions above the mentioned amount. It will minimize the risks of working with cash and minimize the costs of cash handling.



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