

The Role of Digital Wallet Providers in Enhancing Financial Inclusion: An Analytical Study of the Iraqi Experience

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Abstract: *The study aimed to demonstrate the impact of digital wallets on enhancing financial inclusion variables (number of bank accounts, payment cards, ATMs, and POS devices). Data published on the Central Bank of Iraq's statistical website was used, along with SPSS and Excel, to demonstrate the relationship results. The results showed positive regression coefficients in all models. The study concluded that increased payments via digital wallets are associated with an increase in bank accounts, cards, points of sale, and ATMs. This is a direct indication that the spread of digital wallets is not limited to digital transformation, but rather plays an effective role in advancing financial inclusion.*

Keywords: digital wallets, financial inclusion, ATM, POS

INTRODUCTION

The digital wallet provider has a significant part in improving financial inclusion. This helps in offering secure, low-cost financial services and accessibility for the unbanked and underbanked population (Awuah, 2025). They are responsible for enabling remittance, financial transactions, and digital payment by reducing reliance on traditional banking processes and encouraging emerging technologies. The digital financial ecosystem significantly transformed the way individual accesses services related to banking and finances, especially in developing countries. When considering financial inclusion in Iraq is a crucial challenge as the majority of people lack access to traditional banking itself (Dhawan et al., 2024). Due to the lack of traditional banking access by the people digital wallet providers have emerged as key contributors to bring in solutions

for issues. The research here will emphasize the role of digital wallet providers and improve financial inclusion specific to Iraq.

Aim and Objectives

Aim

To explore the digital wallet provider's role in the process of improving financial inclusion by analyzing its influence, adaptation, and literacy in Iraq

Objectives

- Evaluate how digital wallet providers contribute to access to financial services in Iraq.
- Identify the role of digital culture in the adoption of digital wallets in the country.
- Identify efforts to promote financial inclusion.
- Measure the impact of digital wallets in promoting financial inclusion.

Research Questions

1. How do digital wallet providers contribute to access to financial services in Iraq?
2. Identify the role of digital culture in the adoption of digital wallets in the country.
3. What challenges do digital wallet providers face in their efforts to promote financial inclusion?
4. What factors support the adoption of digital wallets in the financial sector in Iraq?

Rationale of the Study

Sustainable development, reduction of poverty, and economic growth are significant factors of financial inclusion. Even in Iraq the increasing understanding of internet connectivity along with mobile phones financial exclusion is still a major challenge in the country. The reason for carrying out this study is to examine the contribution made by digital wallet providers to fill the gap causing challenges in financial inclusion (Ediagbonya and Tioluwani, 2023). The consideration of the study will emphasize the financial, regulatory, accessibility, and literacy aspects as the cause factors for financial inclusion. With the gathered information through this study policymakers, technology providers, and financial institutes in developing inclusion financial recommendations/solutions in Iraq.

LITERATURE REVIEW

Assistance of Digital Wallet Providers in Accessing Financial Services.

Digital commerce enables rapid, convenient, and secure transactions via electronic devices, particularly smartphones, while storing transaction-related information such as purchase confirmations and receipts. It encompasses details regarding the acquisition of one or more financial accounts (user data, information transfer, online purchasing options) and facilitates digital communication with the merchant's website to acquire guidance on purchasing through the

user interface for review and confirmation of the transaction. The user interface enables the selection of payment alternatives, customisation of shipment details, or provision of information needed by the seller (Behren & Nowka, 2012). By the conclusion of 2017, transactions with Apple Pay alone are anticipated to have surpassed \$700 billion in mobile payments. PayPal handles around \$7,000 per second. Digital wallets facilitate the implementation of innovative data collecting and transaction-oriented credit analytics, enabled by mobile technology that permits payments using near-field communication (NFC). Moreover, significant advances include the substitution of sensitive payment agents and the potential for preserving personal data. Electronic payment systems are seeing intense rivalry among service providers over the future of payment and authentication systems (Brummer& Gorfine, 2014).

In Iraq , Neama et al., (2023), the role of the digital wallet is to contribute significantly to the effective assistive to financial services. This has been proven to be an effective source for the population of Iraq to access financial assistance. With the effective use of mobile tools digital wallet service providers serve people with a safe, secure, and convenient platform for performing financial transactions (Neama et al., 2023). In this process, there is no specific need to rely on the traditional form of banking infrastructure. Cornish (2019), states that with the use of the Qi Card system, International Smart Cards have brought a revolutionary change in the financial transaction process. Since 2007, the International Smart Card has significantly developed to serve payment for benefits, salaries, and public pensions to the nearly 7 million population of Iraq. It was approximately 1/6th population of the nation. This has helped in streamlining the process of payment in Iraq developing financial inclusion and minimising dependency on traditional cash transactions (Cornish, 2019). The Qi card is not categorised as a digital wallet, since the Central Bank of Iraq report indicates a limitation of three digital wallets, as seen in Figure 1.

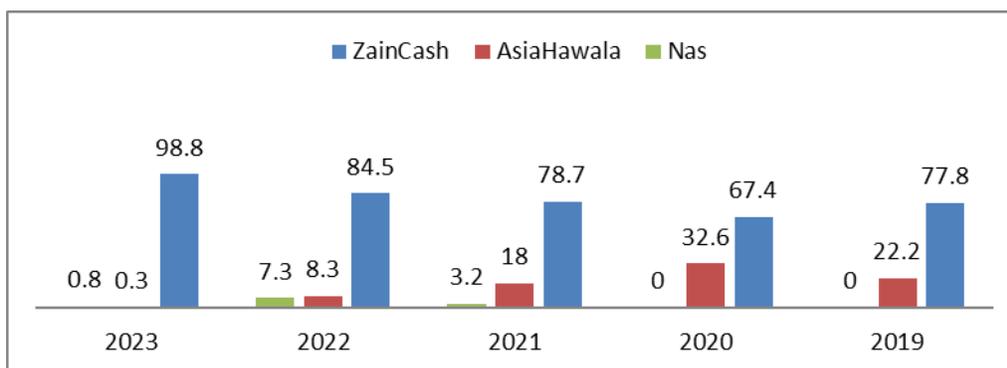


Figure 1: Percentage of Amounts Transferred from Digital Wallets in Iraq 2019-2023
Source: (CBI, 2024)

Role of Digital Literacy in the Adoption of Digital Wallets in Iraq

Hidayati (2025), literacy is key to any changes and its acceptance as it plays a significant part in influencing society. Financial literacy henceforth is crucial in the adoption of digital wallets. As per a study carried out in the Kurdistan region of Iraq, it has been found that digital literacy is very important for people to have to bring acceptance and readiness. One of the challenges that digital wallet providers face is the absence of knowledge related to digital technologies leading to reluctance to the change and transformation process. As asserted by Muhammed et al. (2024), in Iraq, digital literacy is limited by 22% significantly increasing the need to promote digital financial literature so that financial inclusion can be uplifted through digital wallets. A high digital literacy rate will positively promote and influence digital wallet providers in the process of financial inclusion and easy transaction processes in the country (Muhammed et al., 2024).

The Central Bank of Iraq's policy and the government's promotion of electronic payment culture have substantially facilitated the growth of financial technology companies focused on electronic payment, including payment cards and digital wallets, as illustrated in Figure 2.

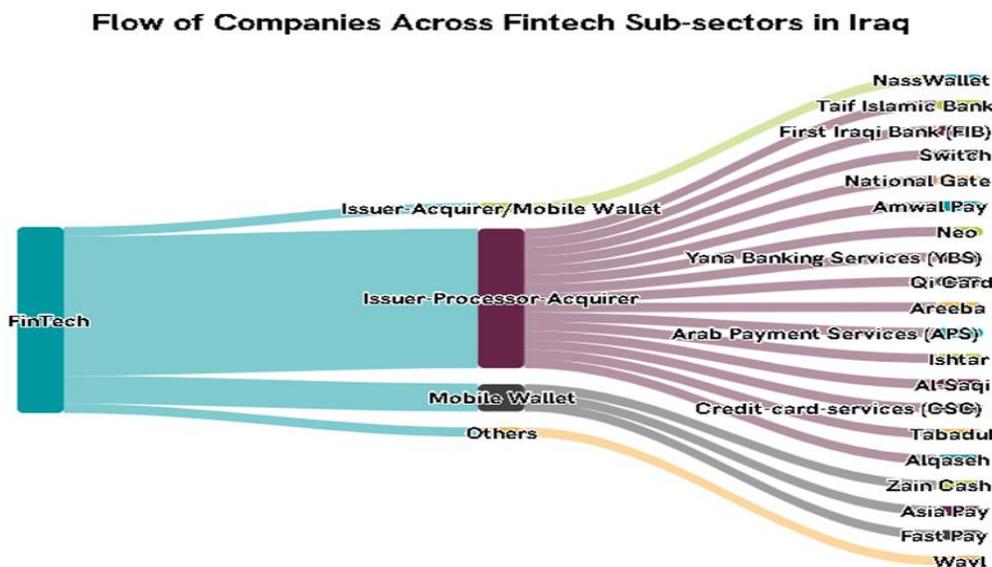


Figure 2: FinTech Sub-Sector in Iraq
(Source: I Data)

Dimensions of Financial Inclusion

Financial inclusion in developing economies is assessed through various key indicators that reflect access, use, and quality of financial services. These indicators are essential for understanding the

multifaceted nature of financial inclusion and its impact on economic development. The following sections outline the key dimensions and indicators used to measure financial inclusion. These include banking infrastructure, as increases in bank accounts, payment cards, ATMs, and point-of-sale (POS) devices lead to higher levels of financial inclusion. (Abor et al., 2020)

The impact of bank accounts on a country's economic stability is multifaceted, primarily centered around the banking system's role in allocating capital, managing risk, and enhancing macroeconomic resilience. Bank accounts facilitate savings, which banks can use to obtain loans, stimulating investment and economic growth. This relationship highlights the importance of a stable banking sector in maintaining overall economic health. The following sections detail the key aspects of this relationship. Banks attract deposits through various types of accounts, enabling them to pool resources for lending. They then lend to businesses and individuals, boosting investment and consumption, two key drivers of economic growth. (Vrotslavskyy, 2024).

Payment cards play a significant role in promoting financial inclusion for underserved groups in developing countries by providing access to basic financial services. These electronic payment systems facilitate transactions, savings, and credit, helping to overcome the barriers faced by these groups. Payment cards enable access to financial services in remote areas, reducing geographical barriers. (Adelaja et al., 2024).

The integration of ATMs and point-of-sale (POS) systems in developing economies has a significant impact on financial inclusion by enhancing access to financial services and stimulating economic growth. These technologies facilitate access to banking services, reduce transaction costs, and support cashless economies, all of which are critical for financial inclusion. However, their effectiveness depends on regulatory frameworks and the broader economic environment. ATMs provide a vital access point to financial services, particularly in areas with limited banking infrastructure. They enable users to conduct transactions without having to visit a bank branch, enhancing financial access. POS systems also enable electronic transactions, reducing reliance on cash, and promoting a cashless economy. This shift is critical for financial inclusion, as it expands access to financial services. (Nayan et al., 2024)

METHODOLOGY

Research Method

The research method is a guiding path for investigators to carry out the practice in a well-organised manner. The current study will emphasize a mixed research method approach that integrates the features of both quantitative and qualitative insights while exploring the role of digital wallet providers in the process of promoting Iraq's financial inclusion (Taherdoost, 2022). The prime reason for using the mixed research method as it helps in performing a comprehensive analysis of the diverse variables including barriers, and supporting factors end users experience supported with factual financial information. This will also help in developing a nuanced understanding of

and need to promote financial inclusion through digital wallet adoption for the unbanked and underbanked populations in Iraq.

Research Design

Research design is a strategy used by the researcher to perform or conduct an investigation on a subjective matter. Considering the need for the current subjective topic the exploratory research design will be utilized as it helps in identifying the factors that influence the process of financial inclusion in Iraq (Olawale et al., 2023). This exploratory research design is suitable for the current study as it helps in identifying the opportunities, patterns, and gaps especially considering the financial market of the developing country Iraq. A new understanding of the challenge and influence the digital wallet providers have on pre-existing factors can be examined effectively with this design approach.

Data Collection

The current study which is based on analytical information on Iraq will emphasize gathering secondary data sources. The source of information will include government publications, market surveys, academic journals, peer-reviewed articles, news articles, websites, and industrial and financial platforms. Reliable and contemporary information can be accessed through the existing performed study will help in achieving the set aim and objectives (Baldwin et al., 2022). The last 10 years ' data will be accessed for reliability and gathering information on transformation in Iraq's financial industry.

Data Analysis

The collected data will be transformed into meaningful information which will be carried out through qualitative techniques under thematic analysis (Ayre and McCaffery, 2022). This will allow the researcher to develop themes based on the secondary data literature study assisting in uncovering factors impacting digital wallet adoption in Iraq. Table 1 shows the data for each variable for the years 2017-2023, while Figure 3 shows the relationship between the volume of payments via digital wallets and a number of financial inclusion indicators in Iraq during the period from 2018 to 2023.

Table 1 the data for each variable for the years 2017-2023

Year	Financial Inclusion				Total Electronic Payment By Digital Wallet (IQD)
	NO.Banking Account	NO. Total of Electronic cards	NO. of ATM	NO. of POS	
2017	1,361,034	6,377,305	656	918	257,463,090,867
2018	1,630,677	8,810,030	865	2,200	343,284,121,156
2019	3,039,522	10,506,725	1,014	2,226	858,128,262,349
2020	6,126,976	11,749,408	1,340	7,540	1,402,301,877,536
2021	6,696,657	14,906,294	1,566	8,329	913,356,442,253
2022	8,795,891	16,202,771	2,223	10,718	1,069,699,244,744
2023	13,289,332	19,754,229	4,021	23,066	5,224,875,638,108

Source: (CBI, 2024)

The figure shows that digital wallets are moving in the same direction as the dimensions of financial inclusion (number of bank accounts, number of electronic payment cards, number of ATMs, number of point-of-sale devices). This means that digital wallets can be a promising tool for enhancing financial inclusion, but they require a supportive environment that maintains continuous growth and ensures safe and reliable use by users.

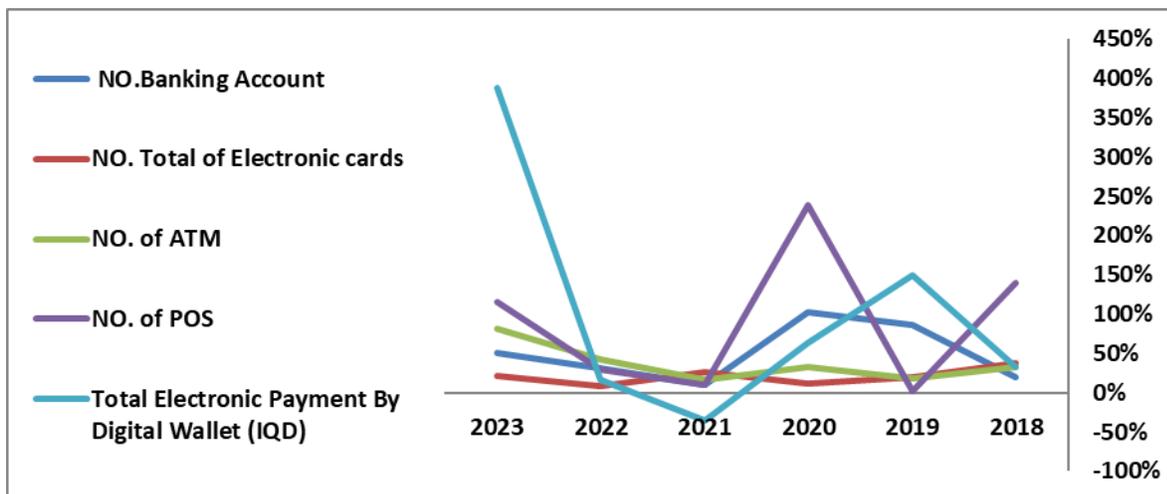


Figure 3 : relationship between the volume of payments via digital wallets and financial inclusion indicators

Table 2 shows the Kolmogorov-Smirnov test to verify the normal distribution. It was found that the digital wallet variable did not follow a normal distribution, as the p-value was less than 0.05,

indicating that the normal distribution hypothesis for this variable was rejected. The remaining dependent variables, namely the number of bank accounts, the number of electronic cards, the number of ATMs, and the number of point-of-sale devices, showed p-values greater than 0.05, which means they follow a normal distribution.

Table 2 shows the Kolmogorov-Smirnov test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DigitalWallet	.366	7	.005	.672	7	.002
NO.BankingAccount	.172	7	.200 [*]	.925	7	.513
NO.ElectronicCards	.146	7	.200 [*]	.982	7	.968
ATM	.250	7	.200 [*]	.830	7	.080
POS	.211	7	.200 [*]	.845	7	.112

Since the data for the independent variable (digital wallets) are not normally distributed, a logit regression model will be used after transforming the non-normal data to the natural logarithm.

Table 3 the results of a simple regression analysis

		Coefficients					F	Sig.	R Square	
dependent variables	independent variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.				
		B	Std. Error	Beta						
NO.Banking Account	(Constant)	-	105680768	20004725.1		-5.283	.003	31.116	.003	.862
	DigitalWallet	4049169	725891.3	.928	5.578	.003				
NO.Electronic Cards	(Constant)	-	102955071	25701908.8		-4.006	.010	20.241	.006	.802
	DigitalWallet	4195879	932619.3	.895	4.499	.006				
ATM	(Constant)	-27501	6335.4			-4.341	.007	21.22	.006	.809
	DigitalWallet	1059	229.9	.900	4.607	.006				
POS	(Constant)	-188776	38009.4			-4.967	.004	26.79	.004	.843
	DigitalWallet	7139	1379.2	.918	5.176	.004				

Table 3 shows the results of a simple regression analysis after transforming the "digital wallets" variable into a natural logarithm to address its non-normal distribution. A multiple regression

analysis was conducted for each of the financial inclusion indicators (number of bank accounts, number of electronic cards, number of ATMs, and number of point-of-sale devices) as dependent variables, with the transformed variable used as the independent variable. The results showed a strong statistically significant relationship between the digital wallet payment variable and the four financial inclusion indicators, with the P-value for all models being less than 0.01, indicating a significant effect at a 1% significance level.

By analyzing the coefficient of determination (R-squared) in each model, we find that the independent variable explains a significant proportion of the variance in the dependent variables. For example, the R^2 for the number of bank accounts was approximately 86.2%, for the number of electronic cards approximately 80.2%, for the number of ATMs 80.9%, and for the number of point-of-sale devices 84.3%, indicating that the model largely explains the change in these indicators based on digital payments. This clearly reflects the contribution of the development of digital wallet services to enhancing financial inclusion.

In terms of estimates, the regression coefficients were positive in all models, indicating that the increase in payments via digital wallets is associated with an increase in bank accounts, cards, points of sale, and ATMs. This is a direct indication that the spread of digital wallets is not limited to digital transformation alone, but rather plays an effective role in driving financial inclusion.

Ethical Considerations

In the current chosen subjective matter, the ethical consideration will ensure the accuracy and reliability of information and data sources. Further, credibility will be ensured by accessing data only through platforms that are openly accessible and trustworthy. The analysis and study will be secured and protected against misuse and manipulation as only the researchers involved in the will have access to the entire research process (Taherdoost, 2021).

CONCLUSION

Digital wallet providers play a significant role in promoting financial inclusion in Iraq by offering safe, efficient, and accessible financial services. The results and financial analysis demonstrated the positive impact of digital wallets on enhancing financial inclusion dimensions, including the number of bank accounts, electronic payment cards, ATMs, and point-of-sale devices. Government support for this approach, overseen by the Central Bank of Iraq, is also evident, with the goal of achieving development goals that enhance financial and monetary stability in Iraq.

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