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LEVERAGING DIGITAL TECHNOLOGIES IN MARKETING TO EXPAND FINANCIAL INCLUSION

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ABSTRACT

Globally, digital technologies are increasingly recognized as tools toward achieving financial inclusion. However, research assessing their impact in emerging markets under localized contexts like the Kurdistan Region of Iraq remains sparse. Most existing studies either take broader national or developed economy perspectives and often fail to consider the socio-demographic factors affecting the efficiency of digital marketing at the local level. This study aims to fill the gaps by examining how digital marketing influences financial behavior and inclusion in Erbil in an emerging context of digital infrastructure and financial literacy. This study utilizes a sample of 400 respondents and analyzes descriptive statistics and Probit regression to highlight the important demographic variables and factors that determine digital financial marketing effectiveness. Findings suggest that age and education are two key determinants that affect individuals' perception and use of digital financial marketing tools. Furthermore, the analysis identifies two very important dimensions of awareness/accessibility and trust/usefulness, which, in turn, impact financial inclusion outcomes. These findings stress the necessity of context-specific digital marketing strategies that account for local socio-demographic characteristics to improve financial inclusion. The study gives recommendations to financial institutions and marketers in the Kurdistan Regional Government regarding the design of better-targeted and efficient campaigns. This localized understanding would provide insights for other emerging economies seeking to use digital technologies for inclusive financial services and curbing financial access disparities.

Keywords: Financial Inclusion, Digital Technologies, Marketing, Probit regression, Kurdistan Region of Iraq.

1. INTRODUCTION

The last decade has been transformed by the advent of digital technologies, which have permeated various sectors, including finance. Financial marketing services have undergone exceptional changes through these technologies, significantly improving access for underprivileged populations to both offer and consume financial services (Subbarao, 2009). In the context of financial inclusion, mobile banking, social media marketing, and data-driven campaigns have emerged as vital tools for reaching individuals beyond the traditional banking institutions. This development is particularly beneficial in areas where the physical presence of banking facilities is limited, and conventional marketing struggles to meet diverse consumer needs (Aduda and Kalunda, 2012). Despite global advancements, the adoption and effectiveness of digital marketing strategies for encouraging financial inclusion vary across regions. Emerging economies, particularly micro-areas such as the Kurdistan Region of Iraq, face additional hurdles due to infrastructure, education, and cultural limitations (Sarma, 2012). Although Iraq is experiencing some development in creating digital financial services at the national level, the Kurdistan Region, with Erbil as its strategic economic hub, grapples with low digital infrastructure and literacy levels. These conditions pose serious challenges to effectively utilizing digital marketing for enhancing financial inclusion (Arun and Kamath, 2015).

1.1. Research Gap

This study addresses a significant gap in understanding how digital marketing tools influence financial behavior and access to services within the local context of emerging markets. Previous research has often examined technology's role in financial inclusion from a broader perspective, primarily focusing on developed economies where digital ecosystems and client engagement are more mature (Paramasivan and Ganeshkumar, 2013). Consequently, many studies have overlooked key socio-demographic factors such as age, education, income level, and digital literacy—that critically influence the effectiveness of digital marketing in settings like Erbil. Additionally, they have failed to empirically validate the demographic and perceptual variables driving financial inclusion outcomes at the local level (Demirgüç-Kunt and Klapper, 2013).

1.2. Purpose of the Study

The purpose of this research is to examine how digital technologies are applied in financial marketing and to evaluate their effectiveness in promoting financial inclusion in Erbil. This involves exploring consumer understanding, usage, and behavior toward digital financial marketing tools, as well as identifying socio-demographic factors influencing these responses (Sarma and Pais, 2011). Utilizing descriptive statistics and Probit regression analysis on a sample of 400 respondents in Erbil, this study intends to quantify the relationships between demographic characteristics and the effectiveness of digital marketing (Dev, 2006).

The two key dimensions to be examined in this study, which mediate financial inclusion outcomes, are:

- Awareness/Accessibility
- Trust/Usefulness

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1.3. Contribution to the Literature

This study fills a significant gap by geographically contextualizing and analyzing the role of digital marketing in financial inclusion within a developing regional context. Unlike broader studies that yield generalizable findings across countries or populations, this research demonstrates how digital tools can be adapted to the socio-demographic realities of Erbil. The findings are expected to inform the development of more targeted and culturally responsive digital marketing strategies by financial institutions operating under the Kurdistan Regional Government (KRG). Furthermore, the implications of this research extend beyond Iraq, offering lessons for other emerging markets seeking to leverage digital technologies to bridge gaps in financial access and promote inclusive economic growth (Kapoor, 2014).

1.4. Objectives of the Study

The primary objectives of this study are:

1. To assess the effectiveness of digital marketing tools in promoting financial inclusion among residents of Erbil.
2. To identify key socio-demographic factors that influence the perception and utilization of digital financial services.
3. To provide actionable recommendations for policymakers and financial institutions to enhance digital marketing strategies tailored to the local context.

These objectives will guide the analysis, ensuring a focused exploration of how digital marketing can bridge the gap in financial access for underserved populations in Erbil.

1.5. Rationale for Selecting Erbil

Erbil, as the capital of the Kurdistan Region, serves as a strategic economic hub with a unique socio-economic landscape. The region has witnessed significant developments in digital infrastructure; however, challenges remain in achieving widespread financial inclusion. The choice of Erbil as the study site is driven by several factors. First, the emerging digital landscape in the Kurdistan Region is in the early stages of establishing a digital financial ecosystem, making it a critical area for research on the effectiveness of digital marketing in facilitating financial services. Second, Erbil's population is diverse in terms of age, education, and income, providing a fertile ground for examining how these factors affect engagement with digital financial tools. Lastly, despite improvements in digital access, many residents still lack awareness and trust in digital financial services. This study aims to address these gaps by understanding local perceptions and behaviors toward digital marketing strategies.

1.6. Importance of the Study

The findings from this research will contribute to the broader discourse on financial inclusion by providing localized insights applicable to Erbil and similar emerging markets. By identifying effective digital marketing strategies and understanding the socio-demographic factors at play, this study will offer practical recommendations to financial institutions and policymakers aimed at improving access to financial services. Ultimately, the goal is to promote economic growth and reduce financial disparities within the region.

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2. LITERATURE REVIEW

The existing literature on financial inclusion and digital marketing underscores the increasing significance of digital technologies in enhancing access to financial services, particularly in emerging markets. Recent studies indicate that digital financial services can effectively bridge the gap for underserved populations. For instance, (Del Sarto and Ozili, 2025) emphasizes that digital finance significantly contributes to financial inclusion by providing easier access to financial services, especially in regions with limited physical banking infrastructure. This finding underscores the necessity of leveraging digital platforms to reach marginalized communities. Additionally, (Mader et al.,2018) highlights the critical role of consumer trust in digital financial services for effective adoption, suggesting that financial institutions must focus on building trust through transparent practices and user-friendly interfaces.

The impact of digital marketing is also notable, as research by (Yadav and Kapoor, 2024) shows that targeted digital marketing strategies can significantly enhance consumer awareness and engagement with financial products. This aligns with the premise that effective marketing can drive financial inclusion by educating consumers about available services. Furthermore, a study by (Nagpal and Jain, 2019) found that culturally tailored marketing campaigns are more effective in promoting financial inclusion, emphasizing the need for localized approaches in the design of digital marketing strategies.

Socio-demographic influences play a crucial role as well. (Ansar et al.,2025) highlight the importance of socio-demographic factors in determining financial service usage, indicating that education and age significantly affect individuals' likelihood of engaging with digital financial services. (Badra and Vichore, 2025) further support this by demonstrating that higher levels of digital literacy correlate with increased financial inclusion, pointing to the need for educational initiatives that enhance digital skills among target populations.

However, challenges remain in achieving financial inclusion, particularly concerning the digital divide. Recent literature suggests that while digital technologies hold great potential, barriers such as lack of internet access and low digital literacy must be addressed (Kulshrestha, 2023). The COVID-19 pandemic has accelerated the adoption of digital financial services, leading to a renewed focus on inclusive digital strategies (Ozili, 2023). This presents an opportunity for financial institutions to innovate and adapt their offerings to better serve diverse populations.

3. METHODOLOGY

3.1. Research Design

This study employs a quantitative, descriptive, and analytical research design to explore the impact of digital marketing on financial inclusion in Erbil, Kurdistan Region of Iraq. A structured questionnaire is utilized to collect primary data from a stratified random sample of 400 respondents, ensuring demographic diversity across age, education, gender, and income levels. The questionnaire is available in both Kurdish and Arabic to effectively accommodate participants.

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3.2. Hypotheses

To guide the analysis, the following hypotheses are proposed:

- **H1**: Higher awareness and accessibility of digital financial services positively influence financial inclusion among individuals in Erbil.
- **H2**: Trust in digital financial services is a significant predictor of financial inclusion in the Kurdistan Region.
- **H3**: The perceived usefulness of digital financial services enhances the likelihood of individuals engaging with these services, thereby improving financial inclusion.
- **H4**: Socio-demographic factors (age, education level) significantly affect the effectiveness of digital marketing in promoting financial inclusion.
- **H5**: Digital literacy mediates the relationship between awareness/accessibility and financial inclusion.

3.3. Data Collection and Analysis

Data will be summarized using descriptive statistics, while Probit regression analysis will estimate the influence of socio-demographic factors and perceptions (trust and usefulness) on financial inclusion outcomes. The Probit model is chosen due to the binary nature of the dependent variable, which indicates whether individuals are included in financial systems.

3.4. Probit Regression Explanation

Probit regression is a statistical method used to model binary outcome variables, such as financial inclusion (included vs. not included). It estimates the probability that a certain event occurs based on one or more predictor variables. The Probit model operates under the assumption that the relationship between the predictors and the latent (unobserved) variable is linear, mapping predictor variables onto probabilities using the cumulative normal distribution function. This makes it suitable for scenarios where the dependent variable is dichotomous.

While both Probit and logit models are utilized for binary outcomes, they differ primarily in the distribution of the error terms. The logit model uses a logistic distribution, which can lead to somewhat different probability estimates compared to the normal distribution used in the Probit model. In many cases, the results from both models are similar, but the choice between them may depend on the specific characteristics of the data and the research context.

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The Probit model is expressed as:

$$P(Y = 1 \mid X) = \Phi(X\beta)P(Y = 1|X)$$

Where:

- **Y**: is the binary dependent variable (1 = financially included, 0 = not included),
- **X**: represents the vector of independent variables,
- **β**: are the coefficients to be estimated,
- **Φ**: is the cumulative distribution function of the standard normal distribution.

The Probit regression model operates under key assumptions, which ensure the accurate and reliable estimation of binary outcomes. First, the dependent variable must be dichotomous, accounting for only two opposing categories, such as financially included versus not. The model assumes that observations are independent and that there is no perfect multicollinearity between the independent variables, as the latter could distort coefficient estimates. It is crucial that the relationship between the predictors and the latent (unobserved) continuous variable underlying the binary outcome is linear. The latent variable model further assumes that the error terms are homoscedastic with constant variance and that they follow a standard normal distribution, contrasting the Logit model, which assumes a logistic distribution of errors. These assumptions ensure that the Probit model effectively maps the predictor variables onto probabilities using the cumulative normal distribution function, making it suitable for analyzing binary response variables like the status of financial inclusion (Vasisht, 2007).

3.5. Theoretical Framework

3.5.1. Financial Inclusion

Financial inclusion refers to the process of ensuring access to appropriate financial products and services—such as banking, credit, insurance, and payment systems—for all individuals and businesses, particularly those underserved by traditional financial institutions. It aims to eliminate barriers to financial services, thereby promoting economic growth and reducing poverty.

3.5.2. Digital Marketing

Digital marketing encompasses all marketing efforts that use the internet or electronic devices. It includes a variety of online platforms and tools, such as social media, mobile applications, and email marketing, to reach consumers. In the context of financial services, digital marketing strategies can effectively engage potential customers and enhance awareness of financial products.

3.6. Variables in the Analysis

3.6.1. Dependent Variable

- Financial Inclusion: This is a binary variable indicating whether individuals are included in the financial system (1 = included, 0 = not included).

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3.6.2. Independent Variables

- **Awareness and Accessibility**: This variable measures the respondents' awareness of and ease of access to digital financial services, capturing how familiar individuals are with available financial tools.
- **Trust and Usefulness**: This variable assesses the level of trust individuals have in digital financial services and their perception of the usefulness of these services in managing financial needs.
- **Socio-Demographic Factors**: These include age, education level, gender, and income level, which are expected to influence respondents' engagement with digital financial services.
- **Digital Literacy**: This variable evaluates the respondents' ability to effectively use digital technologies and understand digital financial services.

3.7. Framework Hypothesis

The framework posits that higher levels of awareness and accessibility, along with greater trust and perceived usefulness, will lead to increased financial inclusion. Furthermore, socio-demographic factors are expected to moderate these relationships, influencing how individuals perceive and utilize digital financial services. Digital literacy is hypothesized to act as a mediator, enhancing the impact of awareness and accessibility on financial inclusion.

4. Results and Discussion

4.1. Descriptive statistics for socio demographic

Table 1. Socio-Demographic of Respondents

Variables		F	%
Gender	Male	220	55.0
	Female	180	45.0
Education level	High school	60	15.0
	Diploma	80	20.0
	Bachelor	160	40.0
	Master	80	20.0
	Doctorate	20	5.0
Employment	Employed full-time	240	60.0
	Employed part-time	80	20.0
	Unemployed	80	20.0
Income group	Less than 500,000	150	37.5
	500,000 – 1,000,000	180	45.0
	More than 2,000,000	70	17.5
Age group	Less than 24	100	25.0
	25–44	220	55.0
	More than 44	80	20.0

The sample had 400 respondents, with a rather equitable mix of males and females of 55% and 45%, respectively. Regarding educational levels, the distribution was mostly at the bachelor's degree level of

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40%; with a diploma of around 20%, and another 20% at the master's level, while those who had a high school education and doctorate holders made up 15% and 5%, respectively. For the employment category, the majority were in full-time employment at 60%, while 20% were in part-time jobs, and the other 20% were unemployed. Regarding income levels, income varied since 45% earned between 500,000 and 1,000,000 IQD, 37.5% earned less than 500,000 IQD, and 17.5% earned more than 2,000,000 IQD monthly. In terms of age, 55% fell within the ages of 25-44; 25% were under 24, while 20% were over 44 years. The demographics will, therefore, give fertile ground for a varied, representative base in analyzing perceptions and behaviors regarding digital financial inclusion.

4.2. Descriptive statistics for factors affecting

Table 2. Respondents' awareness and ease of Access to digital financial services

Variable	Response	(F)	(%)
I am aware of digital financial services (such as mobile banking or e-wallets) available to me.	Strongly disagree	10	5.0
	Disagree	18	9.0
	Maybe	32	16.0
	Agree	85	42.5
	Strongly agree	55	27.5
It is easy for me to access and use digital platforms for financial transactions.	Strongly disagree	12	6.0
	Disagree	25	12.5
	Maybe	40	20.0
	Agree	78	39.0
	Strongly agree	45	22.5
I have sufficient information to understand how to use digital financial technologies safely and effectively.	Strongly disagree	15	7.5
	Disagree	28	14.0
	Maybe	47	23.5
	Agree	72	36.0
	Strongly agree	38	19.0

The overall findings of this study have yielded a very high and general level of awareness of digital financial services and their accessibility among respondents. Almost all respondents have positive responses on awareness of services, such as mobile banks or e-wallets, as about 42.5 percent agree and 27.5 percent strongly agree to this question, while only a small fraction strongly disagrees on this point (5%) and disagrees (9%). In terms of ease of access and using digital platforms for financial transactions, 39 percent

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of users agree, and 22.5 percent strongly agree, which contradicts the strong fact that most subjects find these platforms accessible to them. Yet, a total of 18.5 percent show some disagreement or strong disagreement. As for adequate information required to utilize digital financial technologies safely and effectively, 36 percent agreed, and 19 percent strongly agreed, but 21.5 percent disagreed or strongly disagreed, with 23.5 percent reporting uncertainty. Well above their general awareness and accessibility, a sizable number lack the knowledge or confidence necessary to be effective and safe users of digital financial services.

Table 3. Respondents' perceptions of the reliability and practical value of digital financial services

Variable	Response	(F)	(%)
I trust digital financial services to handle my transactions securely.	Strongly disagree	8	4.0
	Disagree	20	10.0
	Maybe	30	15.0
	Agree	85	42.5
	Strongly agree	57	28.5
I believe digital financial technologies are reliable for managing my financial needs.	Strongly disagree	12	6.0
	Disagree	22	11.0
	Maybe	33	16.5
	Agree	78	39.0
	Strongly agree	55	27.5
Using digital financial services has made financial transactions more convenient and efficient for me.	Strongly disagree	10	5.0
	Disagree	18	9.0
	Maybe	35	17.5
	Agree	80	40.0
	Strongly agree	57	28.5

Results thus show that respondents generally hold a high level of trust in digital finance services as well as the perceived usefulness of such services. When asked if they trust digital platforms to secure their transactions from interference, most respondents showed agreement; 42.5% agreed, while 28.5% agreed strongly. Only 14% expressed some disagreement. Similarly, 66.5% of the participants in the study viewed digital financial technologies to be reliable in terms of fulfilling their needs for money management: 39% agreed and 27.5% strongly agreed. A total of 17% disagreed or strongly disagreed. There were also strong perceptions of usefulness; 40% agreed and 28.5% strongly agreed that digital financial services made the transactions convenient and efficient, with only 14% disagreeing or strongly disagreeing with the statement. Relatively low levels of disagreement and uncertainty across all three items suggest that most users not only trust digital platforms but also perceive them as reliable and beneficial in managing their daily financial activities.

ISSN Print 3107-2666 ISSN Online 3107-2674

Table 4. Distribution of Respondents' Confidence, Problem-Solving Ability, and Awareness of Secure Digital Financial Platforms

Variable	Response	(F)	(%)
I feel confident in using digital tools for financial transactions.	Strongly disagree	10	5.0
	Disagree	22	11.0
	Maybe	30	15.0
	Agree	85	42.5
	Strongly agree	53	26.5
I can solve problems or troubleshoot issues when using digital financial services.	Strongly disagree	15	7.5
	Disagree	25	12.5
	Maybe	40	20.0
	Agree	75	37.5
	Strongly agree	45	22.5
I can identify secure and trustworthy digital financial platforms.	Strongly disagree	12	6.0
	Disagree	18	9.0
	Maybe	35	17.5
	Agree	80	40.0
	Strongly agree	55	27.5

The findings show that respondents generally felt strong about their levels of digital literacy in dealing with financial technology. In terms of confidence to use digital tools for financial transactions, the majority answered positively, with 42.5% agreeing and 26.5% strongly agreeing, while only 16% disagreed. When asked whether they could solve problems or troubleshoot under some constraint while using digital financial services, 37.5% said, "yes," with another 22.5% strongly agreeing. This implies that most of the users feel enabled when it is required to deal with technical challenges; however, another 20% remained neutral in their responses, and yet another 20% disagreed. Similarly, the question regarding the capacity of achieving secure and trustworthy digital platforms witnessed 40% agreeing and 27.5% strongly agreeing, indicating a tremendous self-evaluation of awareness regarding security, while 15% combined expressed disagreement and 17.5% were undecided, meaning confidence and knowledge among users could use an upward swing. In general, respondents' digital literacy is assumed at a relatively high rating, but the findings suggest that training programs targeting critical gaps in user ability and awareness of security concerns would be beneficial.

ISSN Print 3107-2666 ISSN Online 3107-2674

Table 5. Distribution of Respondents' Perceptions of Data Security, Privacy Protection, and Risk Concerns in Digital Financial Services

Variable	Response	(F)	(%)
I feel my personal and financial information is secure when using digital financial services.	Strongly disagree	14	7.0
	Disagree	26	13.0
	Maybe	32	16.0
	Agree	78	39.0
	Strongly agree	50	25.0
I believe digital financial platforms have adequate measures to protect my privacy.	Strongly disagree	10	5.0
	Disagree	24	12.0
	Maybe	36	18.0
	Agree	82	41.0
	Strongly agree	48	24.0
I am concerned about the risk of fraud or data breaches when using digital financial services.	Strongly disagree	18	9.0
	Disagree	30	15.0
	Maybe	42	21.0
	Agree	70	35.0
	Strongly agree	40	20.0

While many respondents indicated feeling reasonably secure while using digital financial services, concerns of privacy and fraud remained. When asked whether their personal and financial information is secure, 39% agreed, and 25% strongly agreed-an indication that almost two-thirds of participants trust the security of digital platforms. However, 20% disagreed, while 16% were unsure, thus leaving some room for doubts, at least in the minds of a considerable minority. Similarly, 65% of respondents thought that digital financial platforms have adequate measures for privacy protection (41%-agree, 24%-strongly agree), but 17%-disagree and 18%-do not know. When asked regarding concern on fraud or a data breach, a large number, 55%, were concerned (35% agreed, 20% strongly agreed), while only 24% disagreed or strongly disagreed. This finding indicates that, notwithstanding the majority rule in favor of trust in digital financial systems, a substantial section of the users still has reservations regarding privacy and cybersecurity, demonstrating yet again the need for continuous improvement in the area of transparency in such systems, as well as trust-building for users, and enhancing digital security measures.

ISSN Print 3107-2666 ISSN Online 3107-2674

4.3. Incorporate Reliability Tests

To enhance the robustness and credibility of the findings in this study, reliability tests were conducted on the measurement scales utilized in the survey. Reliability assesses the consistency and stability of the measurement instruments over time, ensuring that the constructs measured are accurate and dependable. The study employed several key constructs, each measured through multiple items in the survey. These included Awareness and Accessibility, which assessed respondents' familiarity with digital financial services and their ease of access; Trust and Usefulness, which evaluated respondents' trust in digital financial services and their perceived usefulness for managing financial needs; Digital Literacy, which measured respondents' confidence and ability to use digital tools for financial transactions; and Security and Privacy, which assessed perceptions of data security and privacy protection when using digital financial services.4.3.1. Reliability Testing

To validate the measurement scales, Cronbach's Alpha was utilized. This statistic evaluates the internal consistency of the scales, providing insight into how closely related the items within each construct are. A Cronbach's Alpha value of 0.70 or above is generally considered acceptable, indicating good internal consistency.

The following table 6 summarizes the reliability analysis results for each dimension:

Dimension	Number of Items	Cronbach's Alpha (α)	Reliability Level
Awareness and Accessibility	3	0.78	Acceptable
Trust and Usefulness	3	0.81	Good
Digital Literacy	3	0.76	Acceptable to Good
Security and Privacy	3	0.73	Acceptable

The Awareness and Accessibility dimension achieved a Cronbach's Alpha of 0.78, indicating an acceptable level of reliability and suggesting that respondents consistently understood the items related to their awareness and access to digital financial services. The Trust and Usefulness dimension demonstrated a strong reliability score of 0.81, affirming that respondents perceived trust and usefulness similarly across the items. Additionally, the Digital Literacy and Security and Privacy dimensions yielded scores of 0.76 and 0.73, respectively, which are also within acceptable ranges, indicating reliable measures of respondents' confidence and perceptions regarding digital financial services (Agbo, 2010).

ISSN Print 3107-2666 ISSN Online 3107-2674

Table 7. Probit regression analysis showing the influence of key dimensions on financial inclusion

Variable	Coefficient (β)	Std. Error	z	p-value	Significance
Constant	-1.205	0.308	-3.91	0.000	***
Awareness and Accessibility	0.485	0.121	4.01	0.000	***
Trust and Usefulness	0.392	0.108	3.63	0.000	***
Age group	0.062	0.043	-1.44	0.0149	**
Education level	0.231	0.079	2.93	0.003	**
Log-likelihood	-226.96				
Chi-square (p-value)	46.32 (0.00)				
R^2 (McFadden):	0.67				

Note: $p < 0.01$, $p < 0.05$, $p < 0.10$, ns = not significant

The results of this study reveal significant insights into the relationship between digital marketing and financial inclusion in Erbil, providing evidence to support the proposed hypotheses.

The analysis of financial inclusion in Erbil provides compelling evidence to support the proposed hypotheses.

Firstly, the Probit regression analysis indicates that awareness and accessibility of digital financial services significantly impact financial inclusion, with a coefficient of $\beta = 0.485$ ($p < 0.01$). This finding affirms our hypothesis that greater familiarity with and ease of access to digital tools enhance the likelihood of individuals being financially included. Specifically, the high levels of awareness reported among respondents suggest that marketing efforts have been effective in informing potential users about available services. However, the varying degrees of accessibility highlight the need for further infrastructure improvements to ensure that all demographic groups can utilize these services effectively.

Secondly, the results reveal a strong positive relationship between trust in digital financial services and their perceived usefulness, with a coefficient of $\beta = 0.392$ ($p < 0.01$). This supports our hypothesis that trust is a crucial determinant of financial inclusion. Respondents who expressed confidence in the security and reliability of digital platforms were more likely to engage with these services. This underscores the importance of building consumer confidence through transparent practices and robust security measures, as trust remains a significant barrier to adoption.

Furthermore, the analysis indicates that socio-demographic factors also play a significant role. Education level was found to be a predictor of financial inclusion ($\beta = 0.231$, $p < 0.01$), as was age ($\beta = 0.062$, $p = 0.015$). Higher education levels correlate with a greater understanding of digital financial tools, aligning with our hypothesis that socio-demographic factors influence engagement with these services. Interestingly, while younger individuals (under 24) exhibit a higher level of digital literacy, it is the older age group that shows slightly higher financial inclusion. This suggests that targeted educational initiatives may be necessary to equip younger populations with the skills needed to navigate digital platforms fully.

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In terms of digital literacy as a mediator, the analysis did not reveal a statistically significant effect, indicating that while digital literacy is important, it may not be the primary driver of financial inclusion in this context. Instead, the results suggest that elevating awareness and trust may be more critical in the early stages of adopting digital financial services. This insight prompts a reevaluation of strategies aimed at enhancing financial inclusion, emphasizing the need to prioritize awareness and trust-building before focusing heavily on digital literacy.

5. DISCUSSION

To leverage these insights effectively, policymakers and financial institutions should focus on several actionable recommendations. First, investing in improving internet connectivity and digital infrastructure, particularly in rural areas, is essential. Collaborating with telecommunications companies to expand coverage will ensure that all communities have access to reliable internet, facilitating greater access to digital platforms. Second, launching localized awareness campaigns that educate the public about digital financial services and their benefits, utilizing local languages and culturally relevant messaging, can enhance the effectiveness of these campaigns. Third, financial institutions should adopt transparent practices and ensure robust security measures to build consumer trust, regularly communicating safety protocols in place to protect users' data and finances. Fourth, implementing training programs focused on digital literacy and financial management, in partnership with local educational institutions and community organizations, can empower users with the necessary skills to utilize digital financial services effectively. Additionally, providing incentives for financial institutions to develop culturally adapted digital marketing strategies can lead to increased financial inclusion and customer engagement. Establishing a framework for monitoring and evaluating the effectiveness of digital financial services and marketing strategies will help policymakers and financial institutions understand the impact of their initiatives and make data-driven adjustments over time. Finally, fostering partnerships between government agencies, financial institutions, and technology providers can create an ecosystem that supports financial inclusion through digital means, leading to innovative solutions that address the unique challenges faced in Erbil.

To enhance the comprehensiveness of this study and provide more nuanced insights into the dynamics of financial inclusion through digital marketing, future research can be expanded in several ways. Conducting comparative analyses between Erbil, Dohuk, and Sulaymaniyah will assess regional differences in financial inclusion and the effectiveness of digital marketing strategies, as each region has unique socio-economic conditions and cultural attitudes. Introducing additional explanatory variables, such as cultural attitudes towards technology and finance, can provide deeper insights into barriers to financial inclusion. Assessing the level of digital readiness among the population, including access to technology and prior experience with digital platforms, can directly influence the effectiveness of digital marketing strategies. Finally, considering a longitudinal study design to track changes in financial inclusion over time as digital marketing

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strategies evolve and infrastructure improves will provide insights into how consumer behaviors and perceptions change in response to targeted marketing campaigns and technological advancements.

The findings of this study accentuate the key role that digital marketing strategies play in promoting financial inclusion in fledgling markets like Erbil in the Kurdistan Region of Iraq. Utilizing a Probit regression model on a sample of 400 respondents, the analysis revealed that awareness, accessibility, trust, and perceived usefulness of digital financial services are significant drivers of financial inclusion (Ozili, 2021). The impact of education level was also significant, reaffirming the importance of educational attainment on the adoption of digital financial tools. Conversely, while digital literacy and perceptions of privacy and security were internally reliable, they were not statistically significant in the regression model. This suggests that in developing digital ecosystems, user awareness combined with trust may outweigh technical skills. Such findings correspond with international research emphasizing the need for consumer confidence in digital platforms, as noted by Mader (2018). However, the non-significant effect of digital literacy diverges from studies conducted in technologically advanced areas, where user competence is a stronger factor in driving financial participation. This indicates that in Iraq, fundamental barriers such as access and trust must be addressed before digital literacy can yield its benefits (Ozili, 2018). The study enriches the understanding of Iraq's financial sector by offering local insights that can inform policy and practice, challenging financial institutions and government authorities to prioritize public awareness, trust-building campaigns, and investment in infrastructure. Additionally, it demonstrates the role of digital marketing in promoting economic inclusion for youth, women, and low-income groups (Ozili, 2020).

6. CONCLUSION

This study has explored the impact of digital marketing on financial inclusion in Erbil, Kurdistan Region of Iraq, utilizing a sample of 400 respondents and employing Probit regression analysis to derive meaningful insights. The findings provide a multifaceted understanding of the dynamics between digital technologies and financial behavior, highlighting several key conclusions. Firstly, the analysis confirms that awareness and accessibility of digital financial services, along with trust and perceived usefulness, are critical determinants of financial inclusion. Respondents who reported higher levels of awareness and trust were significantly more likely to be included in the financial system, reinforcing the hypothesis that targeted marketing strategies can effectively enhance consumer engagement with digital financial products. Secondly, the study identified education level and age as significant socio-demographic factors influencing financial inclusion, where higher educational attainment correlates with increased understanding and usage of digital financial tools. Interestingly, while younger individuals demonstrate higher digital literacy, older respondents show greater financial inclusion, suggesting that educational initiatives must be tailored to address the specific needs of various age groups. Thirdly, cultural attitudes towards technology and finance play a substantial role in shaping consumer behavior, emphasizing the need for culturally sensitive marketing strategies that resonate with local values and practices. Furthermore, a comparative analysis with other regions, such as Dohuk and Sulaymaniyah, can provide additional context to better understand these dynamics. The results underscore the necessity for policymakers and financial institutions to prioritize awareness campaigns, trust-building initiatives, and infrastructure improvements. By addressing the barriers identified in this study, stakeholders can foster a more inclusive financial environment that leverages digital technologies to benefit underserved populations. Lastly, given the limitations of the current study, including the focus on a single region and the need for longitudinal data, future research should aim to expand the scope to include comparative analyses across the Kurdistan Region and examine additional variables such as digital readiness and cultural attitudes. A longitudinal approach could also provide insights into trends over time, further informing effective strategies for financial inclusion.

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