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Digital Marketing and Inclusive Finance: A Mechanism Analysis from the Perspectives of Cost Optimization, Efficiency Enhancement, and Resource Allocation

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Abstract. Inclusive finance has long been limited by information asymmetry, insufficient physical branch coverage, and the "80/20 rule" mindset, which has left long-tail customer segments underserved. The spread of digital technology offers a possible way to ease these problems. Drawing on long-tail theory, market efficiency theory, and capital cost theory, this study employs a theory-driven literature review to examine how digital marketing supports inclusive finance, focusing on its pathways, main mechanisms, and practical limits. The review indicates that digital marketing changes traditional financial service models in three main ways: it reduces information asymmetry, extends service reach, and improves resource allocation. In practice, these effects come mainly from lower costs (reducing information costs, outreach costs, and customer acquisition costs) and higher efficiency (improving information matching, operational efficiency, and customer lifecycle management). Besides, the high initial customer acquisition cost (CAC), the structural mismatch between the cost and return when providing services to low-income groups (long-tail customers) on a large scale through low-profit products, as well as the weak business sustainability, still pose significant limitations to this model. This study has constructed a comprehensive theoretical framework to understand how digital marketing supports the development of inclusive finance, while also pointing out its practical limitations.

Keywords: Digital marketing, inclusive finance, long-tail theory, financial technology, cost reduction and efficiency enhancement

1. Introduction

Inclusive finance has expanded steadily with sustained policy support, but it still struggles to serve long-tail customers, namely micro-enterprises, rural households, and low-income urban populations.

The main problems are low conversion efficiency, regional imbalances, and information asymmetry [1]. Traditional financial models have high branch and manual underwriting costs, so serving long-tail customers is often not economically viable. As such, the "80/20 rule" always exists in resource allocation. Current research indicates that fintech, due to its efficiency in information processing, can help enhance the efficiency of credit services. Digital marketing reduces customer

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acquisition costs and therefore can be used for the purpose of financial inclusion [2-4]. However, most of the available literature does not focus on fintech itself but rather treats it as a broad concept, failing to distinguish between digital marketing and other aspects. In the current research context, this issue has become extremely important. Digital marketing helps reach and communicate with previously unreachable customers at a lower cost. This approach is closely related to the main challenges faced by inclusive finance. Therefore, this study explores how digital marketing can promote inclusive finance. Fintech encompasses aspects like payment, credit, and risk management. Its core lies in enhancing the level of financial services through technological means. Meanwhile, digital marketing is applicable to the front-end of the financial value chain, and the key lies in using digital technology to reach more customers. This literature review adopts a theory-driven approach, and the issue of "expanding coverage" in the literature is discussed together with the widespread adoption of fintech. In order to overcome this obstacle, this paper uses the long tail theory, market efficiency theory, and capital cost theory to analyze how digital marketing affects inclusive finance in terms of path, mechanism, and constraints at three levels. More specifically, it explores the way digital marketing affects traditional financial service models, the role it plays in promoting inclusive finance, and the challenges it faces. The three levels, path, mechanism, and constraint, are respectively constituted as three consecutive layers: path-practice, mechanism-impact, and constraint-limitation. Based on the above analysis, the theoretical link between digital marketing and inclusive finance is developed. Such an approach will facilitate further development of long-tail customer services and reduce the digital divide.

2. Theoretical perspectives on digital marketing and inclusive finance

2.1. Long-Tail Theory and the value of underserved customers

The Long Tail Theory posits that if production and distribution costs are sufficiently low, enterprises can integrate multiple diverse niche markets and create market value that is close to that of best-selling products [5]. In inclusive finance, the "80/20 rule" is followed: The marginal cost of providing services to low-income customers is too high. However, digital marketing has changed this situation. Financial institutions can use digital channels and automated methods to identify and precisely reach a large number of "low-value customers," providing services to them at an extremely low marginal cost, thus enhancing the commercial viability of these customers. For this reason, digital marketing enables financial services companies to achieve high value from their long-tail customers, and is no longer constrained by the traditional "80/20 rule."

2.2. Market efficiency theory and information allocation

The theory of market efficiency is based on Fama's efficient market hypothesis, which holds that the process of information flow in the market will affect the process of resource allocation [6]. The flow of information and its completeness enable prices to better capture value and resources to shift to more productive sectors. In the case of information asymmetry, the probabilities of adverse selection and moral hazard will significantly increase, which may lead to inefficient resource allocation.

The issue becomes even more important in credit markets because financial intermediaries do not have enough information about long tail customers to make an accurate estimate of their probability of default. In this case, these people can simply be deprived of any opportunity to receive financial services or to get them at a significantly higher risk premium. Even if there is enough information, costs of search, verification and negotiation to achieve the alignment of supply and demand become

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significant. Under these circumstances, inefficiency increases the chance of the long tail staying out of the financial system. Information enhancement and reduction of matching costs seem to be vital to increase the efficiency of utilization of financial resources and the access to financial services of the long tail. Here, digital marketing becomes a means of delivering information and contacting potential clients. Digital marketing can help reduce information asymmetry and matching costs, making the financial resources more accessible to the long tail population.

2.3. Capital cost theory and cost reduction in financial services

Based on the capital cost theory, the extent of financial services is constrained by transaction costs. If such costs are greater than the benefits of serving the long-tail customers, then financial institutions might not have an economic motivation to do so. In the traditional banking system, factors such as the cost of providing services to branches, manual verification, and risk assessment can explain why long-tail customers have failed to access the formal financial system. Digital marketing does this by reducing the transaction costs online and automating the process. This is significance, as financial institutions will have lower cost of access to the market segments that were hard to access in the past [7]. On this side of things, digital marketing creates more access to financial services by converting those long-tail customers who aren't economically viable into financially viable ones.

3. Underlying mechanisms through which digital marketing promotes inclusive finance

3.1. Transformation of financial service models through digital marketing

Digital marketing has changed traditional financial service models in three main areas: customer identification, geographic coverage, and value assessment. The first is customer identification. Under the traditional model, institutions relied on costly offline surveys and often had to wait for customers to contact them on their own. Digital marketing changed that process. Using big data and machine learning, firms can collect and process large amounts of customer data at lower cost, which makes proactive identification and profiling possible [8, 9]. Li shows how ICBC used a Markov model to identify long-tail customers and guide them toward higher asset tiers [9]. Rehman et al. make a similar point, arguing that digital marketing reduces information gaps through more precise matching and makes proactive identification part of routine business practice [3]. Customer acquisition no longer depends mainly on responding to incoming demand.

The second dimension is geographic reach. With respect to the traditional model, branches may neglect remote and rural areas altogether. Digital marketing reaches these people through mobile devices, social networks and other digital channels. Li and Jiang pointed out that digital channels fill the gaps that branches cannot reach [2]. Besides, Chaffey and Ellis-Chadwick suggest that digital marketing transcends geographic boundaries [10]. Mavlutova et al. prove that the intensity of digital payments is positively associated with account possession and saving [4]. This is an obvious trend: outreach does not depend on the physical proximity of branches.

The third dimension is customer value judgment. Under the traditional model, institutions usually rely on the "80/20 rule" and neglect the long-tail customers. Digital marketing addresses the problem in two ways. On one hand, big data makes profiling large long-tail customers affordable [7, 8]. On the other hand, automated processing transforms personalized outreach into algorithmic batch processing [3, 10]. Xiao and Zhang claim that digital inclusive finance drives growth through the activation of long-tail customers [11]. Vernekar et al. find that digital marketing increases the range

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of accessible services by decreasing the cost of customer acquisition [12]. Now that many more small customers become accessible, their aggregate contribution may approach that produced by fewer rich clients [3]. This customer strategy moves away from the focus on head customers only and towards long-tail customers.

3.2. Mechanisms driving the effectiveness of digital marketing in inclusive finance

The reason why these strategies are effective is mainly due to two factors: high cost-effectiveness and improved efficiency. This chapter explores how each reason leads to digital marketing transformation.

3.2.1. Cost optimization in inclusive financial services

Digital marketing has changed the cost structure of financial services in three different ways. The first one is information cost. Information gathering and analysis can be automated through computer surveys and algorithms to replace manual surveys and credit reviews, bringing down the marginal cost of information gathering [7, 8]. The second factor is the cost of expansion. Through digital means, enterprises can reach distant customers at a marginal cost close to zero, and save some of the fixed costs involved in expanding physical networks [10]. Customer acquisition is another channel through which the cost structure is altered. Through targeted advertisements and referrals, costs related to customer acquisition are reduced.

Empirical findings mostly confirm this logic. According to Rehman et al., the customer acquisition effect of digital marketing accounts for about 63% of the overall FinTech effect on financial inclusion [3]. In another study by Mavlutova et al., an increase in digital payments intensity by 1% decreases banks' cost rate of assets and employees by 0.018% and 0.0074%, [4]. This change is relatively insignificant on its own, but it helps to explain why these three channels are economically rational.

3.2.2. Efficiency enhancement in inclusive financial services

Digital marketing serves to make inclusive financial services more efficient by altering the way information is treated, the way services are provided, and the way customers are handled. Intelligent recommendation systems with information capabilities, in terms of matching products to underserved customers, can be more accurate, thus lowering the search and decision effort [3, 8]. The operational level benefits from automated outreach and follow-up to streamline and accelerate service delivery, while automated assessment decreases manual effort [4, 10]. Throughout the entire customer lifecycle, it can achieve more agile management from acquisition to value enhancement [8, 9]. These changes, combined, reduce costs and contribute to sustaining these service pathways in the future.

3.3. Constraints on the effectiveness of digital marketing in inclusive finance

Digital marketing can enhance financial inclusiveness, but in practice it still encounters the same three major bottlenecks: reach, conversion, and retention. Costs may decrease and processes may speed up, but these measures alone are not sufficient to achieve lasting inclusiveness.

The first problem is outreach. Digital channels do remove some clear barriers, especially distance and branch-level operating costs. Nevertheless, the underserved groups are often the most difficult to reach effectively and the most costly. Many of them have limited digital literacy, weak financial

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awareness, or lack trust in formal financial institutions. Thus, enterprises still need to invest actual funds in education, repeated communication, and building trust [1]. As Wu notes, these are structural barriers; they do not disappear quickly just because services move online [1]. There is also a simpler issue. Customers drawn in by short-term promotions may register without remaining active once those incentives end. Conversion faces similar limits. Algorithms may be useful for identifying likely customers, but identification is not the same as adoption. People still need enough financial knowledge to understand the product, enough trust to use a digital service, and enough confidence with risk to commit [1, 4]. Without this foundation, the conversion rate will remain persistently low. This is not just a theoretical issue. Mavlutova et al. found that financial professionals in the Baltic states did not view digital transformation as a primary route to higher efficiency [4]. This indicates that there is a gap between the functions that technology seemingly can achieve and the actual results that can be achieved in the daily operations of the enterprise. Put simply, the usage gap and literacy gap continue to reduce results. Retention may be the hardest part. Long-tail customers represent a large share of the market base but usually generate little profit per person [2]. This creates a scale problem: firms need many customers while earning only thin returns from each one. If the lifecycle management within the company is weak after joining, it is usually because the enterprise placed too much emphasis on acquiring customers in the early stage. In such cases, the initial investment cannot be transformed into long-term value. These limits in outreach, conversion, and retention explain why digital marketing has not yet delivered its full promise for financial inclusion or for cost efficiency within inclusive finance models.

4. Conditions and pathways for sustainable digital marketing in inclusive finance

4.1. Prerequisites for sustainable digital marketing in inclusive finance

How well digital marketing works in inclusive finance depends on a few practical conditions. First, it needs customer data that is available and reliable, because algorithmic analysis, customer profiling, and risk assessment all rely on it [7, 8]. In regions where data is scarce, the algorithms have less to work with. Accuracy falls, and digital marketing becomes less able to cut information costs. Kannan and Li link the effectiveness of digital marketing directly to the availability and quality of data [8].

Customer scale also matters at the market level [7, 10]. Digital channels can reduce marginal costs, but the fixed expenses for technology and platforms will not disappear. These initial investments still require a sufficiently large customer base to achieve a significant cost advantage. At the institutional level, financial institutions need workable capacity in data integration, algorithm application, and automated operations if they want to use digital technologies effectively [3]. If this technical expertise or system support is missing, digital marketing will not improve customer acquisition or operational efficiency as much as expected. Rehman et al. suggest that these results depend on whether their internal structure can effectively support the digital transformation of the service process [3]. Policy and infrastructure also shape these outcomes. Technologies like data sharing, network coverage, and digital identity systems help enhance access to digital financial services and support inclusive finance [4]. Moreover, Mavlutova et al. found how differences in digital infrastructure and policies affect the prevalence of digital payments and their impact on financial inclusiveness in various countries [4].

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4.2. Pathways for digital marketing capability building

The success of digital marketing will depend on developing expertise in utilizing data, managing customers, and coordinating within an organization.

In order to lower high acquisition costs when working with underserved communities, it is necessary to have good data infrastructure and outreach tools that can be trusted by these groups. If these companies use alternative data and conduct algorithmic analysis of customer profiles, they will be able to target the long-tail customers more precisely, thus avoiding the high costs associated with overall marketing [1, 3, 9]. Mismatch in terms of cost and returns suggests a new business model for customers and value-based lifecycle management. In addition to acquisition being seen as an isolated process, digital marketing should enable further engagement through collecting behavioral data, cross-selling, and customized product packages. This aspect is very crucial. Such approach can help to increase revenue per client and create economies of scale, which will make long-tail services more profitable [2-4, 10]. Issues in retention and conversion will mean the need to introduce new strategies related to the business model. It might include embedded finance, social referrals, loyalty programs that encourage continuous engagement, and continuous data feedback. These measures will enable changing product offerings according to evolving customer needs and can contribute to better retention and fewer churn [9, 11, 12]. The above suggestions will deal with the mentioned limitations and give more understanding of what sustainable development will require. Connecting problem identification with solutions in this way can help digital marketing be more successful. From this, it can be seen that institutions can establish long-lasting capabilities via data application, business model innovation and organizational synergy, rather than relying solely on external policy support.

5. Conclusion

This study examines how digital marketing supports inclusive finance, and where that support still falls short, using long-tail theory, market efficiency theory, and capital cost theory. The results suggest three main changes in the logic of traditional financial services: a shift from passive waiting to proactive identification, from physical branches to digital reach, and from the 80/20 rule to long-tail thinking. At the level of mechanism, these changes seem to come mainly from lower costs and higher efficiency. Lower costs reduce information, outreach, and acquisition expenses, which makes large-scale service provision for long-tail customers more workable. Higher efficiency can enhance the processes of information matching, operation and customer lifecycle management. Financial institutions can offer better services, benefiting groups that were previously difficult to serve through traditional methods. However, there are also obvious limitations. In some cases, the high initial costs during the acquisition process continuously restrict development. Besides, the difficulty in customer retention and conversion in actual operations also limits the potential of digital marketing in the field of inclusive finance. The results show that digital marketing contributes to achieving inclusive finance. However, the future impact of this approach seems to depend on policies, technological advancements, and the extent to which the digital divide is narrowed. This study is limited by the use of existing literature and the specific Chinese context. Future research could further explore the acquisition effect of digital marketing and its operational mechanism.

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