Review

Bibliographic update on the role of Fintech in the financial sector

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Actualización bibliográfica sobre el papel de las FinTech en el sector financiero

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ABSTRACT

Introduction: Fintech, an acronym for Financial Technology, refers to companies offering financial services through innovative technology, such as web platforms and mobile applications, benefiting individuals and businesses. The evolution of Fintech is characterized by rapid technological development and the proliferation of startups. In Latin America, the sector is growing significantly, with key markets like Mexico and Brazil, offering new opportunities to improve financial inclusion, a fundamental aspect for economic and social development.
Objective: to characterize Fintech as an innovative component in the financial sector.
Method: a literature review was conducted by consulting databases such as PubMed and ResearchGate, selecting 17 articles mainly from the last five years. Relevant information was extracted to develop this research.
Discussion: since 2014, Fintech has transformed the global financial sector, gaining regulatory and market prominence. It improves efficiency and accessibility but still depends on trust in intermediaries for electronic payments, posing risks that could be mitigated with technologies like blockchain. Fintech competes and collaborates with traditional banks using technologies such as artificial intelligence. However, its growth presents regulatory and consumer protection challenges. Generational and digital gaps also limit adoption.
Conclusions: Fintech is an innovative pillar that enhances accessibility, efficiency, and financial inclusion, especially in Latin America. Regulatory, security, and generational challenges require attention to ensure safe and equitable adoption. Regulation and financial education are key to maximizing benefits and promoting economic and social development.

Keywords: Fintech; Financial Technologies; Companies; Economic Sector; Latin America.

RESUMEN

Introducción: *Fintech*, acrónimo de *Financial Technology*, se refiere a empresas que ofrecen servicios financieros mediante tecnología innovadora, como plataformas web y aplicaciones móviles, beneficiando a personas naturales y empresas. La evolución de Fintech está caracterizada por un rápido desarrollo tecnológico y proliferación de *startups*. En América Latina, el sector crece significativamente, con mercados principales como México y Brasil, y ofrece nuevas oportunidades para mejorar la inclusión financiera, aspecto fundamental para el desarrollo económico y social.
Objetivo: caracterizar las *Fintech* como componente innovador en el sector financiero.
Método: se realizó una revisión bibliográfica consultando bases de datos como PubMed y ResearchGate, seleccionando 17 artículos principalmente de los últimos 5 años. Se extrajo información relevante para elaborar esta investigación.
Discusión: las *Fintech* han transformado el sector financiero global desde 2014, ganando protagonismo regulatorio y del mercado. Mejoran eficiencia y accesibilidad, pero dependen aún de la confianza hacia intermediarios para pagos electrónicos, lo que presenta riesgos mitigables con tecnologías como blockchain. Compiten y colaboran con bancos tradicionales mediante nuevas tecnologías como la inteligencia artificial. Sin embargo, su crecimiento plantea desafíos regulatorios y de protección al consumidor. Además, persisten brechas generacionales y digitales que limitan su adopción.
Conclusiones: las Fintech son un pilar innovador que mejora accesibilidad, eficiencia e inclusión financiera, especialmente en América Latina. Los desafíos regulatorios, de seguridad y brechas generacionales requieren atención para garantizar una adopción segura y equitativa. La regulación y educación financiera son claves para maximizar sus beneficios y promover el desarrollo económico y social.

Palabras Clave: Fintech; Tecnologías Financiera; Empresas; Sector Económico; Latinoamérica.

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INTRODUCTION

Fintech is an acronym for the words *Financial Technology*, which literally means financial technology. It refers to companies that provide financial services through innovative technology, offering products and services. An example of how these organizations do this is through web platforms or mobile applications, both for individuals and businesses.[1,2]

Additionally, *Fintech* is defined as business models that offer financial products or services through the intensive use of information technologies, which can bring significant benefits to users.[3]

The evolution of *FinTech* can be traced back to three stages. The first is known as the *FinTech* 1.0 period (1866 to 1967), during which the transatlantic cable was developed. The second period, *FinTech* 2.0 (1968 to 2008), dates back to the context in which traditional entities began the era of process digitization. *FinTech* 3.0 (2009 to present) dates from the global financial crisis, characterized by rapid technological development and the proliferation of new startups and IT companies.[4]

The scope of Fintech began with mobile payments, money transfers, peer-to-peer lending, and crowdfunding, extending to the new world of blockchain, cryptocurrencies, and robot investing.[2,5]

As a result, traditional financial institutions are investing heavily in the digitization of their services. For example, Germany's largest bank announced that it would invest €1 billion in digitization by 2020, and Spain's second-largest bank has invested an annual average of around €800 million since 2011.[4]

In Latin America, the sector is growing. The main markets for *Fintech startups* in Latin America are, in descending order: Mexico, Brazil, Colombia, Chile, Argentina, Peru, and Ecuador.[4]

There are persistent challenges in terms of access to and participation in traditional financial services. However, in recent years, the emergence and expansion of financial technologies has had a significant impact on the financial landscape, offering new opportunities to improve financial inclusion indicators, which are fundamental to the economic and social development of any region.[1]

Fintechs seek to promote financial inclusion and adopt a business model that guarantees service to all users without any limitations. Likewise, mobile transfer applications have been of great help to people who have adapted to these new technologies, as they allow them to carry out financial transactions quickly and easily without the need to handle cash, optimizing their time and avoiding crowds at banks without leaving home.[6]

The use of *Fintech* is associated with new companies focused on a business model that is committed to new financial products supported by technology and grouped into four main categories: digital payment methods, alternative financing/fundraising, finance and investment management, and cryptocurrencies.[7,8]

Technology, such as *Fintech*, is developed with a view to its use, and if this is not the case, such innovation loses its meaning and gradually diminishes until only a remnant remains.[1] In Latin America, *FinTech* has had a good start and is expected to be an important catalyst for improving the financial and social conditions of the region.[4]

Financial inclusion, through the use of *FinTech*, aims to promote a country's economic and social development, seeking to meet the financial needs of an affected population, generating an inequality gap that affects access to financial services among different population groups, such as those in rural areas. It allows businesses and individuals to take advantage of economic opportunities more effectively. It can also help reduce poverty and promote social equality.[1]

The rapid advancement of digital technologies has profoundly transformed the way financial services are offered and consumed, giving rise to this ecosystem known as *Fintech*, opening up new opportunities to promote financial inclusion in traditionally excluded populations, especially in developing regions such as Latin America. Considering the growing impact and diversity of business models ranging from digital payments to cryptocurrencies, it is essential to understand these financial mechanisms; therefore, the objective of this research was to characterize *Fintech* as an innovative component in the financial sector.

METHOD

A literature review was conducted by accessing databases such as PubMed and ResearchGate using keywords including *Fintech*, financial technologies, companies, economic sector, Latin America, combined with the Boolean operator AND. A total of 17 articles were selected, of which more than 70 % were published in the last 5 years. Relevant information was extracted, summarized, and organized to support the development of this research.

DISCUSSION

Fintech has marked a turning point for the financial sector worldwide.[9]

Starting in 2014, they began to receive greater attention not only from consumers but also from regulators and key market players due to their rapid growth and impact on the disruption of the traditional financial system. This boom attracted more rigorous regulatory scrutiny, justified by the growing relevance of *Fintech* in the reconfiguration of the global financial sector, where they have gone from being complementary agents to playing a central role in innovation and in the provision of inclusive and efficient financial services.[10]

The authors could consider that, while the growth of Fintech has driven innovation and financial inclusion, the rapid increase in its influence poses regulatory challenges and risks that require careful supervision to ensure stability and user protection in the global financial system.

Fintech sector services and dynamics

Currently, the currency trading market is populated by financial intermediaries such as banks, municipal savings banks, and the parallel market (also known as money changers), whose transactions are carried out in person, involving an investment of time, exposure to criminal acts, and prices that are not very negotiable. This contrasts with a digital channel that can offer the same product at more competitive prices, given that the operating costs of the service are minimal and its very nature makes it simple, fast, and easy.[4]

The commerce implemented at the present time is clearly adapted to an operationalization based on online trading, but at the same time, this has come to depend solely on financial institutions that are capable of endorsing third parties for the verification of electronic payments. In this case, while the system implemented functions normally and is relatively effective, it still relies on a model based solely on the trust that an entity has with society, which is obviously an inherent risk for the transactions implemented.[11,12] The authors argue that, although *Fintech* improves efficiency and accessibility, reliance on trust in intermediaries for the verification of electronic payments maintains a significant risk that could be mitigated with more decentralized technologies such as *blockchain.*

FinTech is considered a disruptive innovation that is changing traditional financial markets and is related to innovation because, thanks to technology, it allows non-financial institutions to carry out and provide financial transactions. Unlike banks, Fintech companies are focused on providing a better user experience to their niche audience.[3]

Fintech companies are increasingly competing with traditional banks and are gaining ground in areas such as payments, digital banking, and investment management. Traditional institutions are responding to this competition by adopting strategies of collaboration with *Fintech companies* and new technologies, such as artificial intelligence and machine learning. Multiple partnerships with *Fintech companies* have been formed to offer new products and services.[10]

The authors believe that, although competition between Fintech and traditional banks drives innovation and collaboration, it raises questions about regulation and consumer protection. Therefore, it is recommended that institutions implement basic measures such as greater transparency, data security, and clear channels for resolving conflicts, thus ensuring that users are protected in these hybrid models.

The following segments that interact in the *FinTech* ecosystem or sector are identified: payments, wealth management, loans, *crowdfunding*, capital markets, and insurance services. However, the following segments are also added: *factoring,* credit *scoring*, business finance management, personal finance management, cryptocurrencies, and *blockchain*.[3]

Fintech actually aims to attract customers with services and products that are easier to use, more efficient, transparent, and automated. Mainly, *Fintech* is responsible for incorporating new tools such as P2P (*peer-to-peer*) systems, mobile payments, and even digital wallets, these products being specially designed to meet the most specific needs of the population.[13]

Exemplifying one of its branches, Cuadrado-Avilés DV;[11] observed in their study that the use of cryptocurrencies is more evident in countries that have suffered significant devaluations within Latin America, such as Argentina and Venezuela, where printing money without proper backing causes inflation to rise and therefore the population resorts to the use of electronic currencies to back their money and carry out their commercial activities, even though they know that cryptocurrencies are still very volatile, but in the face of an economic crisis, they can be a way to save their economic resources.

The authors point out that, due to volatility and associated risks, cryptocurrencies continue to generate uncertainty among users, which underscores the importance of advancing their regulation and financial education to balance innovation and security.

Sociodemographic factors and financial behavior

The intention to use *Fintech* technology is marked by a complex correlation of factors that encompass demographic, contextual, and cognitive variables. It has been found that sociodemographic and educational factors, such as age or economic capacity, play a key role when considering different contexts. While a higher level of education and youth tend to be components that have a positive effect on the intention to use, factors such as economic conditions or gender show more nuanced findings depending on the sociocultural and economic context.[13]

In recent years, we have experienced a completely digital era, so individuals and legal entities, out of necessity and resources, have quickly adapted to the digital environment, although there has been a large sector that has resisted radical change for many reasons, such as generational behavior, financial illiteracy, and mistrust of security due to cyber financial scams and fraud through digital tools.[14]

Moreno L et al.;[1] observed that the adoption of new financial technologies in Colombia is mostly recent, covering a period of 1 to 3 years. This phenomenon coincides with the turning point represented by the pandemic and the quarantine measures adopted to mitigate its effects, which boosted the use of virtual financial services. There is clearly a generational gap, with younger users predominating in the use of these financial applications, while older adults show a lower propensity to use them. The authors agree with the cited author because the pandemic marked a turning point that accelerated the adoption of financial technologies; moreover, this process has been concentrated in the last three years, which shows its recent incorporation. Likewise, a generational gap is recognized, as young people show a greater willingness to use financial applications, while older adults maintain limited participation.

Digital adoption and interaction with different technologies may reduce the use of Fintech services, implying a short acceptance period in the case of generations such as *Baby Boomers*, Generation X, and *Millennials*. In Colombia, Generation Z is the most inclined toward new technologies and digital transformation. In Mexico*, Millennials* are more likely to adopt these new technological platforms. This generates a limited openness to the use of financial services in Colombia, skewing the use of Fintech among other generations that do not have access to this purchasing power.[9]

Fintech has adapted to the generational profiles of the financial market, meaning that people's coexistence with traditional banking has gradually brought about changes that are not difficult to understand.[14]

The benefits of digital transformation must be worked on collectively and expanded as soon as possible, since the reasons for its delay are due to different attitudes on the part of users who resist or fear change, where the characteristics of different generational groups influence financial decision-making. Consequently, failing to properly support or adapt to Fintech will continue to generate poor operational, financial, and business results.[14]

Some people are resistant to change in financial terms due to their resilience, as they find it overwhelming to learn new platforms and systems to manage their finances. In addition, the lack of financial education creates large gaps in financial knowledge among the general population, which has consequences such as excessive debt, lack of savings, and inefficient use of remittances, as well as ignorance of the benefits offered by investments, generating a chain of misinformation, even for future generations.[15]

In this regard, the authors recommend implementing strategies that promote the digital inclusion of generations less familiar with new technologies. This involves designing accessible financial tools, promoting digital literacy processes, and creating support spaces that reduce resistance to change. In this way, the aim is to ensure equitable participation in the digital financial ecosystem, preventing the generation gap from translating into economic exclusion.

The lack of information and its inadequate promotion among students and the general population leads to the frequent use of informal financial services, such as tandas, cash savings, and loans from moneylenders, which often involve unfavorable conditions.[15]

The financial sector must work to increase levels of digital financial literacy through training methods in order to raise awareness of the advantages of these instruments and the transformation process that they entail.[16,17]

As a result, Muchari Gil DE;[6] observed that users trust these applications because they are backed by financial institutions, value the usefulness of these technologies, and are curious to use them. However, although older adults are considered in the study, there is no mention of their needs and how they perceive these tools. The authors point out that, although *Fintech* is predominantly used by younger generations, a significant proportion of the Latin American population is undergoing an aging process; therefore, it is essential to consider this phenomenon when implementing such innovative technologies.

Regulatory and security challenges

Fintech faces a number of challenges, such as regulation, security, and scalability. Regulation is a major challenge for *Fintech,* which must comply with a series of regulations that can vary by region. This can be costly and complex for smaller companies. Security is another major challenge, as *Fintech* handles sensitive financial data, making it important to implement robust security measures.[10]

Latin American countries need a solid regulatory framework and institutional capacity building before they can fully capitalize on *FinTech*. Second, more investment in technology is needed to strengthen defenses against cyberattacks and protect data privacy. Third, connectivity and hardware infrastructure in rural areas must be improved to prevent them from remaining marginalized.[4]

Regulation of the *FinTech* sector is necessary to reduce the risks involved in its rigorous procedures. The challenge for regulators is to strike a balance between fostering the innovation that is the hallmark of *FinTech* and safeguarding the soundness and security of financial institutions. Regulation is also necessary to ensure the viability of this ecosystem and preserve the integrity of the collection and payment system, as well as the growth that the sector has been experiencing, thereby preventing potential illegal operations that may arise from this tool.[16]

Government institutions must work to create regulatory frameworks that, in addition to promoting innovation, seek to protect consumers and ensure the stability of the financial system.

For example, in Colombia there is no specific *Fintech* regulation, and companies operating under this model are subject to compliance with various provisions of the Colombian legal system, depending on the origin of their financing and other specific characteristics. Different legal statutes are stipulated, such as Law 1735 of 2014, also known as the Financial Inclusion Law, which promotes access to transactional financial services by creating Specialized Electronic Deposit and Payment Companies.[9] The authors argue that the implementation of this type of regulatory framework generates positive externalities for the sector, since, by conferring a defined legal status on *Fintech* companies, it stabilizes the operating environment and encourages investment and entrepreneurship in the field of financial technologies.

Fintech companies can mitigate and generate cultural change. To do so, it is necessary to create mechanisms to guide the regulations under which they operate, with a tendency toward greater regulation, generating high use of these technological tools, increasing the market, and taking advantage of these benefits.[9]

It is necessary for financial actors to readjust not only through digital channels, but also through communication via various media, generating interaction with customers to gain trust, improve their applications, investment operations, products, financing, among others, and thus strengthen operations so that they become the tools preferred by customers.[16]

The authors argue that it is essential to coordinate with regulatory bodies to ensure that *Fintech companies* operate responsibly and comply with user security requirements. They also highlight the importance of fostering partnerships between the public sector and *Fintech companies* to promote financial inclusion, optimizing the resources and knowledge of both sectors.

Among the main limitations of this study are its nature as a literature review, the fact that only articles in English and Spanish were reviewed, and that priority was given to those published in the last five years. As a future projection, it is suggested that experimental studies be conducted to evaluate the application, assessment, and acceptance of different *FinTechs* in specific populations and regions.

CONCLUSIONS

Fintechs are an innovative and fundamental component of the sector. Their evolution has transformed the provision of financial services, improving accessibility, efficiency, and inclusion, especially in regions with traditional limitations such as Latin America. Regulatory and security challenges and generational gaps remain and require attention to ensure proper use. Adequate regulation and financial education would be key to maximizing the benefits of these new technologies.

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CONFLICT OF INTEREST

None.

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