

Fintech, the digital age of financial services

Fintech, la era digital de los servicios financieros

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Abstract

Coexistence with technology has become part of daily life, the advantages of its use have spread to different disciplines such as finance, this evolution is part of the emergence of companies called Fintech (Financial Technology), a term that unifies Finance with technology, and that promotes the development of services and products that includes technological innovation to provide financial services, in a practical way and with easy access to people, companies or government. Fintech companies follow a customer-focused methodology, developing technological solutions according to the needs of their users and the current trend of the digital market, their most common products are focused on: means of payment and transfer, infrastructure for financial services, credits digital, personal finance, business finance, crowdfunding, disruptive financial entities, cryptocurrencies, Blockchain, and InsurTech. The objective of this article is to analyze the products offered by Financial Technologies (Fintech) in the design of solutions for companies or independent users in their inclusion in the use of technology-based financial services, taking as a normative reference the antecedents of the Law for Regulate Financial Technology Institutions (LRITF) in Mexico.

Finance, Fintech, Technology, Customer focus, Financial services

Resumen

La convivencia con la tecnología se ha convertido en parte de la vida diaria, las ventajas de su uso se han extendido a diferentes disciplinas como las finanzas, esta evolución es parte del surgimiento de empresas denominadas Fintech (Tecnología Financiera), término que unifica las Finanzas con la tecnología, y que promueve el desarrollo de servicios y productos que incluye la innovación tecnológica para brindar servicios financieros, de forma práctica y de fácil acceso a personas, empresas o gobierno. Las Fintech siguen una metodología de enfoque al cliente, al desarrollar soluciones tecnológicas de acuerdo a las necesidades de sus usuarios y la tendencia actual del mercado digital, sus productos más comunes se centran en: medios de pago y transferencia, infraestructura para servicios financieros, créditos digitales, finanzas personales, finanzas empresariales, Crowdfunding, entidades financieras disruptivas, criptomonedas, Blockchain, e InsurTech. El presente artículo tiene como objetivo analizar los productos que ofrecen las Tecnologías Financieras (Fintech) en el diseño de soluciones para empresas o usuarios independientes en su inclusión en el uso de servicios financieros de base tecnológica, tomando como referencia normativa los antecedentes de la Ley para Regular las Instituciones de Tecnología Financiera (LRITF) en México.

Finanzas, Fintech, Tecnología, Enfoque al cliente, Servicios financieros

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Introduction

The technological transformation of business processes had greater growth in the early 90's when the international financial crisis accelerated the creation of technologies focused on financial services, giving birth to the term Fintech, an English word composed of the words finance and technology (Gallo, 2018). This new financial and technological era allowed economic transactions to take place in less time, challenging traditional financial services to modify their internal processes according to the needs of users (customer focus). In this context, Fintechs came to strengthen the digital era of financial services, presenting solutions in products that disrupt the traditional to a model of technological innovation that is strengthening a more inclusive digital market. Mexico is one of the main countries in Latin America that has adopted Financial Technologies in its banking processes and services, this is manifested in its regulatory framework of the Law to Regulate Financial Technology Institutions (LRITF) published in 2018.

Justification

Technology is an indispensable resource in 21st century companies; its incursion into business processes is a decision that requires knowledge of the environment and general market trends. According to García et al. (2015) implementing technology is more than modern equipment or instruments, it represents the addition of resources that include knowledge, techniques, skills, processes and people that strengthen the economic and financial growth of a company. Technology then, has the capacity to function as a strategic resource in the transformation of products or services, towards the fulfillment of goals and objectives of the company (Hidalgo, 1999). Under this precept, the basis of this research is the Fintech or Financial Technologies model, which refers to the use of Information and Communication Technologies (ICT) in financial services. The conceptual and regulatory framework is supported by the Law to Regulate Financial Technology Institutions (L.R.I.T.F.) published on March 09, 2018 through the Official Gazette of the Federation and amended by Decree in the same media on May 20, 2021 of Mexico (L.R.I.T.F. 2021).

The products and/or services to be investigated are focused on ten main areas of the Fintech business model:

- Means of payment and transfer.
- Infrastructure for financial services.
- Digital credits.
- Personal finance.
- Corporate finance.
- Crowdfunding.
- Disruptive financial institutions.
- Cryptocurrencies.
- Blockchain.
- InsurTech.

Objectives

To analyze the regulatory framework shown by the Law to Regulate Financial Technology Institutions (LRITF) referring to financial services in Mexico provided by Financial Technology institutions.

To establish a theoretical framework regarding the term and characteristics of the main products and/or services of the Fintech model.

Method

A descriptive-exploratory type of study of documentary research method was used with emphasis on the contextualization and analysis of concepts (Tamayo, 2004). The literature review focused on the context of the Fintech methodology and the theoretical analysis of its ten main products described in the justification section. As a result of the theoretical analysis, a conceptual framework of the main Fintech financial solutions and products that are supported by the principles of the Law to Regulate Financial Technology Institutions in Mexico (L.R.I.T.F. 2021) is obtained.

Theoretical Framework

According to Avendaño (2018), Fintech refers to companies that provide financial products and/or services through the use of Information and Communication Technologies (ICT), these may include smartphones, applications, websites, social networks and technology-based platforms. Barrera et al. (2021) identify Fintechs as a business model that challenges the economy to a new digital era that adopts innovation and technology to the financial system, its purpose is to provide users with easily accessible services and products for the use and management of their financial operations. Similarly, Pinto and Montaudon (2021) argue that Fintechs are tools that improve traditional services, use technological innovation as a strategy, through faster and more flexible services, and also reduce costs and focus on the user's needs. Thus, the birth of this industry created tools that combine the use of Information and Communication Technologies with Finance. Its main objective is to automate financial services that are leveraged in newly created business sectors or that have been conditioned by traditional banking (Sanchez, 2016). The new financial and technological era, allowed economic transactions to occur in less time, transforming financial services to Financial Technologies (Pinto and Montaudon, 2021).

The characteristics of Fintech financial services include, giving agile and different solutions (Nicoletti, 2017), as described by Soto (2018) collaborative ways of working, with a focus on disruption (Loza and Reza, 2015), i.e., breaking with the traditional and radical renewal to the creation of new ways of working and services (Lavalleja, 2020); Fintechs are also identified by the inclusion of all audiences, companies, individuals and government that require innovative and technological financial products (Gallo, 2018); efficient and easy-to-use services (Barrera et al. , 2021) such characteristics consolidate what García and Castañón (2016) identify as, a customer-focused methodology, which develops products or services according to the needs of users and the current demands of the financial market.

In this sense, Fintech comprises multiple characteristics that make it a tool, a service, a product, a way of working, a methodology, a business model that combines a comprehensive approach to technological solutions in the area of personal, public or corporate finance.

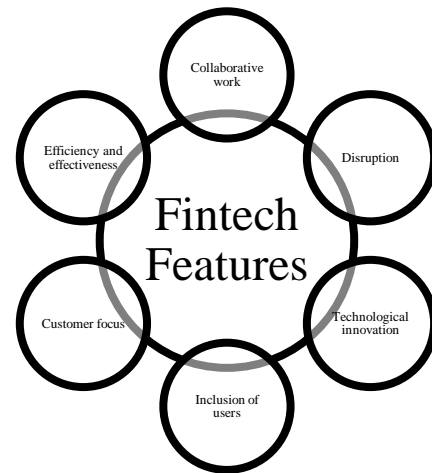


Figure 1 Fintech characteristics

Source: Own design based on Nicoletti (2017); Soto (2018); Loza (2015)

Studies such as those of Zhongqing et al. (2019) have proven the significant acceptance of Fintech services in the market, prioritizing their customer focus and strengthening trust among users who use electronic banking in their operations. In addition Keke et al. (2018) relate the improvement of productive quality and the impact on cost savings with the use of Information and Communication Technologies (ICT) in financial services. Martínez et al. (2021) confirm that recognizing the user as the central model of attention has increased the use and growth of Fintech companies worldwide; likewise, case studies such as Palomino et al. (2019) confirm a process of continuous growth by promoting innovation as a competitive strategy for positioning in the financial services market.

Fintech Law

The growth of Fintech companies in the global economy has created the need to establish a legal framework for protection against the degree of vulnerability, fraud or cyber-attacks that place the financial system at risk, given this possibility it is important to create normative regulations that promote the protection and lawful activity of financial operations (Lavalleja, 2020).

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In this way, a favorable environment for the development of Fintechs and the protection of the different users in the economic-financial market is regulated and promoted.

In Mexico, the Fintech financial model has the legal regularization established in the Law to Regulate Financial Technology Institutions (L.R.I.T.F.) published on March 09, 2018 through the Official Gazette of the Federation and amended by Decree in the same media on May 20, 2021 (L.R.I.T.F., 2021). The purpose of the L.R.I.T.F. is to regulate financial services in Mexico provided by Financial Technology institutions, which includes: organization, operation and functioning of financial services subject to special regulations that are offered or performed by innovative means (L.R.I.T.F. 2021). According to the aforementioned L.R.I.T.F. Law, Fintechs base their operations under a business model that offers innovative financial services to companies, government, or individuals, with the combination of technologies such as mobile payments, business loans, digital finance, etc., these services will allow users to share new forms of digital economic and financial interaction. In this way, the Fintech model allows not only the creation of opportunities, but impacts the reduction of costs, and an accelerated growth of information and secure financial transactions (LRITF, 2021).

In accordance with the provisions of the aforementioned L.R.I.T.F. (2021), the principles that regulate this type of institutions are companies of financial inclusion and innovation, that promote competition, and protect the consumer, while preserving the financial stability of the environment, and prevent illicit operations and technological neutrality. These principles must be monitored by the National Banking and Securities Commission (CNBV), the Bank of Mexico (BANXICO), the National Insurance and Bonding Commission (CNSF), the National Commission of the Retirement Savings System (CONSAR) and the National Commission for the Protection and Defense of Financial Services Users (CONDUSEF) (Gómez, 2022).

Authors such as Urdanivia et al. (2020) recognize that having a Fintech regulation law positions Mexico among the first countries with this type of regulation, offering opportunities to strengthen the financial system in areas such as: the prevention of cybercrime and fraud, transparent disclosure of financial information, operational solvency, detection of vulnerable money laundering activities, creation of trust between consumers and financial institutions, opportunities for domestic and foreign investment in the sector, as well as the inclusion of companies in the formal financial system.

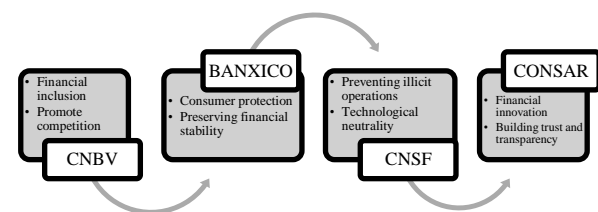


Figure 2 Oversight institutions in Mexico and Fintech principles

Source: Own design based on (L.R.I.T.F., 2021)

With the L.R.I.T.F. regulations, the aim is to provide legal certainty in the regulation of Technological Financial Institutions in the country, where innovation is promoted with emphasis on the transparency and security of the entire Mexican financial system, in addition to giving the possibility to different users to monitor, denounce and demand improvements in digital financial services in a legal manner in the country (Méndez and García, 2018).

The legal framework of the L.R.I.T.F. focuses on the regularization of two types of Financial Technology institutions: Collective Financing Institutions (IFC) and electronic Payment Fund Institutions (IFPE) (Martínez et al., 2021). The Institutions of Collective Financing (IFC) are companies that offer crowdfunding or collaborative, these refer to the creation of a network of people or companies that seek collective financing of projects through platforms such as technological ones (Jiménez and Acosta, 2018), the formation of capital is integrated by the different contributions collected, a financing alternative (Davara et al., 2019).

On the other hand, electronic Payment Fund Institutions (IFPE) comprise companies that develop technology, such as their own electronic payment systems, which include the issuance, administration, and transmission of electronic payment funds or by any other means of electronic communication (Galán and Venegas, 2016). Both types of Financial Technology Institutions, are distinguished in the L.R.I.T.F. specifying their regulatory framework on general provisions, conceptual delimitation, organization, functions, obligations, authorization requirements, supervision, suspension, sanctions, among other aspects of a legal and fiscal nature.

Table 1 details the legal structure of the Law to Regulate Financial Technology Institutions (L.R.I.T.F.).

Title I. Preliminary provisions	
Title II. FTTs and their Operations	
	CHAPTER I. Collective Financing Institutions CHAPTER II. Of Electronic Payment Fund Institutions CHAPTER III. Operations with Virtual Assets
TITLE III. General Provisions	
	CHAPTER I. Authorization CHAPTER II. Operation of the ITFs CHAPTER III. Suspension and Revocation of the Authorization to Operate as a FTT. CHAPTER IV. Inspection, Surveillance and Exchange of Information. CHAPTER V. Trade Associations.
TITLE IV. Temporary Authorizations and Operation with Virtual Assets	
	CHAPTER I. Authorization of Novel Models CHAPTER II. On Novel Models in Regulated Entities. CHAPTER III. On the Operation of Financial Institutions with Virtual Assets. CHAPTER IV. Other Obligations and Revocation of Temporary Authorizations.
TITLE V. Financial Innovation Group	
TITLE VI. Penalties and Offenses	
	CHAPTER I. Administrative Penalties CHAPTER II. Offenses
	<i>Section One.</i> Procedural Requirement and Statute of Limitations. <i>Section Two.</i> Crimes for the Protection of the Patrimony of the Clients of the FTTs and of the Companies Authorized to operate with Novel Models. <i>Section Three.</i> Crimes against the adequate operation of the ITFs, or of the Companies Authorized to operate with Novel Models. <i>Section Four.</i> Crimes for the Protection of the Patrimony of the ITFs and of the Companies Authorized to operate with Novel Models.
TITLE VII. Notifications	
	Transitory Provisions Statement of Reasons

Table 1 Legal Structure of the Law to Regulate Financial Technology Institutions (L.R.I.T.F.)
Source: Own elaboration based on (L.R.I.T.F., 2021)

Technological Financial Institutions in Mexico have had a substantial scale of growth; emerging enterprises find in the regulatory framework a protection and diffusion of new technologies in financial services (Martínez et al., 2021). According to data published by the National Institute of Statistics and Geography (INEGI), MSMEs represent more than 90% of the companies in the country, contributing 52% of the total GDP, where only 25% of them remain in operation for the first two years; these indicators show an opportunity to include this business sector in the margin of its representation for the economic and financial growth of Mexico. The Fintech business model is key to ensure that this population of emerging companies continues its development and strengthens its structure with technology-based financial services while at the same time boosting the strengthening of the financial system (Lavallega, 2020). In this regard, the Inter-American Development Bank (IDB), conducted a comparative Fintech regulation research in the countries of Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and the European Union, where it was shown that the different regulatory developments in these jurisdictions are usually controlled by the Central Bank of each country, keeping in common less demanding regulations to MSMEs with the aim of stimulating collaborative participation, and boosting their own competitiveness (Diehl and Lava, 2020).

Results

Within the objectives of this research, the following section presents the characteristics of the main products and/or services of the Fintech model.

Main Fintech products and services

According to Pinto and Montaudon (2021) the Fintech classification arises mainly around the growth of Information and Communication Technologies (ICT) as well as, the generation of opportunities in business and personal segments. It is also possible to classify Fintechs based on a series of questions, in this sense, Nicoletti (2017) analyzes Why was the Fintech created, for whom was it created, What service does it intend to provide, Who will be its users, Where and when will it be established, and How will it work?

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Likewise, Pinto and Montaudon (2021) identify the Fintech model according to the activities of corporate finance management, and personal finance, electronic means of payment, digital loans, crowdfunding, electronic money, and different mobile applications in the finance environment. Figure 3 shows the products offered by the Fintech business model according to ten main areas.

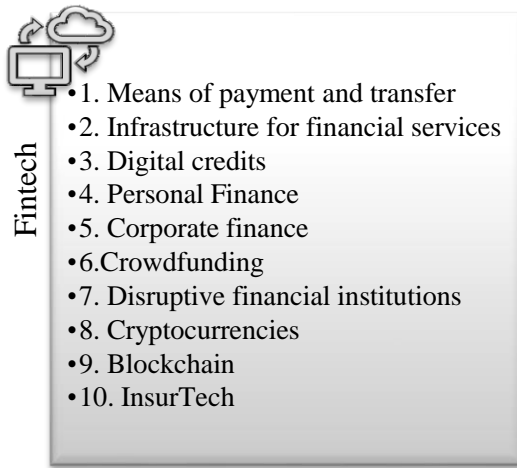


Figure 3 Main Fintech products

Source: Own design based on Nicoletti (2017) and Pinto and Montaudon (2021)

Means of payment and transfer

Means of payment are classified according to their importance in the economy as high value or low value, the Central Banks of each country are responsible for regulating this type of transmission mechanisms, the objective is to promote the stability of electronic means of payment and generate efficiency in the use of money (Galán and Venegas, 2016). In this regard, Soto and Botía (2020) argue that, means of payment and transfer are the most used Fintech services by seeking to reduce the use of cash with digital alternatives that preserve an environment of availability and communication between financial operations. The operating mechanism consists of services to make payments and transfer money, its mission is to generate instant and real-time cash flows (Nicoletti, 2017). The most common products include digital wallets, web platforms, interbank transfers and applications with smartphones. In addition, this type of product promotes market linkage with consumers who need to make secure payments, while offering opportunities for scale growth and cost reduction (Frost et al., 2021).

That is why means of payment and transfer represent the fastest growing Fintech in the global financial sector, the opportunities that technology brings to this sector drive emerging economies and their inclusion in the financial system (Soto and Botía, 2020).

Infrastructure for financial services

Facilitating the management of finances through the use of technology is one of the objectives of financial inclusion, in this sense, Fintech companies emerge, entities that create or strengthen new or existing technological infrastructures (García and Castañón, 2016). It is through arduous research of the financial market, knowledge of user needs and the establishment of regulatory frameworks, that a Fintech infrastructure ecosystem is formed that transforms the traditional physical market into a digital market. The objective of the infrastructure for financial services is to provide banking or other institutions with solutions to services that they cannot cover in a traditional way due to costs or physical barriers (Madrado et al., 2019).

Digital credits

Digital credits are another great solution of Fintech companies, it includes people or businesses in the granting of credits that have not been accepted in traditional banking. These Fintech have the vision of giving access to credit to users who have not had banking inclusion, the requirements or scores of credit bureaus have limited participation to a specific sector, through digital credits financial inclusion is promoted and financial inequality is reduced (Berg et al., 2020). Digital credits grant loans virtually and without intermediaries, the process works with a Fintech connection between the borrower and lender that uses technology and data in its favor to calculate the risk of the operation while charging a commission to users for its intervention (Madrado et al., 2019). In this regard, it is a means of credit opportunity for MSMEs and individuals who, due to their profile, could not access financing in a traditional financial institution (Lavallega, 2020).

Personal finance

Participation in Fintech personal finance, works in the development of digital tools that help the management of the use of money for savings and smart investment (Madrazo et al., 2019). In addition, it allows users to generate better decision criteria in the control of their finances, these tools are digital media that can be found in mobile applications, simple and easy to access, its mode of operation is that users set financial goals to control spending, savings, investment and debt (Finnovista and IDB, 2017). Similarly, having financial technology in personal segments, promotes basic and advanced knowledge of finance, therefore, accurate decision making sustains the financial system (Aggarwal, 2021).

Enterprise finance

Fintech companies continuously challenge the traditional financial system to generate new business segments, such is the case of technology services and/or products focused on corporate finance. According to Madrazo et al. (2019) Fintechs in the corporate finance segment aim to make it easier for SMEs to manage their financial resources, prioritizing financial growth goals and the fulfillment of commitments. In this sense, the management of business finances allows increasing productivity and efficiency of business methods through the automation and digitization of processes such as: information analysis, electronic invoicing, digital accounting, report generation, collection systems and solutions for the safeguarding and protection of information (Rodríguez and Morales Rodríguez, 2018). In this regard, Fintechs for corporate finance management have played an important role in the growth of companies that have not had access to traditional banking, by allowing greater formalization of their finances and the possibility of accessing means of financing (Finnovista and IDB, 2017).

Crowdfunding

The limitations in the traditional financial system to access financing mechanisms, has been an operating opportunity to offer collaborative tools that decrease or completely close the inequality in the financial sector.

In this context, Fintech crowdfunding companies promote collective financing by being a platform for generating funds rather than debt (Finnovista and IDB, 2017). This type of segment values the development of ideas and the creation of projects that have altruistic purposes or capital generation, through, alternative sources of financing (Madrazo et al., 2019). The crowdfunding model is then a collective financing mechanism of monetary funds, which is promoted through the internet and technological platforms in order to attract financial resources for the financing of a lucrative project or philanthropy, its mechanism of action is formed by three collaborators: the creator of the project, the investor and the Fintech platform (Ménez et al., 2017). This is why crowdfunding represents a specialized technological solution that is becoming increasingly accepted by individuals and especially by MSMEs by providing them with liaison relationships and financial collaboration.

Disruptive financial institutions

Given the need to offer more viable and accessible financial services, the development of technologies that transform banking services into more agile, efficient and less costly processes is stimulated. Automation contributes to productive efficiency (Nagao, 2021). In this sense, disruptive financial institutions are all those that have chosen to improve their internal processes to migrate to digital services that meet the current needs of users, with this change is intended to automate processes, strengthen the relationship with customers and improve productivity. According to Lavalleja (2020) a disruptive service uses technology as a means of opportunity to provide new or better services, at lower costs, this disruption forces traditional banks to update their products and remain competitive. Disruptive Fintech solutions incorporate digital services and virtual platforms that are perceived as more accessible and simple, this acceptance allows market growth (De Groot et al., 2020).

Cryptocurrencies

It is one of the most innovative segments of the Fintech Model, cryptocurrencies, is virtual money, which operates as a means of exchange of virtual assets (Avendaño, 2018). Its creator goes by the pseudonym of Satoshi Nakamoto, who introduced the first cryptocurrency called Bitcoin in 2009 (Fernández, 2021). Virtual money has spread throughout almost the entire global financial system, largely because it does not have a central body that intervenes in its control, which has allowed it to circulate as an alternative to traditional money (Lavallega, 2020). According to Blanco (2021), their mode of operation meets the following characteristics: they have a global presence, they operate in a virtual market based on mathematical algorithms, there is no controlling body or bank, their algorithm preserves high levels of security that make them unforgeable, transactions do not require intermediaries, their exchange is possible with other cryptocurrencies or traditional money, it preserves the anonymity of users by employing blockchains. However, Pilacuán et al. (2021) argue that its low regulatory control implies a high investment risk, so its commercial operations do not have certain legal protection for its consumers.

Blockchain

With the creation of cryptocurrencies or virtual currency, Blockchain technology arises, which translated into Spanish is known as: cadena de bloques (Lavallega, 2020). This type of technology is derived from a connection with virtual currency, essentially blockchain works as an internal database that records each of the transactions of the cryptocurrency, storing a kind of chained record containing information of all participants, through this kind of logbook substantially reduces time and costs, making it possible that there are no intermediaries of provision, nor modifications in its structure that make relatively safe its circulation (Nicoletti, 2017). Blockchain has a greater potential than virtual currency alone. According to Soto and Botía (2020), the blockchain mechanism can be applied to commercial activities, contract management, virtual assets, authentications, registration, validation and data transfer, generally, to any segment that can be referenced in digital format.

InsurTech

As another innovative segment of the Fintech methodology, InsurTech arises, the term is formed from the union of the English words: insurance and technology (Chavero, 2020). The InsurTech origin comes from the insurance industry and its fusion with the use of technology to offer solutions in innovative products or services focused on different sectors. The InsurTech advantages include increased productivity and reduced operating costs; the direct contact of traditional insurance disappears, since the physical presence of agents is not indispensable when working on virtual platforms (Vigil, 2020). The characteristics of virtual insurance focus on three strategies: always being available, i.e., its online mechanism allows you to contract and manage insurance through the use of virtual platforms or smart devices; the management of data volume or big data, which works as a tool for managing behavioral patterns based on the information of its consumers; and artificial intelligence (AI), a technological mechanism that manages online customer service (SafeLink, 2021).

Conclusions

The use of technology has been present in the daily life of human beings, becoming the fundamental element of their own evolution. Nowadays, the lack of technology in the business environment limits integral development, makes it difficult to achieve objectives in sales processes or production of goods and/or services, and also reduces market share. In this sense, the Fintech business model joins the digital era that incorporates Information and Communication Technologies to create new products or improve existing services of the traditional financial system. From this perspective, Fintech or Financial Technologies seek to automate processes and make resources more efficient in the creation of goods and services that meet the needs of individuals, as well as those of companies and the Government. This exchange of benefits generates more efficient value chains that are reflected in more productive and innovative financial markets. The Fintech business model is identified as a tool, a service, a product, a platform, a customer-focused methodology that prioritizes the satisfaction of user needs in the financial market.

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The main Fintech products have increased their demand in users who prefer agile, flexible and lower cost services, among the options available in the market are, payment and transfer means, infrastructure for financial services, digital credits, personal finance, corporate finance, Crowdfunding, Disruptive financial entities, cryptocurrencies, Blockchain, and InsurTech. As a result of disruptive innovation Fintech has not only caused traditional banking to be transformed in its operational forms, but has opened up the participation of more sectors that had been excluded or conditioned in the financial market. Faced with this continuous growth, the need arose to create regulatory frameworks that support the general provisions of conceptualization, organization, function, obligation, authorization requirements, supervision, suspension, sanctions, among other legal aspects that protect consumers and the market. Mexico is one of the countries that have had greater initiative in creating legal regularization rules, such is the case of the Law to Regulate Financial Technology Institutions (L.R.I.T.F.) published in 2018 and reformed in 2021 in the Official Gazette of the Federation. These regulatory initiatives have maintained the margin of protection and vulnerability generated by operating in a technological financial market.

The current market trends and the continuous needs of users will continue to be the main reasons for the growth of the Fintech model, the next generation of Financial Technologies has at the door a framework of opportunities to continue strengthening a means of knowledge exchange in the creation of attractive, innovative, more powerful and lower cost technological solutions that unify the traditional financial system with the digital era. Undoubtedly, financial technologies will continue to be a sector in constant growth in the next generations of users who use technology as a means of communication and exchange of information in real time.

Companies and government entities have within their reach these new technologies as a competitive advantage to boost their own growth and also contribute to the economy and development of the country.

References

- Aggarwal, N. (2021). La nueva moralidad de la deuda. *Finanzas y desarrollo: publicación trimestral del Fondo Monetario Internacional y del Banco Mundial*, 58(1), 28-31. <https://dialnet.unirioja.es/servlet/articulo?codigo=8024288>
- Avendaño Carbellido, O. (2018). Los retos de la banca digital en México. *IUS. Revista del Instituto de Ciencias Jurídicas de Puebla A.C.*, 12(41), 87-108. <https://www.redalyc.org/articulo.oa?id=293258387006>
- Barrera Rubaceti, N., Robledo Giraldo, S., & Zarela Sepúlveda, M. (2021). Una revisión bibliográfica del Fintech y sus principales subáreas de estudio. *Económicas CUC*, 3(1), 83-100. doi:<https://doi.org/10.17981/>
- Berg, T., Burg, V., Gombovic, A., & Puri, M. (2020). On the Rise of FinTechs – Credit Scoring using Digital Footprints. *The Review of Financial Studies*, 33(7), 2845-2897. doi:<https://doi.org/10.1093/rfs/hhz099>
- Blanco Encinosa, L. J. (2021). Criptomonedas. Breve análisis desde la perspectiva económica y financiera. *Cofin Habana*, 15(2), 1-17. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2073-60612021000200016
- Chavero Huitrón, K. (2020). Insurtech el futuro es hoy (Opinión). *Revista Académica de la Facultad de Derecho de la Universidad La Salle*, 1-15. <https://repositorio.lasalle.mx/handle/lasalle/1726>
- Davara, I., Barco Vega, G., & Cervantes Padilla, A. (2019). Instituciones de Tecnología Financiera en la LRITF. *IDC Asesor Fiscal, Jurídico y Laboral*, I(31), 13-21.
- De Groot, O., Dini, M., Gligo, N., Peralta Quesada, L., & Rovira, S. (2020). Economía creativa en revolución digital: la acción para fortalecer la cadena regional de animación digital en países mesoamericanos. *EUROMIPYME*, 1-89. <https://repositorio.cepal.org/handle/11362/45529>

- Díaz Rodríguez, H. E. (2017). Tecnologías de la información y comunicación y crecimiento económico. *Economía Informa*, III(405), 30-45.
doi:<http://dx.doi.org/10.1016/j.ecin.2017.07.002>
- Diehl Moreno, J. M., & Lava, M. M. (2020). Investigación y estudio de regulación comparada - Fintech. *BID Lab Banco Interamericano de Desarrollo*, 1-158.
<https://siip.produccion.gob.bo/repSIIP2/documento.php?n=2601>
- Fernández Fernández, A. (2021). Los problemas por la limitada regulación de las criptomonedas. *Hechos Y Derechos*(63), 1.
<https://revistas.juridicas.unam.mx/index.php/hechos-y-derechos/article/view/15862/16721>
- Finnovista, & BID. (2017). Segmentos Fintech en América Latina. *Fintech Finnovista*, 62-64.
- Frost, J., Gambacorta, L., & Shin, H. S. (2021). De la innovación financiera a la inclusión. *FD Finanzas y Desarrollo*, 14-17.
- Galán Figueroa, J., & Venegas Martínez, F. (2016). Impacto de los medios electrónicos de pago sobre la demanda de dinero. *Investigación económica*, 75(295), 93-124.
doi:<http://dx.doi.org/10.1016/j.inveco.2016.03.003>
- Gallo Echeverri, D. (2018). Factores que han permitido el desarrollo de las Fintech. Colombia: Tesis Posgrado, Universidad EAFIT.
<https://repository.eafit.edu.co/handle/10784/12735>
- García Velázquez, A., Pineda Domínguez, D., & Andrade Vallejo, M. A. (2015). Las capacidades tecnológicas para la innovación en empresas de manufactura. *Universidad & Empresa*, XVII(29), 257-278.
doi:<https://dx.doi.org/10.12804/rev.univ.empresa.29.2015.11>
- García, M., & Castañón, H. (2016). Fintech, una nueva era para los servicios financieros. *Delineando Estrategias-KPMG*, 1-16.
<https://www.delineandoestrategias.com.mx/fintech-una-nueva-era-para-los-servicios-financieros>
- Gómez Macfarland, C. A. (2022). Instituciones de Tecnología Financiera, Ley Fintech y propuestas para su reforma. *Serie Mirada Legislativa, Instituto Belisario Domínguez*, 2(214), 1-22.
<http://bibliodigitalibd.senado.gob.mx/handle/123456789/5519>
- Hidalgo Nuchera, A. (1999). La gestión de la tecnología como factor estratégico de la competitividad industrial. *Economía Industrial*, 6(330), 43-54.
<https://www.mincotur.gob.es/Publicaciones/Publicacionesperiodicas/EconomiaIndustrial/RevistaEconomiaIndustrial/330/08ahid.pdf>
- Jiménez-Cercado, M., & Acosta-Véliz, M. (2018). El crowdfunding como alternativa para el emprendedor del siglo XXI. *Forum Empresarial*, 23(2), 81-93.
<https://www.redalyc.org/journal/631/63158905007/>
- Keke, G., Meikang, Q., & Xiaotong, S. (2018). A survey on FinTech. *Network & Computer Application*, 103, 262-273.
https://www.academia.edu/37744373/A_survey_on_FinTech
- L.R.I.T.F. (2021). Ley para Regular las Instituciones de Tecnología Financiera. D.O.F.
http://www.diputados.gob.mx/LeyesBiblio/pdf/LRITF_200521.pdf
- Lavalleja, M. (2020). Panorama de las Fintech, principales desafíos y oportunidades para el Uruguay. *Estudios y Perspectivas-Oficina de la CEPAL en Montevideo* (N° 48), 12-15.
https://repositorio.cepal.org/bitstream/handle/11362/45727/1/S2000326_es.pdf
- Loza Matovelle, D., & Reza, D. (2015). Introducción a la Tecnología Disruptiva y su Implementación en Equipos Científicos. *Revista Politécnica*, 35(3), 1-4.
https://revistapolitecnica.epn.edu.ec/ojs2/index.php/revista_politecnica2/article/view/555
- Madrazo, P., Banús, M., & Fontao, A. (2019). Fintech en el Mundo, La Revolución digital de las Finanzas ha llegado a México. México: Bancomext.
https://www.researchgate.net/publication/339944531_FINTECH_EN_EL_MUNDO_LA_REVOLUCION_DIGITAL_DE_LAS_FINANZAS_HA_LLEGADO_A_MEXICO
- NAREZ-SÁNCHEZ, Iris Abril & BERTTOLINI-DÍAZ, Gilda María. Fintech, the digital age of financial services. *Journal Applied Computing*. 2022

- Martínez Mendoza, E., Briano Turrent, G. d., Castañón Nieto, E., & Sánchez Macías, A. (2021). El uso de las Fintech por la Generación Millennial en México. *PODIUM*, 39, 155-172. doi:<https://doi.org/10.31095/podium.2021.39.10>
- Méndez, G., & García, R. (2018). Fintech y su inclusión al sistema financiero mexicano: una gran oportunidad, un gran reto. *Deloitte*, I(1), 4-9. <https://www2.deloitte.com/content/dam/Deloitte/mx/Documents/financial-services/2018/Fintech-y-el-sistema-financiero-mexicano.pdf>
- Ménez Bahena, L. E., Reyes Velázquez, A., & Fernández Hernández, A. (2017). El Crowdfunding en México, una alternativa real de financiamiento e inversión para la Mujer Emprendedora. *UPGTO Management Review*, 2(2), 1-9. doi:<https://doi.org/10.18583/umr.v2i2.61>
- Nagao Menezes, D. F. (2021). Revolución digital, economía creativa y economía social y solidaria : conexiones y contribuciones. *Misión Jurídica*(2), 214-230. doi:<https://doi.org/10.25058/1794600X.1918>
- Nicoletti, B. (2017). *The Future of FinTech, Integrating Finance and Technology in Financial Services*. Springer International Publishing, 58-70. doi:<http://dx.doi.org/10.1007/978-3-319-51415-4>
- Palomino Barchi, G., Velásquez Bondia, K. V., Marcos Quispe, K. C., & Seclen Luna, J. P. (2019). ¿Cómo innovan las fintech peruanas? Una aproximación a partir de un estudio de casos múltiple. *Revista De Ciencias De La Gestión*(4), 38-66. doi:<https://doi.org/10.18800/360gestion.201904.002>
- Pilacúan Cadena, J., Espinoza Herrera, X., Carreño Llaguno, S., & Palacios Alcivar, B. (2021). Criptomonedas: funcionamiento, oportunidades y amenazas: Cryptocurrency: operation, opportunities and threats. *RES NON VERBA REVISTA CIENTÍFICA*, 11(2), 174-193. doi:<https://doi.org/10.21855/resnonverba.v11i2.604>
- Pinto-López, I., & Montaudon Tomas, C. (2021). Empresas FinTech: Un análisis bibliométrico. *Revista Internacional de Investigación e Innovación*, 8(48), 1-18. https://riiit.com.mx/apps/site/files/puebla._1_div._ene-feb_2021.pdf
- Rodríguez Suárez, S., & Morales Rodríguez, M. V. (2018). México: Nación Fintech. México: Bancomext. <https://www.bancomext.com/wp-content/uploads/2018/12/MEXICO-NACION-FINTECH-V5.pdf>
- SafeLink;. (23 de noviembre de 2021). El Desarrollo De Las Insurtech En México Y En El Entorno Internacional. SafeLink Agente de Seguros, 1. <https://www.safelinkmexico.com/el-desarrollo-de-las-insurtech-en-mexico-y-en-el-entorno-internacional/>
- Sánchez Mendoza, J. (2016). Las Fintech el futuro digital de las finanzas. *Fintech en Español*, I(1), 6-10.
- Soto García-Moreno, C. (2018). Fintech, las nuevas protagonistas del sector financiero. Tesis de Grado, Universidad Politécnica de Madrid. <https://oa.upm.es/53625/>
- Soto Pacheco, G. M., & Botía Martínez, M. T. (2020). La revolución fintech en los medios de pago: situación actual y perspectivas. *Revista de Estudios Empresariales, Segunda Época*(2), 112-133. doi:<https://doi.org/10.17561/ree.v2020n2.7>
- Tamayo, M. (2004). El proceso de la Investigación científica: Incluye evaluación y administración de proyectos de investigación (4a. ed.). México: Limusa.
- Urdanivia Gonzalez, E., Zambrano Reyes, A., & Gómez Rodríguez, T. (2020). El impacto de la Ley Fintech a la Industria de la Tecnología Financiera y el reto de establecer un Gobierno Corporativo. *Boletín Científico de las Ciencias Económico Administrativas del ICEA*, 8(16), 21-29. doi:<https://doi.org/10.29057/icea.v8i16.5535>

Vigil Iduate, A. (2020). InsurTech. Revista Ibero-Latinoamericana De Seguros, 29(53), 1-8.

doi:<https://doi.org/10.11144/Javeriana.ris51.in>
su

Zhongqing, H., Shuai, D., Shizheng, L., Luting, C., & Shanlin, Y. (2019). Adoption Intention of Fintech Services for Bank Users: An Empirical Examination with an Extended Technology Acceptance Model. *Symmetry*, 11, 340.

doi:<https://doi.org/10.3390/sym11030340>.