



REPORT

EVOLUTION OF DIGITAL PAYMENTS WITH SMART INFRASTRUCTURE IN LATIN AMERICA

Preface

Digital payments have exploded in emerging markets driven by the increase in contactless transactions, a result of the effect of the pandemic. This increase in usage massively opened up new business opportunities, many of which, in my opinion; we can take advantage of immediately.

In Latin America, there is a long way to go in the digital payments industry, especially with Smart POS technologies as a catalyst of this type of payments, and also by taking advantage of the lessons learned from Asian countries.

Without a doubt, the combination of the evolution in market infrastructure, the implementation of new technologies such as the Android operating system, new regulatory initiatives, interoperability as a tool to increase the banked population and stimulate financial inclusion, and a shift in the behavior of customers; are all driving and pushing forward the POS landscape.

Smart POSs are revolutionizing the market at a time when small businesses and SMEs need solutions to cope with the impact of Covid-19. In this context, a good option for them is to accept electronic

transactions and payments based on QR, NFC, and mobile wallets. MPOS offers greater convenience and affordability by providing multiple functions in single point of sale use scenarios. If we add to this the implementation of strict regulations that ensure security, there is no doubt that the path is clear for the wide adoption by businesses.

The benefits increase when using the all-in-one terminals at the points of sale. This promises greater convenience for both businesses and consumers and allows the massification of digital payments. Among the benefits are low costs, cloud storage, 4G + wifi + BLE connection, data business in real-time, georeferencing, online technical support, open system and others.

Feitian Technologies, as a global player and expert in emerging markets, brings the all-in-one technology and infrastructure needed to build a solid business superstructure which empowers enterprises to be ready for the next level in market demands. As an industry leader for more than 20 years, we are pleased to present this Report, which shows an overview of digital payments in Latin America and reveals why smart POS technology is the future of fintech in the Region.

Mahaveer Shah
CMO, Payment & IoT Business Unit
Feitian Technologies



Table of contents

Introduction

Post-covid Latin American digital payment market overview.....	1
Digital payments market evolution	2
New normal, new experiences	3
A shift in points-of-sale payments	4

Smart POS technologies as a catalyst for digital payments 5

Opportunities and barriers in different industries.....	5
Secure technologies empowering customer strategies	6
Mobile wallets boom	7
Technology as the key to the development of the payments industry.....	8
Security is the key factor in digital transactions	9
Smart POS technologies as catalysts for digital payments.....	10
The importance of incorporating KYC strategies	11

Key insights and learned lessons for success in emerging markets 12

Digital payments to reach the unbanked	13
Smart POS and QR: opportunities for different industries	14

All-in-one terminals as a catalyst of digital payments 15

The role of Fintech	16
---------------------------	----

Conclusions 17

Universal acceptance of alternative payments	18
Smart POS: The Future of the Latam market	19
Customer-focused solutions.....	20
Bibliography	21
About.....	22

Post-covid Latin American digital payment market overview

It is undeniable that the pandemic precipitated many changes towards digital transformation. And the reduction in the use of cash as a method of payment has not been the exception if we take into account the precautions that began to be taken to reduce, as much as possible, physical contact at the time of payment. This situation allowed digital payments to grow at dizzying rates and consumers to adapt their behavior patterns to the new “normality.”

Precisely, as indicated in the 1269 edition of Banking & Economics of Asobancaria ¹, countries such as Colombia, Chile, Brazil, Peru, Argentina, and Mexico recently achieved important migrations towards the use of electronic methods of payment. For example, between 2018 and 2020, cash as a method of payment in Chile went from 26.1% to 12% (a decrease of 14 pp.); in Brazil from 39.3% to 12% (a decrease of 27 pp.), in Peru, from 48.3% to 29.4% (a decrease of 18 pp.); in Argentina from 49.6% to 30.5% (a decrease of 19 pp.) and in Mexico, from 48.8% to 32.3% (a decrease of 16 pp). See Graph 1

“In recent years, the financial system has made significant progress in terms of digitization, implementing innovations to carry out all types of banking operations. In the middle of the situation generated by Covid-19, digital channels showed great dynamism and became the most used methods by financial consumers to carry out monetary operations. Thus, technologies such as mobile wallets, QR codes and transactions with NFC (Near Field Communications) technology, have gained relevance as digital payment methods,” says Felipe Noval Acevedo, Director of Digital Transformation and Financial Inclusion of Asobancaria.

Although these products are entering the Latin American market, in some countries with more popularity than in others, the reality is that due to the pandemic, they began to be part of daily life, even for those for whom technology was not their strong suit.

Graph 1- Main payment method used (2018-2020, %)

	Cash		Card		Payments from account	
	2018	2020	2018	2020	2018	2020
Colombia	60,0%	35,9%	30,9%	23,2%	4,4%	20,5%
Argentina	49,6%	30,5%	45,4%	41,8%	2,7%	17,8%
Brazil	39,3%	12,0%	46,2%	49,5%	7,7%	23,3%
Chile	26,1%	12,0%	61,5%	50,1%	10,2%	32,2%
Mexico	48,8%	32,3%	44,3%	39,0%	4,0%	18,5%
Peru	48,3%	29,4%	45,5%	27,6%	3,2%	29,4%
Average	45,35%	25,35%	45,63%	38,53%	5,37%	23,62%

Source: Created by Asobancaria. Taken from the X Report, Trends in Payment Methods, Minsait, 2020/2019. Indra Company

¹ The 1269 report of Banking & Economics was published in February of 2021 by the Asociación Bancaria y de Entidades Financieras de Colombia (Asobancaria).

Digital payments market evolution

According to the Minsait Payments 2020 Trend Barometer², the pandemic positively impacted the payment methods business. "Nine out of ten consulted people consider that Covid-19 has positively affected the business, but there are two distinctions: 65% associate it with an acceleration in the use of electronic/digital payment methods, while 23% believe that opportunities have been lost -or processes have become more expensive due to the lack of equipment that many citizens, public administrations and companies, who do not have digital payment methods, still suffer," says the Report (See graph 2).

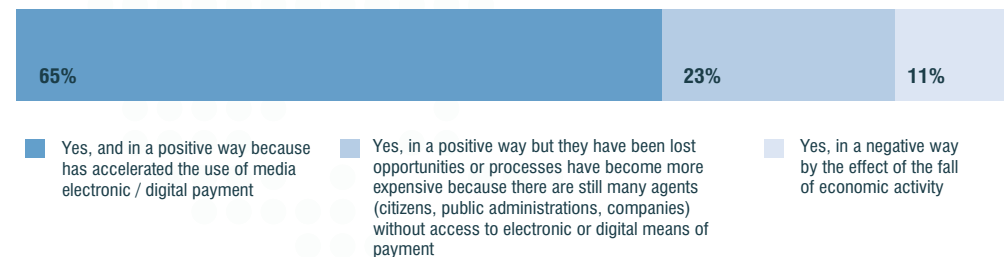
The report adds that "Roundly, eight out of ten consider that Covid-19 has accelerated the process of abandoning cash due to its effect on changing people's payment habits. 59% also consider it as an irreversible process, while 21% consider it temporary. One out of five, however, does not believe that it has accelerated it."(See graph 3).

Graph 3. Do you think that Covid-19 has accelerated the process of abandoning cash due to its effect on changing people's payment habits? (choose the option that you consider appropriate)

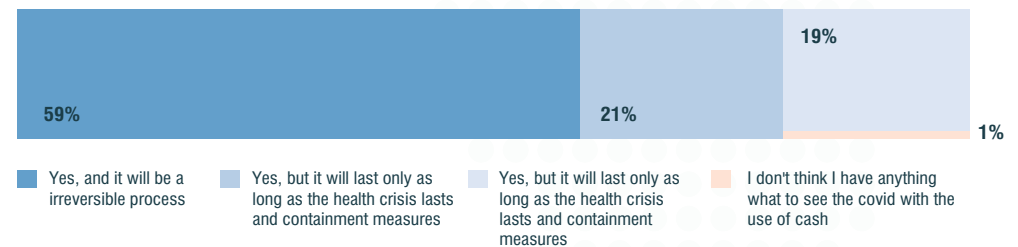
What is certain is that digital payments have been growing by leaps and bounds and are becoming a secure tool for making transactions. They are also a key technology for financial inclusion, as it offers more people the opportunity to access services, closing the gap in many regions.

"Digital payments are making financial services more accessible. It is also important to mention that the digitization of money, the rapid expansion of Internet access and the use of mobile phones have created the perfect conditions for this phenomenon to occur faster," stated Lucas Mendola, PayPal's Financial Director for Latin America, during his presentation at the Mobile Payments Latam conference on March 12th.

Graph 2. Do you consider that the Covid-19 pandemic has affected the payment methods business?



Graph 3. Do you think that Covid-19 has accelerated the process of abandoning cash due to its effect on changing people's payment habits? (choose the option that you consider appropriate)



Source: Minsait Payments 2020 Trend Barometer

2 The Barometer of Trends in Payment Methods is consigned in the X Report, Trends in Payment Methods, by Minsait Payments, a subsidiary of payment methods of Minsait, an Indra company.

New normal, new experiences

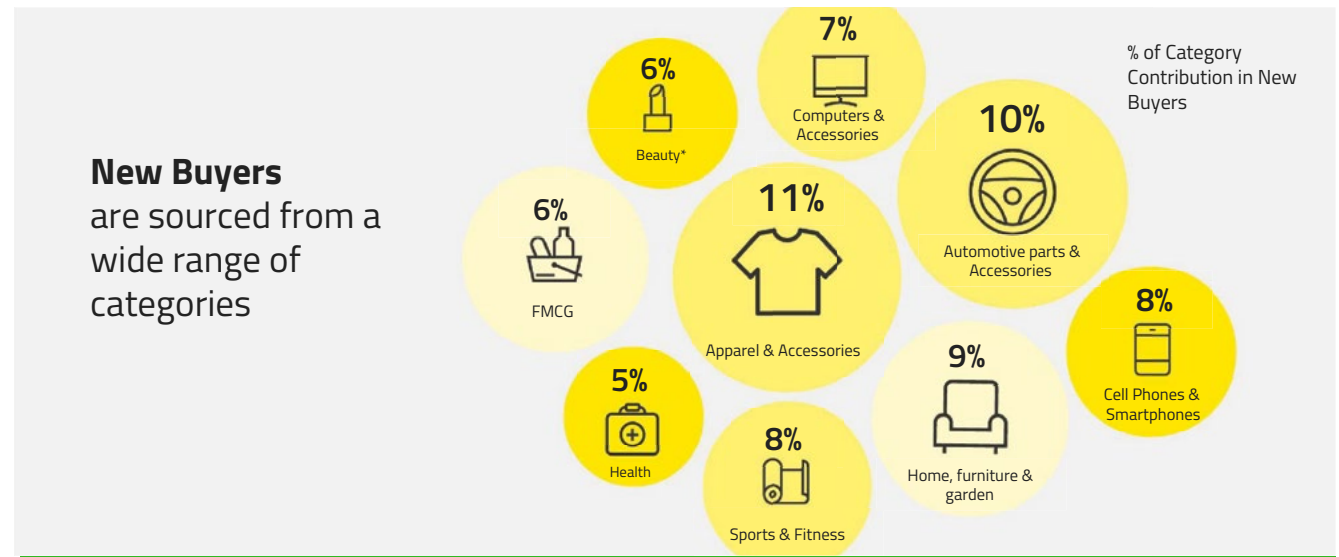
2020 was a disruptive year at every level. And that also involved changes in the way that consumers shop. According to the study "Ecommerce: evolution of consumer's habits in times of Covid-19," carried out by MercadoLibre in Latin America, Mercado Pago³ online transactions tripled compared to 2019. The sectors that grew the most were technology, health, services and fashion-beauty with increases of between 3 and 5 times compared to the previous year. 40% of these transactions were made in the MercadoLibre Marketplace, and the remaining 60% in external stores. (See Figure 1)

The way people consume products and services has impacted other sectors of the digital payments ecosystem, leading these players to continue improving their solutions in order to provide better service to their customers. They've also begun to offer choices and opportunities to small businesses in order to enable them to offer their products and services to a wide range of consumers. This is true of large retailers working on technology and in alliances with other players, to offer multiplatform payments and thus simplify the lives of their customers and transform their shopping experiences.

An example of this is Falabella⁴, which has opted to create a unique and unified technological e-commerce and marketplace platform to create a physical-digital ecosystem for its customers, which allows them in turn, to offer multiplatform and cross-channelled payments to its customers.

During the Mobile Payments Latam⁵ conference, Martín Huczneker, Falabella's Director of Electronic Commerce

Figure 1- Development of electronic commerce by sectors



Source: MercadoLibre internal data, COVID-19 period (02/24 to 05/03/2020) vs. the same period in 2019 *Excluding CPG products (consumer packaged goods)

Products, highlighted the company's strategy to offer its customers the possibility of alternative payment methods. These include cash, the use of its FPay digital wallet, and debit and credit cards. These actions triggered a technological challenge, which the company was able to overcome and thus offer the customer payments through different platforms.

"Because of the pandemic, the alternative payment methods

options grew and forced the users to employ new technologies, that's why these quickly became popular. I believe that in the future, there will be an increased use of QR payments, and the use of wallets will become widespread; in fact, these changes will happen fast, and we must be prepared for it," adds Huczneker.

3 Mercado Pago is MercadoLibre's Fintech, where digital payments can be made both in MercadoLibre, as in other platforms.

4 Falabella is the leading physical and digital retail company in Latin America, with a presence in Chile, Peru, Colombia, Argentina, Brazil, Uruguay and Mexico, through five business units (department stores, home improvement, supermarkets, real estate and financial services) with more than 30 million clients in the region.

5 Mobile Payments Latam is an event organized by Frecuencia Latinoamericana and in 2021, it took place virtually on March 11 and 12.

A shift in points-of-sale payments

During the last year, Latin America has experienced explosive growth in the adoption of digital tools for consumption of goods and services. These changes had a greater impact in the Latin American region than in other latitudes of the world, given that before the pandemic, e-commerce penetration levels were relatively low, and the use of cash predominated at points-of-sale.

In 2020, point-of-sale payments in Latin America underwent some of the most abrupt changes in world trade. Indeed, "the confinement measures and social distancing regulations caused the entire region to suffer an economic contraction and a net reduction in transaction volumes at the point-of-sale: decreases of 13.2% in Argentina; 12.6% in Colombia; 9.8% in Mexico; and 8.8% in Brazil," points out The Global Payments Report 2021, by Worldpay from FIS.

If you consider that cash was the basis of commerce transactions in Latin America and captured most of the spending at the point-of-sale at a regional level, the impact of the fall in use of cash has been notable. This is indicated by the numbers given in the Worldpay report: 31.3% in Argentina, 24.9% in Brazil, and 36.8% in Mexico. "The pandemic caused the fall of cash to leap forward to cashless of more than three years and in 2020 exceeded the 43.2% that we had forecast for 2023," the report emphasizes.

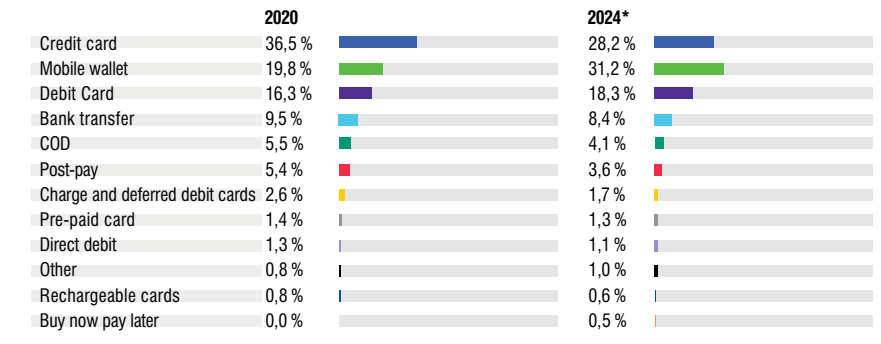
This whole situation led to the growth rate of e-commerce in the region skyrocketing to the highest level in five years, especially in the largest economies like Brazil, Mexico, Chile, and Argentina, where e-commerce and mobile commerce accelerated drastically.

Let's look at the figures established by the Worldpay report: "In 2020 the growth of electronic commerce at the regional level accelerated, with an increase in transaction volume of 22.2% in Brazil; 24.4% in Mexico and 29.8% in Chile. Not surprisingly, the growth of mobile commerce showed even greater acceleration with an increase of 33.9% in Mexico; 41.6% in Brazil and 77.5% in Argentina."

The drastic fall in cash at the points of sale in Latin America caused other alternative payment methods to gain popularity, especially the use of cards, financing at the point-of-sale, and, above all, mobile wallets. WorldPay notes: "Charge cards and prepaid cards gained more presence in the region, both exceeding 1% of POS spending for the first time in 2020. Point-of-sale financing options capitalize on the degree of trust Latin American consumers have in installment plans and include e-marketplace solutions "buy now, pay later" (BNPL) services, and merchant financing offers. In 2020, financing at the point-of-sale captured 3.7% of the expenditure at the POS at the regional level." In Figure 2, this trend and the forecasts that Worldpay makes for 2024 can be seen:

The use of cards will remain in the digital payment system because they have their range of clients. Latin American countries maintain plastic as a preferred payment method, and Brazil is a good example. The South American country is a credit card market, where the amount of consumption is between 35 and 40 percent due to its credit culture. "This is because the Brazilian market has a characteristic which is the

Figure 2 - Payment methods for e-commerce in Latin America



Source: The Global Payments Report 2021, by Worldpay from FIS

offer of installment plans for most purchases. People are used to paying in installments and are more concerned about the value of the installment than the value of the purchase in general, and therefore, it is easier for them to use installment plans," said Augusto Lins, president of Stone Payments⁶, in his presentation at Mobile Payments Latam conference.

6 Stone Payments is a fintech company and one of the unicorns of Brazil.

Smart POS technologies as a catalyst for digital payments

In 2021, we can see that new players will again disrupt the Latin American market. "Very similar to the previous year, new wallets will reach the market through companies specializing in direct deposits and electronic payments, and commercial financing companies. Similarly, we will have the first non-bank acquirers and sub-purchasers providing new access technologies so that small businesses can accept electronic payments. And similarly, new credit card issuers, and national and international neobanks, will favor this acceptance," states Edwin Zácipa, former director of Colombia Fintech when consulted.

At this point, it is important to emphasize that Smart POS has been a catalyst for digital payment methods in Latin America. Zácipa points out that there is a good field of action for access technology providers, especially Asian manufacturers, who have been negotiating with players in Latin America to offer low-cost technology to small merchants in order to secure the placement of payment terminals in physical stores.

Smart POS allows anyone to accept digital payments for goods or services just by having a smartphone and having the support of the service from an acquirer to receive and process the payments.

Effectively, Smart Points of Sale have become more than just payment receivers, which leads to a meaningful change in the point of sale because they turn the device into an all-in-one terminal with the integration of other software elements.

"Point-of-sale devices are becoming more sophisticated, and they are not just a device with a single functionality, such as accepting credit cards or electronic means of payment, they now have much more software," explained Augusto Lins, President of Stone Payments, at the Mobile Payments Latam conference, where he shared his experience on the panel on how all-in-one devices and infrastructure are heading the update of digital payments in Latin America.

Opportunities and barriers in different industries

Future uses and applications of these technologies will be seen in new retailers, banking, logistics, food and beverage, telecommunications, public services, supermarkets, transportation, parking, gas stations, tolls, and health centers.

Smart POS terminals, as catalysts for digital payments, bring multiple opportunities for merchants, retailers, and acquirers/banks. The incorporation of new payment channels is undoubtedly the first and most impactful. Still, it is also

important to point out other advantages such as those associated with time and costs.

It represents an opportunity to lower costs for merchants and retailers and have more options to complete their sales cycles. While for buyers, it gives them the option to offer other services to their existing clients.

In terms of technology, Mahaveer Shah, CMO, Payment & IoT Business Unit of Feitian Technologies, pointed out, in his participation at the Mobile Payments Latam conference, that QR is the technology that has come to stay due to the ease and economy of making payments. Also, it does not require credit or debit cards, nor is there any point-of-sale investment. And he made the distinction between static QR codes and dynamic QR codes. India, for example, is making a migration towards the latter.

It should be noted that dynamic QR shows user data, including the number of scans, the date, time, and location of a scan and the operating system used to scan the code. Contrast this with static QR, which does not trace any operations making it an impractical tool for traders.

And when it comes to payment terminals, Shah advocates the transition from a traditional POS to an Android POS, which is precisely one of Feitian's bets to give more value to merchants. Making that change would minimize the drawbacks of POS terminals, such as battery life, GPRS/3G signal strength, because connectivity has always been a problem in Latin America.

Secure technologies empowering customer strategies

Retail is one of the most challenged sectors during the pandemic, as they had to make adaptations to offer their customers other payment options. Similarly, the financial system also faced challenges, although it is important to note that the digital transformation was already progressing before the impact of Covid-19.

In the first months of the pandemic, digital banks became indispensable. According to a ComScore study, there was an increase in visits to banks' websites in Brazil, Argentina, Mexico, Chile, Peru, and Colombia, especially in the first two countries (See figure 3).

Iván Marchant, ComScore Vice President for Mexico, Peru, Colombia, and Central America, during the Mobile Payments Latam conference, indicated that there was sustained growth in visits for the topic of online payments and taxes. Simultaneously, investment-related visits rose at the beginning of the pandemic but then had a fall in December. (see figure 4)

As shown in the graphs presented by ComScore, users at the beginning of the pandemic made intensive use of digital banking to complete their transactions. Banks met that demand, taking into account that they were already working on improving their digital infrastructure and in fact, continue to make progress on this issue.

However, the challenges for the financial system to provide more and more security in transactions are increasingly difficult to meet.

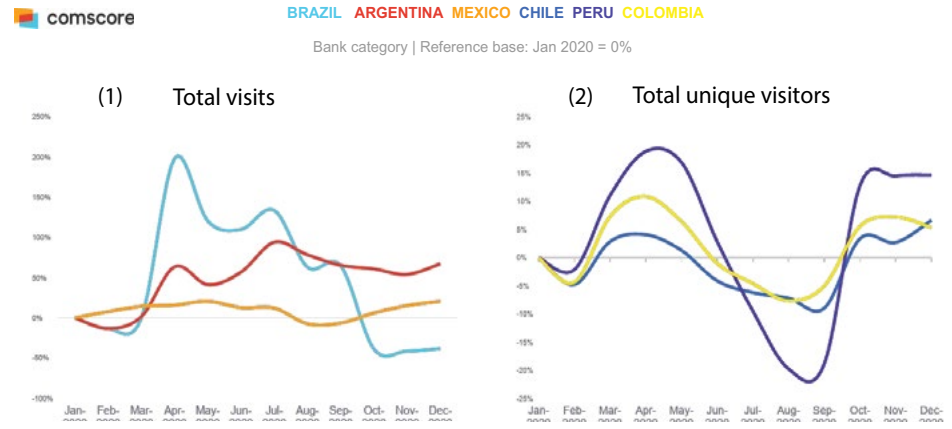


Figure 3 - Unique visits and visitors to banks in Brazil, Argentina, Mexico, Chile, Peru, and Colombia

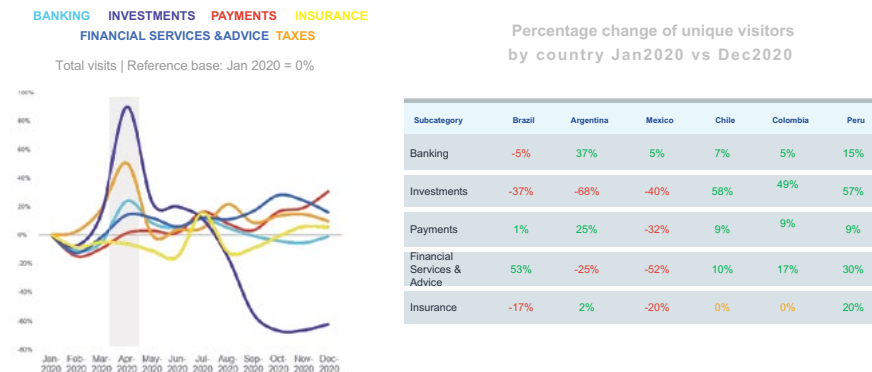


Figure 4 – Financial services in Latin America

According to Julián Morales, Digital Transformation Manager of Banco AV Villas, the growth and evolution of payments with QR and new tokenization models is expected to continue. A worldwide shift towards payments through biometrics, such as facial optical and voice recognition, will start momentum. There will also be an increase in the use of current digital payment methods in each digital channel of each bank,

including portals, apps, and contactless technology that avoid physical contact with money and data phones. "New players will also appear, who are not necessarily part of the financial ecosystem but rather within their ecosystem will enable technologies for the payment of services and products through their own currencies such as points, miles, virtual currencies, among others," Morales adds.

Source: Source (1): ComScore, Media Metrix Multi-Platform® Key Measures, Total Visits, Jan 2020 Dec 2020, MultiMarket.
Source (2): ComScore Qlik sense, Multi-Platform, Panel Mobile Solution, Chile, Colombia, Peru, 2020, Financial Categories

Source: Source (1): ComScore MMX® Only Desktop, Total Audience, Total Visits, Jan 2020 - Dec2020, Latin America

Source (1): ComScore MMX Multi-Platform® Key Measures, Total Unique Visitors, Jan 2020 - Dec2020, Argentina, México, Brazil

Source (3): ComScore Qlik sense, Multi-Platform, Panel Mobile Solution, Chile, Colombia, Perú, 2020, Financial Categories

Mobile wallets boom

Digital channels showed great dynamism and became the most widely used method by financial consumers to conduct monetary transactions. And among these methods, the use of mobile wallets continues to grow.

There is great opportunity to develop digital wallets, and it is one of the key factors for investment in retail payments in Latin America. This is confirmed by a survey carried out by Omdia, a global research company in the technological ecosystem, conducted with Openway on Retail Payments Market⁷.

"The importance of digital wallets is further demonstrated by the fact that most institutions consider that the greatest opportunities in retail payments lie in supporting the growth

of e-commerce with digital wallets. According to the survey data, 48% of respondents point to digital wallets as the number one opportunity, with a clear advantage over the market opportunity that ranked second in the survey of using payments to improve financial inclusion, that only 15% quoted first" notes the Omdia/Openway report. (see figure 4)

Other examples of active wallets in the Latin American market are PayPal and Visa Checkout, to name a few of the most important. There are also other regional cases, such as Mercado Pago, which was initially created for Mercado Libre e-commerce transactions, but is currently being used for payments in other marketplaces in Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and Venezuela.

"These wallets are not only used in e-commerce. Other apps include contactless wallets linked to payment cards for physical purchases, such as Apple Pay and Samsung Pay, and stored value wallets, which are often used to encourage financial inclusion," states the Omnia/Openway report.

In this regard, Felipe Noval Acevedo, Director of Digital Transformation and Financial Inclusion at Asobancaria, says: "Mobile wallets are an effective channel to acquire customers and/or consumers. Among the benefits that incorporate the different means of payment are a better shopping experience, recommendations based on customer preferences and history, less time on trips, or queuing to withdraw cash and make payments. Similarly, for businesses, to receive digital payments could mean improving the levels of security related to the handling of money, obtaining their balance of account immediately, and acquiring new knowledge regarding a more practical and secure administration."

In addition, government-backed digital payments initiatives on real-time infrastructures, such as Cobro Digital (CoDI) in Mexico, which launched in 2019 and offers QR-enabled payments between individuals and businesses; or PIX in Brazil, which was launched in 2020 and is used for transfers and payments; or the Programa Transferencias 3.0 in Argentina, a national payment system that will allow you to use any electronic wallet or the bank application to pay from your cell phone with a QR code, are all examples of the advances that have been made in instant payment platforms in Latin America.

Figure 5 - Bigger opportunities in the retail payments market



Source: Omdia

7 The survey, aimed at medium and large traditional retail banks, neobanks, fintech companies and payment processors, collected responses from 178 people in six markets (Argentina, Brazil, Chile, Colombia, Mexico and Peru).

Technology as the key to the development of the payments industry

It is undeniable that alternative payments method technology is an important element for jumpstarting the economy following the lockdowns implemented by governments to stop the spread of Covid-19.

Mobile wallets, NFC technology, and QR are technological tools that have allowed the massification of digital means of payment. Through these, financial consumers can easily adopt electronic means of payment in a secure and agile way. Similar to NFC technology, users have payment options through cards, digital wallets, bracelets, stickers, chips, and data; and in turn, the QR code has enjoyed a significant adoption by small businesses and retail shops.

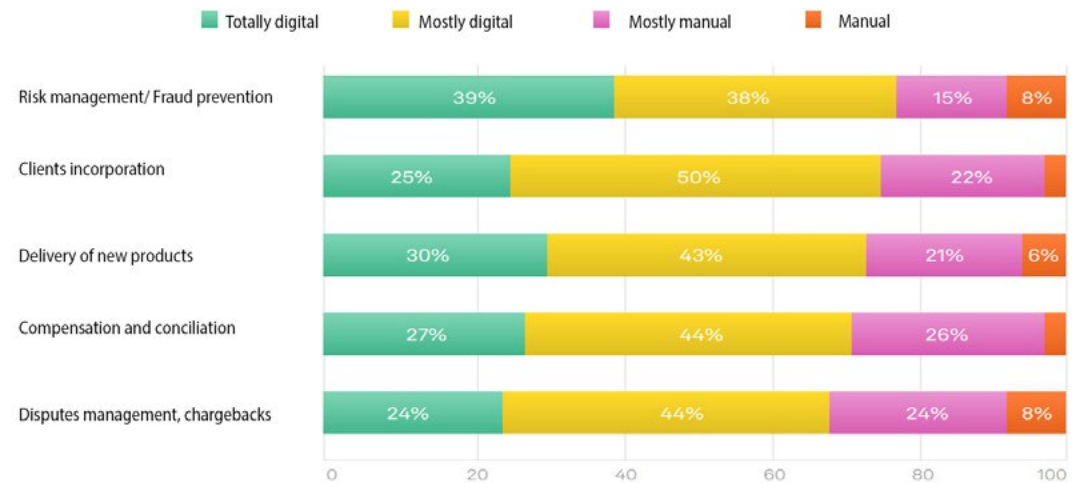
However, there are barriers to creating new financial products in such a short time to meet the market's needs.

The Omnia/Openway survey points out that, "although 14% of traditional banks and 15% of neobanks/financial technology companies claim to have the ability to launch new products in less than a month, the reality for most of the market is that it takes between 1 and 6 months to launch new products, and in the case of 13% of neobanks/financial technology companies and 7% of traditional banks, this process may take even longer. In addition to being able to add new services

quickly, it is also essential for payment providers to be able to create new services that are different from the competition. 18% of respondents say that this is their number one selection criterion when selecting new software, while they also get a high score as a secondary and tertiary factor."

In graph six, you can see that only 30% of the delivery of new products is fully digitized.

Graph 6 - Which of the administrative and customer service processes are digital in your organization?



Source: Omdia

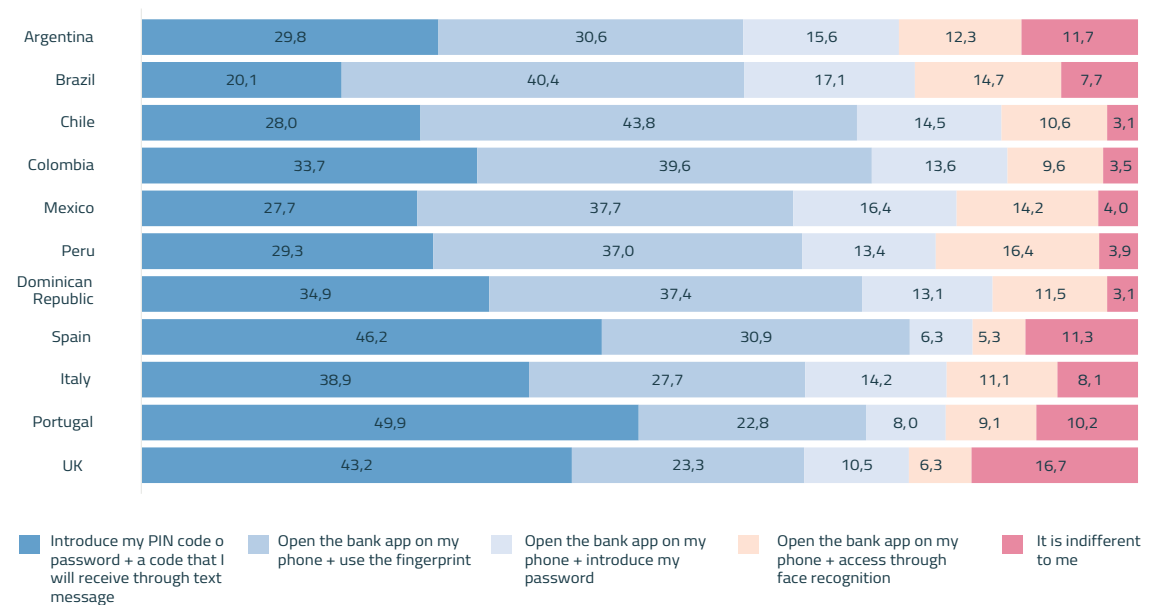
Security is the key factor in digital transactions

Parallel to the growth in digital payments in 2020, the risk of electronic fraud also increased and accelerated with the pandemic. Even before Covid-19, players in the digital payment ecosystem were working on fraud prevention and minimization of risk; now, it is an issue that is of vital importance.

"An important business that is being derived from the enablement of these new payment methods is the one of digital identity since the security of transactions is increasingly important to generate trust in a new reality in which transactions require every day less of human intervention. All these transformations are generating efficiencies that help to consolidate remote payment ecosystems such as tolls and parking lots," indicates Oscar Bernal, Vice President of Technology of the Banco de Bogotá, the financial entity of Grupo Aval.

Moreover, the X Minsait Report states: "to guarantee the safety of transactions during this time of e-commerce expansion, the population agrees on the need to apply the second authentication factor and that, in general terms, it should be requested in all operations. The two options with the most supporters are the use of the PIN/CVV and a one-time password through a text message or the opening of the banking application plus the use of the fingerprint." (See graph 7)

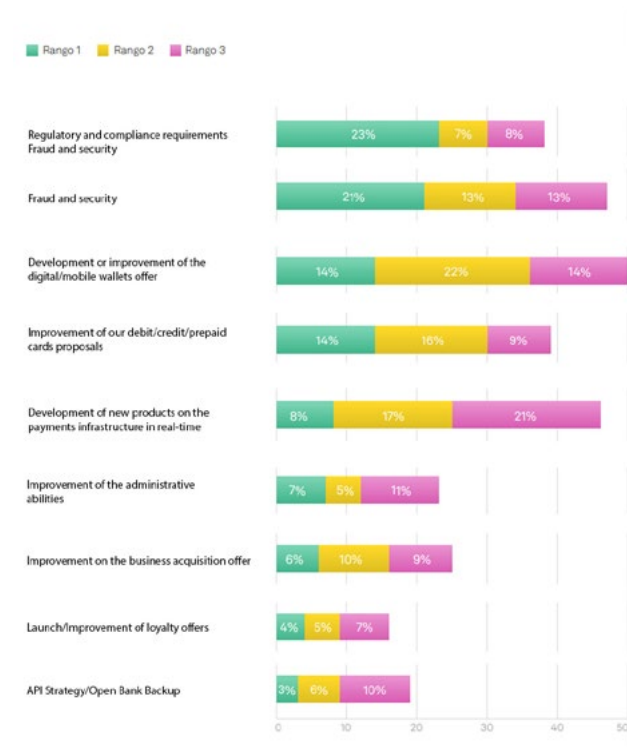
Graph 7 - Preference regarding the combination of two-factor authentication (%)



Source: Minsait 2020 Payment methods. Made based on the results of the question, 'If you could choose at this time a second authentication factor in your online purchases to finalize the payment, which one would you prefer?'
Analyzed Population: Banked Adult Internet User Population (ABI) who has bought through the Internet.

This issue is one of the key points that banks and financial technology companies consider non-negotiable, only preceded by regulatory requirements and compliance, according to the survey on priorities in increasing investment carried out by Omdia. (see graph 8)

Graph 8 - What drives additional investment in retail payments?



Source: Omdia

Proportion of Retail Banks and Neo Banks / Fintech Companies

- 8 Verimatrix (Euronext Paris:VMX) is a security specialist. They protect digital content, apps and devices with intuitive, people-centered security.

Smart POS technologies as catalysts for digital payments

"Across the region in general, payment fraud is a significant challenge, as fraud rates in markets such as Brazil and Mexico are among the highest in the world. Reflecting an international trend, there has been substantial growth in online fraud, now outpacing offline fraud. Data from the Mexican financial protection body, Condusef, shows that complaints about online payment fraud have increased from 790,936 in 2015 to 5.9 million in 2019, and now proportionally represent 65% of all complaints, compared to only 20% in 2015," indicates the Omdia/Openway report.

In the field of digital/mobile payments, biometric solutions are going to be the preferred authentication method in transactions. This is what Neal Michie, Product Director of Verimatrix⁸, believes. He also says that biometrics offers security and convenience for consumers, taking into account that the user of mobile services wants a reliable application that can be accessed easily and practically.

"Biometrics, which allows you to scan your fingerprint or hold your phone in front of your face, is an easy way to access a device and provides a sense of confidence to the consumer, who in turn feels they can interact safely. For this reason, I am sure that biometrics is a very important part to plan in the future when it comes to authentication," he emphasized during his presentation at the Mobile Payments Latam conference. The initiatives to give greater security to consumers are also taking place on the card side. One example is Mastercard, who provides the Mastercard Digital Enablement Service (MDES) that converts card numbers into tokens. Tokenization renders the cards useless for scammers and eliminates the frustration of manually updating card information. In this effort, Mastercard continues to add partners from across the ecosystem, including Mercado Libre/Mercado Pago, PayPal, and Didi to deliver this security at scale.

"The pandemic has led many consumers to make their first online purchase, starting a new payments habit that, according to what they say, is here to stay. Approximately 70% of cards in the region are already MDES-enabled, and we are seeing a significant increase in the number of transactions being tokenized. This growth in tokenization generates a domino effect across the industry, resulting in peace of mind for consumers and a reduction in fraud for merchants and issuers," says Walter Pimienta, Senior Vice President of Products and Innovation for Mastercard in Latin America and the Caribbean.

In e-commerce, there are local initiatives to promote security, such as the online authentication portal WebPay in Chile, developed by the local monopoly payment processor Transbank. While in Colombia, the banking sector and ACH Colombia have created the PSE digital payment platform, commonly known as "the PSE button." This allows companies and consumers to pay for goods online by authorizing payments directly from their bank account, according to details from the Omdia/Openway report.

The report adds that payment providers should analyze fraud detection processes, particularly for online transactions at points-of-sale. "Fraud rates, especially online fraud, are increasing and in markets such as Brazil and Mexico are considered to be among the highest in the world. A large number of false positives is also a concern, leading to transaction abandonment and inconvenience to users. The adoption of the latest security protocols (such as 3DS V2) will help address these issues, as will the introduction of automated processes for fraud detection," the report indicates.



The importance of incorporating KYC strategies

Another form of security is Know Your Customer (KYC) strategies that entities, especially those related to the financial system, implement to verify customers' identity and reduce the risks of money laundering or online fraud.

Resources such as Optical Character Recognition (OCR) —to scan identity documents— and biometric fingerprint and voice tests, help validate access to avoid fraud and risks such as money laundering, states the article “KYC/AML: what they are and how to fulfill them”⁹ from Truora’s¹⁰ blog.

The article adds: “To really get to know the client, it is necessary to establish and determine their identity, understand the nature

of their economic activities and assess money laundering risks. Also, once these protocols have been complied with, continuous monitoring and analysis of transactions are essential to identify suspicious patterns and operations.”

The following actions also stand out as good KYC practices:

- Background checks, an early prevention practice that contributes significantly to knowing the customer.
- Identity verification, which translates into guaranteeing that the person on the other side of the screen is who they say they are. The best way to do this is to use identity verification solutions.

The company Electronic IDentification explains that governments and authorities have established standards. In Europe, the 5AMLD Directive and the eIDAS regulation creates a secure framework where KYC processes are reliable and guaranteed.

“The KYC process requires that the financial sector abide by its regulations worldwide, which implies that identification with selfies or images is not valid at the highest level due to its low degree of technical security, the weakness of electronic evidence, and the lack of integrity of itself. Therefore, the level of security provided by this type of solution is low, far from the security legally required for the formal identification of clients according to the most demanding regulations in this field,” adds Electronic IDentification¹¹.

9 https://www.truora.com/blog-es/kyc-aml-que-son?9359886d_page=2

10 Truora is a technology company that builds solutions for fraud prevention in the region

11 Electronic IDentification is a global provider of remote video streaming ID systems.

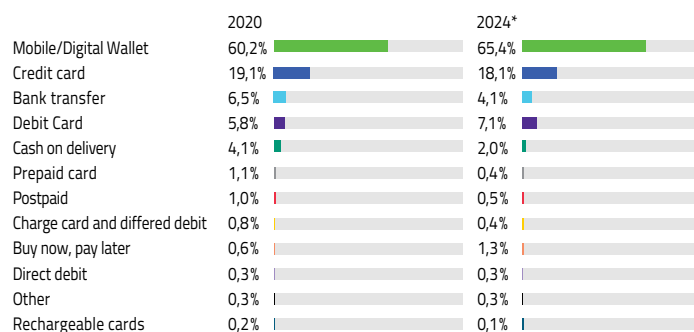
Key insights and learned lessons for success in emerging markets

It is undeniable that the transformation of technology and megatrends is changing society and emerging economies faster. The Latin American region has particular characteristics in terms of the idiosyncrasies of its habitants, cultural diversity, and regulations specific to each of the countries. However, it is notable that in the digital payments industry one can learn from the experiences in emerging markets, especially the Asian market.

The economies of Asia/Pacific were not unaffected by the impact on the points of sale during the global pandemic. According to the WorldPay from FIS Global Payments Report, "the pandemic caused considerable falls in the value of POS transactions in India (-8.1%), Singapore (-10.4%), Thailand (-9.2%) and Japan (-7.4%)."

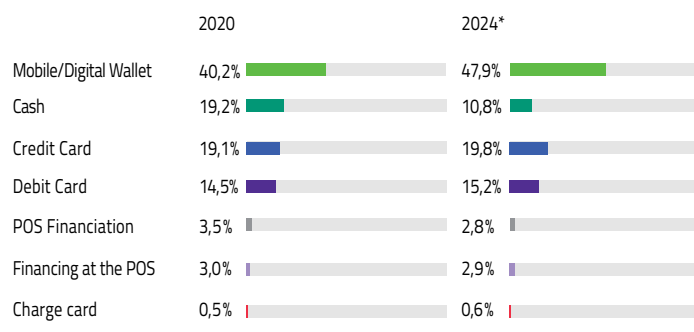
However, the report adds, "strong growth in transactions in the POS is expected, which would recover the volumes of 2019 by the end of 2021 or in 2022. It is predicted that between 2020 and the end of 2024, China will have a rate of growth of 6.2%, which includes growth of 9.7% in 2021 and will reach a representation share of more than 22 trillion dollars during 2024. According to forecasts, the Philippines will have the highest growth rate in the region with a value of 9.4% until the

Graph 9 - Payment methods in electronic commerce in the Asia/Pacific region



Source: *The Global Payments Report 2021, from Worldpay from FIS*
*Forecast

Graph 10 - Payment methods on POS in Asia/Pacific region



Source: *The Global Payments Report 2021, by Worldpay from FIS*
*Forecast

last part of 2024, not so far ahead of India (8.9%) and Vietnam (8.8%). The most developed economies, Japan (2.8%), South Korea (4%) and Australia (4.6%) are forecasting the lowest growth rates for POS terminals until the end of 2024."

As for payment methods, digital wallets will continue dominating e-commerce payments. China maintains its position as a global leader in digital wallet usage, including 72.1% of e-commerce payments in 2020. This trend is expected to continue increasing by 2024, both for e-commerce and POS. (See graphs 9 and 10) making the most progress in innovation. "The Asian country has revolutionized how transactions are carried out, thanks to the entry and massive reception of actors such as WeChat Pay (Tencent) and Alipay (Alibaba). In these mobile 'super apps' that combine various services such as text messaging, online shopping, or taxi orders, the purchase and transaction of money are also allowed through a simple chat. And it's been very well received. According to data from the consulting firm iResearch, in the third quarter of 2019 commercial activities that were carried out through these apps reached 55 trillion yuan (4.9 billion dollars)," states BBVA in its report X-ray of digital payments: how are they evolving in different parts of the world?

China also bets on payments through biometric recognition. "The initiative is led by Alipay, which allows payments in fast food restaurants through facial recognition. Its technology is called Smile-to-pay and is very simple to use. The user must register and allow a scan of his face in Alipay. Once in the shop, you can forget about cards and even your mobile phone, you just have to accept payment at the terminal, and a camera recognizes you facially to approve the transaction," adds the BBVA report.

These experiences in Asia bring inspiration to Latin American countries, a market with many opportunities to explore.

Digital payments to reach the unbanked

One of the barriers to adopting alternative means of payment for the unbanked sector is the use of cash. However, because of the pandemic, electronic payments allowed Latin American governments to bring aid to the most vulnerable people in an agile and efficient way and, at the same time, to monitor transparently. This also helped vulnerable and unbanked people to learn how to use these electronic means of payment.

"In Latin America, it was mainly prepaid wallets (and cards in this form of electronic money or wallet cards) that took on this task of facilitating payments and, above all, distributing monetary aid to the most vulnerable groups, as Brazil has shown with the issuance and activation of more than fifty million digital wallets in just a few weeks, at the worst moment of the first wave of the pandemic. The efforts of the authorities to 'locate' potential beneficiaries have been enormous, demonstrating urgently the need to ensure the financial inclusion of individuals as a necessary condition for economic and social inclusion, especially to deal with emergencies such as the one caused by covid-19," says the X Report of the consulting firm Indra.

This is a first step in adopting electronic payments, a trend that

has come to stay, according to the forecasts of the research firms consulted in this report. Other initiatives include those developed by Walmart, a company based in the United States, who is trying to replace the cash lines with payment sectors where each POS has the flexibility to function as an assisted payment or self-service system. And SoftPOS technology, which transforms smartphones into point of sale terminals without needing any additional equipment, is being piloted around the world as an innovation to change the pay-back landscape, according to WorldPay from FIS.

For its part, Asobancaria states: "In the ecosystem, there is already a diversity of alternative means of payment to cash and it will continue to add new exchange options such as payments with biometrics (fingerprint and facial biometrics) and even cryptocurrencies, without necessarily being exclusive means. In the end, this evolution of the ways of payment is determined by the market economy."

Smart POS and QR: opportunities for different industries

The trends we see in emerging economies point out that there are great opportunities in different industries in the digital payments ecosystem. Many changes will be seen in business models generated by the adoption of technologies, such as mobile-based payment terminals that can generate new opportunities for micro-entrepreneurs, small businesses or even street vendors. This market segment is significant in some Latin American countries, and they will soon be enabled to establish a model of electronic payments without the transactional costs required by traditional means of payment.

It should be noted that Smart POS are Android point of sale terminals with different applications that can be used by small businesses that often have payments left on tables, such as restaurants, pizza shops, coffee shops, and ice cream shops.

But its spectrum goes much further. Its uses can include P2P, P2M, M2P, and by many other industries for authentication, authorization and to accept payments.

This technology, which has great potential, was presented at the Mobile Payments Latam conference by Mahaveer Shah, CMO, Payment & IoT Business Unit of Feitian Technologies. He stated that when the Android operating system was introduced in the field of cash registers, it allowed the printing of receipts to record sales transactions worldwide. This was a revolutionary change in the payments industry, and more value-added features were added to the Smart POS, making it easier for retailers and more advantageous for consumers¹².



¹² As a listed company in China, Feitian has been dedicated to providing secure financial solutions for customers worldwide for 22 years and in more than 100 countries. Feitian aims to create security for customers and has world-leading technology and expertise in secure hardware design and software development.

All-in-one terminals as a catalyst of digital payments

Feitian is one of the pioneering companies in payment solutions, which follows the latest technological trends, such as the Android operating system 10, the high voltage battery and the Qualcomm quad-core processor as well as innovation in terminals, and secure and flexible payment solutions.

Additionally, Feitian provides a complete ecosystem to switch from traditional POS to Android POS, which brings great benefits such as minimizing the difficulties traditional POS terminals have, such as battery life, GPRS/3G signal strength, mobility, and connectivity. (see Image 1)

On the other hand, the Android POS can receive QR payments, barcodes, 1D2D scanning, contactless payments with chip and pin, has slide and sign, can perform electronic transactions, and extract data through Optical Character Recognition (OCR).

"What makes Feitian's Smart POS stand out from the rest is its unique strength of Android operating system, which is secure in payments. Feitian's Smart POS security is based on a broad knowledge of Android security standards, payment standards, PCI security requirements, etc., as they offer high-security solutions from software and hardware design to deployment. Security solutions, throughout the life cycle of devices, protect applications and data, provide secure and efficient services to customers and partners, and help businesses succeed with

robust support for security solutions," emphasized Shah.

In addition to payment terminals, Feitian also provides a full-featured application: SmartPay, which provides store management services and unique payments to global customers. SmartPay is a payment application based on the SDK and the EMV kernel, certified to read card data securely based on the PCI-PTS and EMVCO L1 and L2 certifications for hardware and kernels. These devices are set in trusted execution environments based on ARM TrustZone technology.

It should be noted that, in the MPE of 2021, SmartPay has been shortlisted as Best Omni-Channel or Multi-Rail Payment Solution by the independent judges of the MPE.

In his presentation at the Mobile Payments Latam conference,

Shah emphasized the next generation TMS platform – the Smart Terminal Operations Remote Manager – STORM, is a terminal management system that monitors and controls the point of sale and supports traditional POS, Android smartphones, Android POS, and mobile POS, by combining multiple systems and supporting different devices. It not only manages Feitian devices, but any vendor, as well as traditional third-party payment terminals, either Linux or any of them.

"The evolution in the market infrastructure, the application of new technologies such as the Android operating system, new regulatory initiatives, and changes in customer behavior are driving changes in the POS landscape. For banks and acquirers, it's time to catch up with the changes and update the business with new and smart solutions," emphasized Shah.

Image 1- Why is Android POS important?



Source: Feitian Technologies

The role of Fintech

Considering all the transformation and the all-in-one terminal device options, there is a great opportunity for FinTech.

The trends that are expected for 2021 include the ability to offer benefits for the economically active population, which is the new B2B2C front of fintech. "In this phase of economic revival, much of the fintech's offer will revolve around employee care, Gig Economy platform partners, and freelancers, who have historically been the most neglected by the financial system and most affected by the pandemic. Therefore, we will highlight fintech that arrives with benefits for the better financial well-being of these segments through digital products such as payroll advances, insurance, cards, savings plans, etc." says Edwin Zácipa, former Director of Colombia Fintech.

He adds that fintechs will be able to offer purchase financing in physical or e-commerce stores as a new payment method for the buyer (in very different terms from what a traditional credit card offers), and thus, completely achieve the digitization and automation of the "buy now, pay later" payment method.

BALANCE SHEET

ASSETS

Current Assets
Non-Current Assets

LIABILITIES

Current Liability
Non-Current Liability

EQUITY

Current EQUITY
Non-Current EQUITY

CASHFLOW STATEMENT

OPERATIONS

NOT SALES
Investment

EXPENSES

Development
Operating expenses
Marketing

NET INCOME

Level

92%



CONCLUSIONS

“Considering all these ingredients, we are sure that the digital commerce sector in Latin America, in the post-Covid-19 era, will continue to take on even greater prominence, given the economic impact it has, but also what it generates in terms of employability and financial inclusion.”

Diego Navarro, Director of MercadoPago Colombia.



Universal acceptance of alternative payments

Are technologies such as mobile wallets, QR codes, and NFC transactions the revolution in digital payments in Latin America? Without a doubt, they are. The Smart POS industry has a great opportunity to offer relevant technology so that merchants can manage their business more efficiently and thus meet the needs of users to make agile and secure payments in their shops.

As we saw throughout this report, Latin America is betting on further advancing the digital payments ecosystem, both in e-commerce and in physical outlets, thanks to the increased participation of consumers, and big brands and businesses

using these solutions to grow revenue. Also, the entry of more players into the market strengthens the supply of services; without neglecting to mention government action to install regulatory frameworks that stimulate the industry.

“Considering all these ingredients, we are sure that the digital commerce sector in Latin America, in the post-Covid-19 era, will continue to take on even greater prominence, given the economic impact it has, but also what it generates in terms of employability and financial inclusion,” said Diego Navarro, Director of MercadoPago Colombia.

Also, it is a fact that in the payments market, we are seeing increased technological innovations, regulatory initiatives, solid infrastructure of the exchange market, a competitive environment, and enhanced customer behavior. This is especially true in countries such as Mexico, Brazil, and Argentina, which are ahead in terms of new technological proposals in immediate mobile payments such as CoDI solutions (Mexico, 2019), PIX (Brazil, 2020) and the Programa Transferencias 3.0 (Argentina, 2020).

These developments, which were already being planned and deployed at the beginning of the decade, were accelerated with the arrival of the pandemic.

“In 2019, the protagonist was the progress, at least from a regulatory perspective, of Open Banking. And the decade ends with the disruption caused by the Covid-19, which has accelerated digitalization and has set in the minds of everyone that ‘the money that is worth the most today is the one that gathers the contactless attribute.’ In the 2020s, digitalization has set the pace for all businesses in the payments industry. The software replaces hardware in virtually all its forms and facets (from bank branches to apps; physical POS to SoftPOS; from servers to cloud computing) through the virtualization enabled by today’s digital technologies available to everyone, as well as the availability of huge amounts of data,” emphasizes the Indra Report on Means of Payment.

In addition to this, QR code technology is becoming the most widely used payment method in some Latin American countries as an economical way to accept payments. A trend that had already begun in emerging countries, especially Asian countries, where the use of cash is disappearing.

Smart POS: The Future of the Latam market

F20 FP



In the opinion of Mahaveer Shah, CMO, Payment & IoT Business Unit of Feitian Technologies, Smart POS terminals have great potential because they can accept traditional payment methods and advanced methods like the magnetic stripe card, chip card, contactless card, QR code, and electronic wallet.

Increasingly, the Smart POS industry has been working on improving point of sale devices, which no longer fulfill a single functionality to accept electronic means of payment, but offer an integrated platform that helps merchants to sell more, better manage their businesses and grow, adding value in terms of productivity, and control. Additional capabilities include conciliation of accounts with the administrative and accounting parts of the company, among others.

Plus since it is on Android, not an open operating system but a secure one, it has security levels based on certificates such as the Data Security Standard for the Payment Card Industry -PCI- (Payment Card Industry Data Security Standard) or PDS, which makes it a highly reliable POS terminal.

For example, Feitian manufactures the first payment application in the market, which is a mini cash register that allows the management of inventory, dashboards, as well as the acceptance of recharges and invoice payments in a single application that can be customized and integrated into any environment, in iOS, Nexio, Hypercom, or any other protocol. It also offers the first terminal management system, TMS, that manages both existing Feitian devices, as well as any other third-party Android terminal from another provider.



Customer-focused solutions

All these innovations in Smart POSs are propelled by the customer, and that is why we see payment POS with biometric authentication on the person's chip card in each transaction; POS with facial recognition and iris scanning. In short, there are different applications that are adjusted to different markets according to particular needs.

This is an industry that has great room for growth if the development of the telecommunications infrastructure with the implementation of 5G is taken into account, "which will bring an increase in the development of new services and products that will translate into more electronic transactions, more demand for points of sale and more growth in all electronic payment methods. We are very optimistic with the options that are looming in our industry," says Augusto Lins, president of Stone Payments, one of the biggest acquirers in Brazil.

In conclusion, the history of digital payments, which discourages the use of cash, was written long before the pandemic. However, the health situation caused it to skyrocket in exponential terms, since it is estimated by experts that in 2020, in terms of digital transformation, it leaped ahead by about three years.

In this scenario, without a doubt, the increase in the use of Smart POS at points of sale will continue to rise. Those who bet on innovative technology that is convenient, safe, low-cost, and unified in the same terminal with functions related to the services that trade offers, will have a prominent place in this market.

Bibliography

Source Report "Smart POS Technology as a catalyst for digital payments in LATAM".

Asobancaria, Banca & Economía Edition 1269- Published February 22, 2021

<https://www.asobancaria.com/2021/02/22/edicion-1269-el-papel-de-los-medios-de-pago-un-analisis-de-los-problemas-asociados-al-efectivo-y-los-pagos-electronicos-como-alternativa/>

Minsait Payments, an Indra Company. X Edition Report Trends in Payment Methods. A 360° View of Industry Trends Leading Payments, Processing the Future - Payments Minsait

Worldpay from FIS. The Global Payments Report 2021

Omdia-Openway. The changing face of payments in Latin America. Schematization of the digital revolution- <https://slack-files.com/TOKATM5AR-F01GFV90N58-2c81ca6e97>
Technology analyst firm Omdia partnered with OpenWay, a global provider of digital payments software, to conduct the Latin American Retail Payments survey.

Thanks to:

Lucas Medola, Paypal's Financial Director for Latin America, speaker at the Mobile Payments Latam conference.

Martín Huczneker, Director of Electronic Commerce Products at Falabella, speaker at the Mobile Payments Latam conference.

Augusto Lins, President of Stone Payments, speaker at the Mobile Payments Latam conference.

Edwin Zácipa, former President of Colombia Fintech.

Mahaveer Shah, Feitian Technologies Marketing Director, speaker at the Mobile Payments Latam conference.

Iván Marchant, Vice President of Comscore for Mexico, Peru, Colombia and Central America, speaker at the Mobile Payments Latam conference.

Julián Morales, Digital Transformation Manager of Banco AV Villas, financial entity of Grupo Aval, Colombia.

Felipe Noval Acevedo, Director of Digital Transformation and Financial Inclusion at Asobancaria.

Oscar Bernal, Vice President of Technology, Banco de Bogotá, financial entity of Grupo Aval, Colombia.

Neal Michie, Verimatrix Product Director, speaker at the Mobile Payments Latam conference.

Walter Pimienta, Senior Vice President of Products and Innovation for Mastercard in Latin America and the Caribbean. Truora blog, a technology company that builds solutions for fraud prevention in the region https://www.truora.com/blog-es/kyc-aml-que-son?9359886d_page=2
Electronic IDentification, a global provider of remote identification systems through streaming video.

Diego Navarro, Director of Mercado Pago Colombia.

About

As a listed company in China, Feitian has been devoting into providing secure payment & IOT solutions for worldwide customers for 22 years and in more than 100 countries. Feitian aims to build security for customers and has world-leading technology and experience in secure hardware designing and software development. The continuous high investment in R&D and the deep understanding of customer needs over the past 20 years have enabled Feitian to continuously develop diversified types of innovative products with international patent rights and certifications.

Feitian follows the latest technology trends, like Android 10 OS, high voltage battery and Qualcomm quad-core processor which combined with our world-leading R&D capabilities to offer the best cost-effective, secure, flexible payment terminals and solutions. To meet the demands of different application scenarios, Feitian provides a full series payment terminals from financial Smart POS to QR code scanning box to NFC card reader etc.

Contact:

Mahaveer Shah

CMO, Payment & IoT Business Unit

Feitian Technologies Co., Ltd (Stock Code: 300386)

Mobile + 917575022106

Email: mahaveer@ftsafecom

FEITIAN
WE BUILD SECURITY