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Improving the Electronic Payment System for Colombian Small Businesses: Legal Perspective

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Table of Contents

1. Introduction

1.1. Background

In economic transactions, there is a need for defining a payment method that suits the circumstances of the electronic market and can be used between the payer and the beneficiary. The main exchange method that has been used is cash, but with the advances in technology, new ways of payment have been developed, seeking for a more efficient, secure and cross border method.

The payment systems (PS) are defined as a set of instruments, procedures and rules for transfers. Their creation has gained importance in the Financial System due to the increase in the use of the Internet, the electronic commerce and the changes in consumer payment preferences. This has made the Financial Activity to be transformed into simplified and digital products that will help the consumers perform transactions, such as the payment of public services or the purchase of goods using electronic means. These transformations have forced governments to regulate these new dynamics in the market for their correct operation and use.[1]

In this context, several countries have implemented regulations that seek for the development of the payment industry. These regulations strength competition allowing the entrance of new agents in the market, promote the immediacy of transactions, regulate cross border transactions, and promote the digitalization which reduces operating costs. One example of this is the European Union PSD2 Directive (Payment Services Directive) which was published in 2016. This directive amends the first PSD regulation and aims to facilitate the development of an integrated and efficient electronic payment service market in that region.
The directive promotes: a) innovation in payment methods at low costs, b) competition, allowing the participation of outsourcing agents in the system which are authorized to access the information of the financial system users, and c) interoperability, a system or software which interfaces work with other products or systems allowing the exchange of information without any restricted access.

Colombia has also transformed its financial system in order to go in accordance with the new tendencies of the digital era. Adjustments have been made to the payment systems, transforming the supply of goods and services in electronic repositories. Here, new actors have been allowed to enter the system, and regulations have been adjusted so that the financial systems are transformed to digitalization. However, the country still has a long way in achieving this digitalization and open commerce because of the hard entry barriers that are imposed by the regulations and the lack of possibly of small merchants to compete with them and access the expensive instruments to create the software or channels to enter into e-commerce.

[1] Unidad de proyeccion normativa y Estudios de regulación financiera (URF). Estudio Sobre Barreras e incentivos de los pagos digitales. 2017.

1.2. Problem Statement

In response to the greater use of technology and the innovation in the financial services and new businesses, the promotion of the entrance of new agents in the market has been developed. For example, financial establishments have been transforming their products into a digitalized service. ACH Colombia developed the platform PSE, in which electronic transfers can be made. The platform connects the person who is making a purchase online with its Bank to make a direct debit of the payment. Redeban and Credibanco (the two main management services of payment in Colombia, which are the property of banking establishments) have been developing the way the chain of payments works. These two agents link trades, process the transactions between the financial institution and the acquirer, provide equipment to merchants, and compensate transactions. Currently, there are also 27 payment gateways that have been introduced in the Colombian system.

Even though the country is making a lot of innovation processes and changing its regulation to achieve a more technological financial system that meets the requirements of the modern era, recent studies have shown that only 16% of the digital transactions in the country are for acquiring services and goods, and the other 80% are cash withdraws. This happens because there is a limited acceptance of electronic payment by merchants, as most of them are small and medium range, which results in not having the means to enter the electronic market and being more sensitive towards the financial costs.[2]

Some progress has been made with a process called ‘the ultimate mile" which seeks to provide support to small merchants allowing them to be more familiar with the electronic payments. The process in made with alliances with big business networks, called aggregators of commerce, which generate payment ecosystems that are all-inclusive.

The main objective of these aggregators is to allow small businesses to accept payments of credit and debit cards at a very low cost through the use of POS or any other technology that is associated with a mobile phone, without having an account in a financial institution. (URF- 2017) In this way, the aggregator model has been developed with the purpose of linking different kinds of commerce to the new payment methods system.[3]

With several regulations, the government has tried to expand the market in order to be more inclusive towards small businesses and merchants but has failed in achieving this. For example, the Decree 2555 of 2010 which collects and issues the rules on the financial, insurance and securities market sector has failed because it focuses more on establishing the cost of the transactions rather than in the agents that are involved in the payment and the way they could enter and interact in this system.

[2] Arango, C. Zarate, H. Suarez, N. Determinantes del Acceso, uso y aceptacion de pagos electronicos en Colombia. Borrador de Economia No. 999. Banco de la Republica. 2017.

[3] Under this model, the commerce subscribes a contract with the aggregate footbridge so that this one will provide the technological solution to connect them with the network, process the payments and collect them in their name. In exchange for this service, the merchant pays a commission and defines the conditions under which they will transfer their sales payments. The gateway, in turn, subscribes to a contract with the acquiring bank, where a generic MDR is defined and allows it to "add" the sales of the merchants it has linked for the payments to be processed.

With this and some other regulations, the government has failed in making progress because they are only limiting the access of new agents and new technologies into the fintech development, driving the country apart from regulations implemented by other nations that aim for open payment service operations and agents, not the restriction of them.

For example, in the United Kingdom, the Regulator of the Payment Industry (PSR) established that the structure of the corporate governance of the payment system's privilege the interests of the banks which rule the financial system, above of the interest of the users and consumers. The payment system regulator (PSR) amends this by demanding the managers of the payment systems to change the structures of their boards of directors, in order to ensure that users have representation on them and in this way the interests of all parties are fulfilled[4].

There is also the acquisition activity, which will be developed further in this document, which allows new agents to complement traditional payment schemes with technology-based businesses that allow operating at low costs. The acquisition boosts the electronic payment model in stores, allowing the entry of small entrepreneurs into the market, generating ecosystems of electronic payments that are both inclusive and at large-scale.

This demonstrates how different countries and regulations are being changed to open the payment industry, so it can be more inclusive. In order for Colombia to go in the direction of other countries and establish this acquisition activity to help small traders, it is necessary that the Decree 2555 of 2010 is amended. As stated in the previous paragraph, this Decree defines the terms but limits the activity of acquisition and the agents who can develop it.

1.3. Literature review

In order to have knowledge about the electronic payment system and their regulations, the Colombian national Banking Association has made several articles establishing the current situation on this topic on the country and has made some proposals on how the government could implement new policies in order to boost the development of the payment services industry. One of these articles is “The study on low value payment systems and their regulation” written by Ana María Prieto, Jose David Torres, Estela Martínez, and David Gutierrez. Another article is “Determinants of access, use and acceptance of electronic payments in Colombia”, made by Carlos A. Arango-Arango, Héctor M. Zárate-Solano, and Nicolás F. Suárez-Ariza published by the Bank of the Republic, in which they made a survey to study the access and acceptance of electronic payments in consumers and small merchants, and why this kind of payments is being limited in the country.

These two articles give us a big approach to the subject that is being treated in this document and will be taken as reference not only to know how consumers and small merchants behave towards the current payment system, but also to understand why Colombia still has to make a lot of changes in its regulation in order to have a more integrated payment system ecosystem

[4] Payment System Regulator. Access to Payment systems. 2014

that is all-inclusive and can promote healthy competition in the market, and help small merchants in the development and growth of their business.

Nevertheless, what these articles have not address is how to move forward. This document goes into this direction, hypothesizing that the PSD2 directive of the European Union can be used as a reference to amend Colombian regulations. In both articles, they mention said directive, but just as an example of the progress and the regulations that other countries have implemented, not as a guide that could help the country.

Here, I will focus on the Principle 21 of the PSD2 that indicates *"the definition of payments services should be technologically neutral and should allow for the development of new types of payment services, while ensuring equivalent operating conditions for both existing and new payment service providers"*, as a guide on how this principle can be used in the amendment of the Decree previously stated, so the electronic payment industry can be opened in a way that allows possibilities for new services and agents to enter and play a game in the market, helping the development of small merchants businesses.

1.4. Method

To reach a satisfactory response for the research question and each sub-question, the first chapter makes a study of the regulations on electronic payment systems in Colombia. A study document, that was made by the banking association of the country, is used as a base to identify several deficiencies of the regulation and to analyze why the electronic payment systems do not have a high acceptance and usage in the country. Secondly, a survey(also carried out by this Association) is used for the purpose of the analysis, in which different factors are identified, which show why small merchants have a low acceptance of electronic means of payment.

With these two secondary sources, an analysis is made in order to find which are the main problems or barriers for the proper functioning of the electronic payment system in the country, and if such problems are generated because of the mere existence of deficiencies within the regulations or, if there are other factors to consider that may affect the small merchants.

On a second chapter the thesis analyses how the European Commission has developed the Directive of the Payment Systems, in order to make it suitable to address the problems generated by technological development within this field. When conducting such analysis, we focus on the fundamental principles of the Directive that promote competition and the inclusion of all kinds of agents within the electronic payment system; consequently, the information obtained is used in the third chapter as a basis to propose any desirable changes in the Colombian regulation, that may improve the current electronic payment system situation.

This study is conducted by using a hybrid method that focus the analysis, on one hand, on the empirical response of the survey that identifies the main factors that affect the low acceptance of electronic payment methods of small merchants in the country and, on the other hand, a subjective perspective that seeks the interpretation of the law, in order to identify if the regulations have deficiencies because they benefit the financial institutions that are already established and, if they impose burdens on other alternative payment methods.

All of these analyses are made so we can identify if, 1) the main problem is the deficiency of the regulations and, if affirmative, 2) if policymakers can overcome such deficiencies by the mere amending the regulations or, 3) if the government also needs to create social and economic programs to enable the proper enforcement of the proposed amendments. This study takes for granted that, if the electronic payment system is improved, so that small merchants can entry to compete in such market, the country would have an economic development.

1.5. Research Question

This document will develop a proposal, on how to improve and promote the electronic payments systems in small businesses, generating a more inclusive payment ecosystem in Colombia, that would benefit the economy.
Answering the question:

<u>To what extent would the introduction of the EU principles of competition and inclusion in the Colombian regulation of electronic payment system benefit small merchants?</u>

1.6. Outline and Sub questions

In the first chapter I will focus on explaining the regulation of the financial system in Colombia and how, through changes in regulations, the financial market has managed to enter the digital era. The chapter will also make an explanation of the limits that a developing country faces to make all-inclusive regulations in the fintech system due to the small possibility of small merchants to compete in a system that they have a lot of struggle accessing.

This analysis will be made considering small merchants in Colombia, taking into account that the survey that will be taken as an example only researches small merchants in 5 main cities of the country, due to geographical elements as these are the places where small merchants have more access to internet and availability to Bank offices. That is why the conclusions made in this document may only reflect elements that affect this kind of businesses.
The two main questions that will be answered in this chapter are:

1. Is the limited access of different payment services a problem of the Colombian regulation that limits the agents that can access the electronic payment industry and gives privilege to the Banks already established in the financial system? Or,

2. Is it a problem of the lack of possibilities of the small and medium merchants to access into this type of technology because of the lack of knowledge, tools or money that they have, to enter into the digital commerce world?

In a second chapter, I will explain how the European Union directives (PSD and PSD2) have established principles to seek for a Market that is all-inclusive, which allows the access of new payment services and agents in an objective, non-discriminatory and proportionate way. As well as the changes in the corporate governance structure of the payment systems so that they stop privileging the interests of the banking establishments as owners of the systems and lead to innovation in the industry, thus giving way to competence in the digital commerce on a larger scale.

Finally, the third chapter will look at how these European directives could be used into amending Colombian regulation, to achieve an integrated payment system that is open for new technologies, agents, competition, and how can this could help with the economic development of the country.

Chapter 1

To perform a complete review of the Colombian Financial regulation on the electronic payment system, in order to establish the problem for its slow development, this chapter will be divided into 3 subchapters. On the first subchapter there will be an explanation of the structure of the electronic network for financial transactions in the country.

The second one will develop a general view of the structure of the financial regulation of the country. This will be made analyzing the regulation through 5 different elements, which are necessary to have an efficient and inclusive electronic payment system. In each element the analysis will establish what the regulation has done, what is it lacking and how it could improve or be amend in order to benefit the industry, the merchants, and the competition.

The last subchapter will develop a summary of the payment system evolution in Colombia. It will analyze the fore mention survey on all of the factor of why small merchants do not have great acceptance toward new and innovative payment methods.

With all of this elements the objective is to try to figure out what is the main cause of the small development of the electronic methods in the country, if it is a problem of the inefficient regulation or a problem of the lack of resources and information of the small merchants, in the last chapter I can use all this analysis and compare it with the European regulation to create a hypothesis on how to improve Colombian regulation in this industry, to create economic development.

1.1 Structure of the Automated Clearing House in Colombia.

Automated clearing house (ACH)[5] is the electronic network for financial transactions. It is established to process the exchange of electronic transactions between financial institutions especially for payments, credit transfers and direct debits[6]. Colombia has moved a big proportion of its payment systems to electronic platforms with this network.

In Colombia the infrastructure for processing electronic payments has two automated compensation cameras: ACH Cenit, managed by the Bank of the Republic (Banco de la República, the main state division of the financial system in Colombia) and ACH Colombia, property of several banks and operated by a private entity. Both cameras' process low-value electronic payment orders that are originated by entities linked to their own name or their clients with checking or savings accounts.[7] According to the Financial Supervision of Colombia (Financial Superintendence) in 2017, 112 million of operations were made by ACH for the value of $1.069 billion of Colombian pesos.

[5] McAndrews, J. The Automated Clearing House system: moving toward electronic payment. Business Review, July/August, Federal Reserve Bank of Philadelphia, pages 15-23. 1984

[6] European Central Bank. Payments and markets glossary. 19 November 2018. www.bankingsupervision.europa.eu.

[7] Prieto, Ana Maria. Torres, Jose David. Martínez, Estela. Gutierrez, David. Estudio Sobre Los Sistemas de Pago de Bajo valor y Su regulación. Ministerio de Hacienda. Unidad de regulación Financiera. Bogotá D.C. 2018.

All financial institutions can participate in ACH Cenit if they fulfill the requirements established in the "Operative regulation of the interbank compensation service of the bank of the republic" [8]. These requirements include having an account in the CUD system, which is the high-value payment system operated and administrated by the Bank of the Republic. This account allows participating entities to make transfers in order to settle obligations derived from transactions such as the sale of securities and foreign currency, interbank loans, the transfer of taxes, and compensation of checks, among others.

At this moment, all banks in the country are members of ACH Cenit, the national treasury of the Ministry of Finance and Public Credit, the Centralized Securities Depository (DECEVAL), and all non-banking information operators. The majority of transactions processed through this chamber correspond to payments and transfers from the Nation to the territorial entities.[9]

Unlike ACH Cenit, the transactions processed in ACH Colombia are concentrated in payrolls, social security payments and billing for the purchase of goods and services. It is estimated that around 97% of the value of processed orders correspond to payments made by companies in the real sector, typically for payments to suppliers. Only the remaining 3% refers to P2P transfers[10]. This chamber has the participation of 21 banking establishments.

These two automated clearing houses and the growth of Redeban, Credibanco, and PSE have played an important role in the development of the country. As a result of these developments, there has been a sustained reduction in the use of checks and cash in the economy. The electronic payments have increased at a rate of 13.7% per year, based on the average number of operations performed daily through the automated clearing houses ACH Cenit and ACH Colombia. But none the less there is still a long way to achieve a more developed electronic payment method if we compare this number with other countries, such as the growth rate of Peru (31.14%) and India (39.54%)[11].

In the country 62% of the bigger transactions, made between the government and firms with individuals, are still being made with cash or checks. This is the example of tax payments, wages, salaries and payment to suppliers, among others. The transactions by electronic means made by natural persons is only 3.8% of the volume of monthly consumption. Based on this we can deduce that in the country there are only 12 electronic payments made per person per year. This contrasts with 46 payments made per person in Chile, 69 in South Africa and 135 in Brazil, not to mention the average levels of developed countries such as the United States with 357 and Sweden with 429[12].

But this low use of electronic payments instruments by the natural persons contrasts with the achievements of financial inclusion that has been made in the past 10 years. By 2015, 75.4% of

[8] Operational Regulations of the Interbank Compensation Service of the Bank of the Republic. Available in: http://www.banrep.gov.co/sites/default/files/paginas/reg_comp_inter.pdf

[9] Ortega f. Leon c. Las transferencias compensadas por ACH Colombia: Un analisis desde la perspectiva de topologia de redes. Borrador de Economia No. 990. 2017.

[10] P2P is the Path to profitability. A loan to a start-up or other new company from a source other than a financial institution. A lender often charges high interest in a P2P loan. This provides the borrower with the financing needed to maintain operations until it becomes profitable.

[11] Banco de la República, "Reporte de Sistema de Pagos", Bogotá, junio 2016.

[12] Better Than Cash Alliance. "Country diagnostic: Colombia", Bankable Frontier Associates (BFA) Under the Supervision of Beatriz Marulanda. 2015.

the population had gained access to at least one product in the financial system and the banking network managed to reach 256 access points and a full geographical coverage in the country[13].

As we can infer from the evidence, access to transactional accounts is not enough to increase the electronic payment ecosystem. The wide access to transactional accounts opens the doors for consumers to use the already established electronic payment networks, including mobile banking services. For example, by 2015 Colombia had 6,655 data phones per million inhabitants, a figure comparable with Peru 6,364,19. But, as I will cover later in this documents, one of the biggest obstacles that the country is facing is the low acceptance by small merchants and other agents in the economy to the use of electronic payments.

To understand what is the main factor that influences on the deepening of the electronic payment industry is important to understand the major economic and social benefits that it produces. By looking at what has happened with industrialized countries, it can be inferred that excluded segments benefit from a modern and affordable payment system with a clear impact in terms of equality and that broadening of electronic payments generate savings in transactions costs, achieving efficiency and growth as a result of an economy that is no longer cash dependent[14].

1.2 Regulation

According to the article 16 of Law 31 of 1992 the Bank of the Republic is responsible of regulating the monetary circulation and the liquidity of the financial system in which they ensure the stability of the value of the currency by regulating the functioning of internal and external payments in the economy. On the other hand, according to article 6 of law 795 of 2003 it is the responsibility of the government the regulation of the payments system.

Based on these laws the Government issued the Decree 1400 of 2005 in which a glossary of terms was defined for the entities that administrate the system of low-value payments and it also established principles of access and use of the system. The Decree also indicated that the Financial Supervision of Colombia has to monitor that these systems are used according to operational, technical and disciplinary standards that allow their development to be safe, efficient and transparent, preventing illegal practices, disclosure of private information and money laundry.

The Decree defined the payment system as *"the organized set of policies, rules, agreements, payment instruments, entities and technological components, such as equipment, software and communication systems, which allow the transfer of funds among the participants, through reception, processing, transmission, compensation and / or settlement of transfer and collection orders."* With this kind of definitions and regulations the country is looking to promote the development and innovation of the payment industry, making it more digital, innovative and inclusive, while maintaining the stability of the current financial system.

[13] Banca de las Oportunidades y Superintendencia Financiera de Colombia (2016), "Reporte de inclusión financiera 2015", Bogotá, Julio 2016.
[14] Schmiedel, H., G. Kostova y W. Ruttenberg (2012), "The social and private costs of retail payment instruments: a European perspective", Occasional Paper Series 137, European Central Bank.

The payment system is integrated by different means of payment and a set security arrangement, and procedures for all the participants in the ecosystem. It is necessary to distinguish between means of payment and payment instruments. According to the dictionary, means of payment are: "*different forms of money (liquid assets) that serve to be exchanged for goods and services*". Currently there are two main categories of means of payment: the fiduciary money, usually issued by central banks, and private money, issued in the form of deposit accounts by financial intermediaries, for example, savings accounts.

On the other hand, the payment instruments are: *"those that allow access to the means of payment and transfer them between the parties in a transaction, in the consideration of goods and services, the extinction of an obligation or the transfer of resources in itself*". The means of payment are transferred between agents with the use of payment instruments by their physical presentation, cash, or by instructions initiated with the signature of a check or the electronic transmission of orders in a payment system. Finally, depending on the payment instrument, these can be used in different transactional channels, such as banks, correspondents, ATMs, data phones, or the internet.

With these regulations and corporations, the government has tried to expand the payment industry but has failed into making it an inclusive market. The Decree 2555 of 2010, Decree 2230 of 2006, Decree 1400 of 2005 and Circular 007 and 008 from 2018 are examples of regulations that have made some progress opening up the payment industry. However, these regulations only give relevant definitions of the industry and regulating general points in the publication and the protection of data, but lack important elements on how to integrate the market and allow small and medium markets to enter in competition with the big financial institutions.

1.2.1. Low-value payment system.

High-value payment systems are the payments made between financial institutions and low-value payment systems are the ones made between natural persons and businesses. The banking industry, as well as the government, have identified that the digitalization of low-value payments is the challenge that has to be covered to achieve financial inclusion and finally modernize the economy. That is why they have created the investment program "*Banca de las Oportunidades"* with the Decree 3078 of 2006 and the Commission for the Financial Inclusion with the Decree 2338 of 2015.

Also, with the Law 1735 of 2014, they created a company that specializes in electronic deposits and payments (SEDPES). This company guarantees interoperability amid the participants of the low-value payments ecosystem and reaches cooperation and competition between the different agents that can operate in the system. Nonetheless, to go in the same direction as the government, the private sector led an important initiative called Project F in which they seek for the massification of electronic payment that have public and private participation[15].

[15] Borja, W., G. Montoya y N. Rodríguez (2017), "La Estrategia interinstitucional para la reducción del uso del efectivo y la masificación de los medios de pago electrónicos", en: Ensayos Sobre inclusión financiera en Colombia, 1ª ed. J. Malagón y C. Tamayo.

In trying to operate according to the definition made by the Decree 2555 of 2010, the country departs from the definitions made by the World Bank and CEMLA[16]. According to the international regulations the important elements, rather than the value of the transactions, are the agents involved in the payment. Also, these international referents talk about the average value of transactions and not the daily average value as it is defined in the Colombian decree. This is why it would be important to amend the definition stated of low-value payment, so it can state the parties involved in the operations as well as all of the activities that are part of the system.[17]

The decree needs to clarify the regulatory framework for new players to enter, for example, what entities are considered managers of low-value payments systems, what are the activities that they need to perform in the chain of the payment transaction to be considered a player in the system, among others.

1.2.2. Acquisition activity.

According to the international experience as well as the specialized doctrine, the acquisition activity drives the acceptance of electronic payments into all kinds of commerces, boosting the use of them by consumers and generating a more integrated ecosystem of electronic payments.

To achieve this, it is important to complement the traditional business models with new technologies that allow the business to operate at a bigger scale with lower operational costs. In the country, in order to allow this to happen it is mandatory, as established above in this document, to amend the Decree 2555 of 2010, as it introduces and defines a series of terms which are necessary but indirectly end up delimitating the acquisition activity and the agents allowed to develop it.

The Decree adopted the term “acquiring credit establishment”, stating that it refers only to credit establishments that pay to the owners of the commercial establishments the value of the purchase that the cardholder performs with a credit or debit card. It also defined the purchase commission like the one that is being charged by the acquiring credit establishment to the owner of the commercial establishment (Unidad de Regulacion Financiera - 2018).

In this way, the decree delimitates the acquisition activity as an activity referred only to the payment of purchases made by credit or debit cards and the charge of a commission that has to be made for using that service. In addition, it limits its development to credit establishments that interact with merchants and cardholders. As stated previously, the acquisition activity performs the functions of: linking commerces into the electronic payment system, providing electronic payment devices and guaranteeing the payments. Here, the acquisition has to be connected to a clearing house, so in his name, the resources are paid in an account that he keeps in the payer bank and from it, he orders the payment to the account of the merchants, which could be in the same bank or in another financial entity.

[16] Prieto, Ana Maria. Torres, Jose David. Martínez, Estela. Gutierrez, David. Estudio Sobre los Sistemas de pago de bajo valor y su regulación. Ministerio de Hacienda. Unidad de regulación Financiera. Bogotá D.C. 2018.

[17] Cepeda, F. La topología de redes como herramienta de seguimiento en el sistema de pagos de alto valor en Colombia. Borradores de Economía, 513, Banco de la República. 2008.

There is a global trend that states that the acquisition activity can be developed by regulated entities, but they do not manage deposits from the public. This allows for more entities to be specialized in the acquisition activity, allowing new agents into the system. In Colombia only the Financial Establishments, the ones that are guarded by the financial superintendence, can manage the deposits from the public, restricting the entrance of other kind of agents. With the acquisition activity, a lot of others agents enter the market, linking merchants with financial institutions.

In this line and using the regulatory powers provided in Law 795 of 2003, which allows the regulation of the electronic payments systems and the activities that are related with this service, a new regulation should be created to consolidate the rules applicable to these systems and all of the possible participants. This new regulation should state that the low-value payment system includes the processing, clearing and settlement of activities; as well as a provision for the adoption of the acquisition activity and the acquisition commission, with a definition that establishes that it provides all the technological components for the sending and receiving authorization orders, rejections, returns, and adjustments of payment orders with electronic means of payment, transfers or collection to the stores. Besides, it should include that they are responsible for paying to the establishment of commerce once the operation has been authorized and will be compensated by the clearing house.

1.2.3. Corporate Governance

The structure of the low-payment system administrators is determined in terms of operation, access, and development of the system. It is important to ensure that the administrators have a well-established corporate governance that can ensure the best interest of the industry and the market.

In Colombia it has been established that the composition of the board of directors of the low-payment systems associations is the same as one of the financial establishments. The Organic Statute of the Financial System established in the article 73 that the board of directors of the financial establishments has to be integrated with 5 to 10 directors, and that they cannot be linked by labor contract to the entity, to prevent conflict of interests in the decision making[18].

As it was stated previously, the banking establishments are the owners of ACH Colombia, Redeban and Credibanco; because of the process of financial integration very few interties have the percentage of shareholding in these entities.

It has become a usual practice that the representatives of the banking establishments, with really high participation, have an indefinite seat in the board but the entities or persons with minor representation are constantly changing.

[18] In the Decree 2555 of 2010 on its articles 3.1.1.1.5 and 3.1.1.3.1. it is established that the administrators of FICs have to determine policies and mechanisms to prevent and manage conflicts of interest that may be incurred by their officers or societies.

Some payment systems, like the example we stated previously of the United Kingdom, have identified that they have to make changes in their corporate governance structure and policies, in order to provide more independence to the composition of the boards and allow smaller agents to have a proper and significate representation. Some of the systems have made changes in establishing a new number of minimum members on the boards, and mandate to have external representatives of other entities or external advisors.

These examples of changes in the corporate governance show that the industry is very interested on strengthening entities structure in order to be more inclusive, guaranteeing a board that represents different segments of the industry, and being more transparent, by taking different measures that complement the rules of access and the rates, and at the same time allowing competition as independent entities now will have a voice in the decision making.

Colombia should consider what other countries are implementing and in use of the power's grantees in the article 72 of Law 795 of 2003, the Decree 1400 of 2005 should be amended and change the composition of the board of directors of the low-payment value companies, that as stated previously are the same as the ones that govern Financial Companies[19].

The new regulations should establish a minimum of members that are representatives of independent companies on the boards, to be fair they should be at least half of the members; also, it should establish a minimum of time that each representative has to stay in the board, to prevent the constant change.

This kind of confirmation would strengthen the governing bodies allowing all the decision making to be better for all the payment industry and in this way developing the industry and the economy.

On the other hand, another element that should be amended in the Decree to make it more inclusive, transparent and in seek of more competition and development in the industry, is to specify rules and procedures that have to be followed in cases of conflicts of interest. With this all the decisions must be made thinking about the consumers and the merchants, as well as the stability of the financial market. In such cases the rules should be more specific, so the members have to declare its impediment and cannot be part of the decision making in certain decisions or issues.

1.2.4. Information and transparency

In the current Colombian regulation, the obligation for disclosure of information is only stated for the commissions and the fees for the uses of credit and debit cards. This rule wants to increase the transparency of information, but it only covers the open card systems, in which only credit institutions participate, leaving all other agents that can participate on the payment ecosystem without regulation and obligations.

[19] Artículo 7.3.1.1.2 del Decreto 2555 de 2010 y artículo 38.1 y siguientes del Reglamento de Autorregulador del Mercado de Valores.

It is necessary to extend the duty of information to all the payment system industry, including the clearing houses and all types of digital payments, not only the uses of credit and debit cards. In the following chapter, with the explanation of the PSD2, payment service directive of the European Union, I will go further on this topic on how other countries have implemented this disclosure and protection of information in all of the payment ecosystem in order to create benefits to all kinds of agents, guaranteeing a more transparent industry not only for administrators but to consumers too. This will be taking as a guide of how Colombian regulation should amend its current regulations to go in the same direction as other countries and in this manner encourage competition and innovation of low-value payments.

1.2.5. Interoperability

Interoperability is the faculty of different systems to connect with each other. This concept has become important in the payment system industry, especially for financial institutions and governments, because the consequence of working together in the payment systems reduce the cost of the transactions and generates more coverage. This means for governments an economic development in their countries and new opportunities[20].

Achieving interoperability is not an easy process. It requires that the regulation is very clear and precise, and that all the institutions are coordinated and willing to collaborate with each other. This kind of process looks for the well-being of the economic system and not for the benefit of just the ones that are in power. To achieve a well-connected system generates more competition and opportunities[21].

To open barriers and have more solutions to get to a developed system, some public-private coordination has been created. This kind of alliances boost innovation and competition, allowing new agents to enter the system to operate, while facilitating the control of the system and the minimum standards that have to be followed by all the parties in the ecosystem.

Examples of this are the Payment forum of the United Kingdom, the Payment Forum of 2016 created in the United States,[22] and the Euro Retail Board created by the European Central Bank[23]. Some other countries decided to create completely new ecosystems, like for example Peru with the creation of BIM, an electronic payment platform that works between mobile phone companies and financial institutions. All these inclusions promote the use of financial services in an ecosystem that works with the interoperability of means of payment.

In Colombia, the ACH and Asobancaria (representative union of the Colombian financial sector), have defined a number of guidelines in the industry for standardizing the different ways of electronic payments, unifying formats, and accepting different card franchises. They are moving

[20] Consultative Group to Assist the Poor. Interoperability of digital finance and financial inclusion. 2016.
[21] Lammer, T. Establishing payments interoperability: coordination is key. The World Bank. 2016.
[22] The U.S. Payments Forum (the "Forum") is a cross-industry body focused on addressing issues that require broad cooperation and coordination across many constituents in the payments industry. This cooperation and coordination are vital to promoting the efficient, timely, and effective introduction of EMV chip technology and other new and emerging payments technologies in the United States that protect the security of and enhance opportunities for payment transactions within the U.S. Topic areas the Forum engages in include EMV implementation, tokenization, card-not-present transactions, encryption, and mobile and contactless payments.
[23] The ERPB is chaired by the European Central Bank. It is consolidated with the help of 4 banks, one e-money entity, 2 representatives of consumers and 1 of electronic commerce.

forward in a kind of interoperability but, the standards and recommendations are not mandatory, so its implementation has not been that successful.

In this regard, the country should create an interoperable ecosystem that would integrate the payment system. Recognizing the advances of this kind of connections would bring together the private and public sector in order to work for the common purpose of economic growth and development.

1.3. Evolution of the Payment System in Colombia

As stated during this document, the financial services and in general the economy has been affected by the increased use of technology and innovation. This has changed the payments system, has open the market to new business models and new participants, have generated adjustments in the structure of the system, and also in the regulations worldwide.

In the traditional ways of payment services some of them can take hours or even days until the amount is finally transferred to the beneficiary´s account. This makes the system to be inefficient and it does not follow up the fast world that we are living in today. Immediate payments seek to change this deficiency, giving the possibility to make the transfer immediately as the payment is being done. The Bank for International Settlements (BIS) defines immediate payments as "*those where the transmission of the payment message and the availability of funds to the beneficiary occur in real time or close to real time, 24 hours a day, 7 days a week".*

This kind of payments is what consolidates the electronic payment ecosystem because it offers consumers and merchants a more efficient and secure alternative way of payment. That is why countries are turning to this alternative, transforming their payments systems, by focusing primarily on the transactions made between persons and then between them with businesses[24].

Linking business to new systems of payments services is a complex and expensive task. This is why traditional financial institutions find an ally in existing networks or other service providers, so they can generate a business model of outsourcing processes; agents that specialize in certain links in the system chain, reducing operational costs and making the system available for more commerces[25]. An example of this is the processing of transaction information, which requires an operational capacity that can be developed internally in an entity or contracted with a third party.[26]

As we can observe the development of the fintech industry has seek for financial inclusion of small business and this led to the rise of new players and the creation of new business models in the industry. For example, the “gateways” or “aggregators” specialized in the activities of

[24] Federal Reserve System. The US path to faster payments. Final report part one: the faster payments task force approach. 2017.

[25] The Economic Times. Demonetization has given a boost for digital payments. 2017. https://economictimes.indiatimes.com/wealth/personal-finance-news/demonetisation-hasgiven-boost-for-digital-payments/articleshow/60031143.cms

[26] World Economic Forum. Innovation in electronic payment adoption: the case of small retailers. 2016.

providing technological tools, supplying equipment, routing information, and even linking the stores.

One example of this is the Square aggregator. In 2010 they launched the "dongle" devices, which turn smartphones into a POS (point of sale). The company launched the product offering a simple subscription in the network and charged low prices for transaction costs as well as for the device itself. Square expected with this model, that more than 27 million businesses change their payments services from cash to electronic payments. The device was so successful that other countries like Mexico, Sweden, and Australia created business models in their countries that replicate what Square did.

It can be observed that the actors that have arisen have found a space for development thanks to the fact, that they have been able to adapt to the needs of the industry and have been able to reach small businesses that in the past were not able to reach the system, because of the expenses and the difficulties they encounter before.

For example, ACH Colombia developed the PSE platform which directs the person that is performing online payments with their bank's online platform, so they can make the payment directly. Also, the payment gateways have been establishing a relevant role in the payment industry, according to the Camara Colombiana de Comercio Electronico (Colombian chamber of online payments). Currently there are 27 platforms processing online payments in the country and they are responsible for receiving $24 billion Colombian pesos, growing at a rate of 26% each year.

With the transformation made by the financial institutions of their products and services into digitalization and with all of the other changes, the electronic payments have increased in the country in the past years, but there is still a long way to go if we want to consolidate an efficient and competitive payment system industry.

1.3.1. How electronic transfers work in Colombia.

In the process for an electronic payment to be processed in a commercial establishment, it must be linked by an acquirer. In the Colombian case this can only be made by credit institutions. Credibanco or Redeban, are the only two networks available to make this process.

Under this role, they are responsible for making the commercial establishment sign a contract in which the MDR[27] is defined. The MDR is the fee that the merchant will pay to the acquiring bank. Here, the payment conditions are also set, for example, time and discounts.

But larger companies have the option to provide this payment services by using their own systems departments. To satisfy the needs of companies, over the years several specialized companies have been created to provide technological developments that are contracted by the companies directly. This kind of services are known as "Gateway" networks.

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[27] Merchant Discount Rate (MDR) fee charged from a merchant by a bank for accepting payments from customers through credit and debit cards in their establishments

Big Colombian companies such as Avianca (ranked the best and one of the biggest airlines in Latin-America) contract a gateway to process their payments of online sales. These companies have acquired knowledge in the market and have consolidated robust databases to offer a service that is being constantly monitored and prevents frauds. By using this gateway, the trade must still sign a contract with an acquiring bank to connect the payment system, but they are controlling the conditions of their gateway, possibility that small merchants can acquire.

The problem that raises here is that some companies that had low sales or that were new in the market did not appear to be interesting enough for acquiring a bank to link them to the system, because for them it is not profitable to do so. To face this problem payment gateways discovered a new business opportunity to facilitate the link of this small business's electronic payments. This was developed under the aggregator model.

With this model the aggregators eliminate the need of the business to subscribe a contract with an acquiring bank. The payment process starts from the commerce web page or from the POS that the aggregator provides to the company. The aggregator gateway provides a technological solution that connects the company to a network to process the payments and collects them in its name. In exchange for the service, the company pays a fee and defines the conditions in which they will receive the transfers of their sales payments. The aggregator gateway signs the contract with the acquiring bank defining the MDR with a condition that it can add the sales of the merchants it has linked so the payments can be processed.

In Colombia the aggregator model is still new, is under development, and has also very few or non-regulation. In countries like Brazil and Mexico its development has helped small commerces to expand their business in a significate way. The problem is that this model is really complicated, slow and requires a lot of bureaucracy. [28]

It is important to generate new models that facilitate the entrance of all kind of commerce into the electronic payments industry. Small merchants need a model that is accessible and efficient; one that makes them understand the benefits of electronic payments and understand that it is better than the use of cash. They cannot keep seeing it as a burden for their business because then they will never change their traditional payment system.

1.3.2. The acceptance of electronic payment methods by small merchants.

The payment industry in Colombia has its own potential, which is why its regulation must be as clear as possible, avoiding imposing barriers whose effect may result in making the growth of the sector impossible. The regulations that must be issued by the government or that must be amended should be limited to the indispensable guaranteeing, the entry of new agents into the market, consumer and businessman rights, and confidence in digital technology. It should be endowed with little bureaucracy, so that the system could be efficient and competitive. To

[28] Report on Fintech in Latin America 2018: Growth and Consolidation- The Inter-American Development Bank and Finnovista- 2018

achieve this, it must be based on international experiences in order to have good references of the economic impact it generates and, in this way, achieve short-term development.

The objective of the country should be massif the electronic payments and decrease the use of cash. The bank of the Republic published in 2017 a document called "Determinants of access, use and acceptance of electronic payments in Colombia", made by Carlos A. Arango-Arango, Héctor M. Zárate-Solano and Nicolás F. Suárez-Ariza. This document contains a survey made to consumers and small merchants of the 5 biggest cities in the country to analyze the factors that influence the acceptance of electronic payments in the country. This survey will be used as a model to establish why the percentage of accepting electronic payments in the country is very small.

We can define small or informal businesses like the ones in which the owner mixes its personal finances with the ones of its business and partially pays social security to its employees[29]. The survey showed that consumers have noticed that 35% of the big businesses in the country accept electronic payments and only 13% of the small businesses do. That is why is so important to determine and understand the factors that are involved in their low acceptance.

First of all, there are costs and taxes associated with electronic transfers. This is one of the main reasons why small merchants do not accept electronic payments. If an electronic transaction costs more to a merchant than receiving the cash, he will never want to change his payment methods and the same users will prefer the payment in cash because the purchase costs will be higher with the alternative methods.

Currently, commercial establishments must pay national taxes such as the ICA (tax of commerce and industry), VAT (value added tax) and 4 x thousand (tax paid for the transfer of electronic money and the withdrawal of money in banks). This makes electronic payments more onerous than if cash payments are made.

On the other hand, the payment gateways must make withholdings at the source of 1.5%, for ICA a withholding of 0.41% and for VAT a withholding of 2.4%, which adds up to a total of 4.3% more on the total of the transaction. A large company is not affected by these percentages' values due to their large income, but for small entrepreneurs these percentages make them earn less and for these reasons they are not willing to change their traditional methods of payment.

A great step to increase the use of electronic payments would be to create regulations that provide tax benefits for entrepreneurs who use digital payment methods. In the short term it will be better for them because when entering the payment ecosystem their businesses can generate more sales, more earnings and with this, they can enter to compete in the national market which would lead together to great economic growth in the country.

Besides the costs and taxes, the survey analyzed the relation between 3 factors: informality, access to financial services, and electronic payment acceptance in the business in order to make the analysis.

[29] Carlos A. Arango-Arango, Héctor M. Zárate-Solan, and Nicolás F. Suárez-Ariza. "Determinants of access use and acceptance of electronic payments in Colombia", Page 18.

1. Given the requirement and regulations that were mentioned in the above-mentioned chapters, it can be established that a business needs a bank account in order to get the acquiring relationship with a bank, to accept electronic payments. Showing the direct connection in which informality and non-banking are directly linked to the non-acceptance of electronic payments.

   The survey shows that the bigger the average monthly sales, the bigger the acceptance of electronic payments in the company. It also shows that the businesses that are more informal, that is, the ones that do not differentiate their personal finances from the ones of the business, have less access to bank accounts and in response less acceptance of this kind of payments. The probability of small business, with sales of 10 million Colombian pesos monthly (approximately 2.800 euros), to accept electronic payments are 20% more than the businesses that sell less than this amount.

2. The survey also showed that the education of the owner affects directly these 3 factors. Owners who have more studies prepare organized business models, in terms of planning and budgetary management among other aspects, dividing their personal finances from the ones of their businesses, and making them reach for bank accounts and at the end accepting electronic payments. This kind of businessman understands that if they open up their business to other kinds of payments they can reach more population, and this will result in more income.

3. The seniority of the business was only reflected important in the factor of having a bank account, but it showed that it was not directly related to accepting electronic payments.

4. The expectations of the use of electronic payment instruments by customers has a positive and significant effect on the electronic payment acceptance model.

5. The possibility of improving competitiveness is a positive and important factor for trade when making formality, access and acceptance decisions. Competition has the greatest impact on the acceptance of electronic payments.

What these conclusions demonstrate is that the problem is the limited access to different payment services, which are strictly directed to the Colombian regulation that limits the agents that can access the electronic payment industry and gives privilege to the Banks already established in the financial system. The lack of acceptance of electronic payment methods by small and medium merchant is due to the lack of knowledge, tools or money that they have. This can be fixed with amended or new regulations.

This lead us to establish that what the small merchants need is: first, mechanisms that demonstrate and teach them why the acceptance of electronic payments will benefit their companies and in the short term have more utilities; second, new channels that can help them access the digital industry in an easier way; third, government programs that promote interoperability; and forth and most important changes in the current regulations that would promote the acquisition activity, have less bureaucracy, be inclusive for all kind of merchants, and lowers the costs of this kind of transactions.

Chapter 2

In 1998 the Commission of the European Communities proposed to the European Parliament a set of orientations to prepare the community for economic growth in order to improve European industry, competitiveness, stimulate innovation, and create new jobs. The proposal states:

> *"Electronic commerce offers the Community a unique opportunity for economic growth, to improve European industry's competitiveness and to stimulate investment in innovation and the creation of new jobs. But such benefits will not be optimized unless the many legal obstacles which remain to the online provision of services (particularly important for cross border trade and for SMEs) are eliminated. The present proposal intends to remove such obstacles thereby allowing our citizens and our industry to benefit in full from the development of electronic commerce in Europe."*[30]
>
> *(…) "At present, there is uncertainty in a number of areas about how existing legislation can be applied to the online provision of services. There is divergent national legislation already in place or currently being discussed. Furthermore, diverging jurisprudence is emerging. The proposal, therefore, seeks to remove the obstacles that result from such conditions, for service providers established in Europe, by tackling five key issues that together form a coherent framework to bring about the free circulation of online services."*[31]*(…)*

With this proposal, the European Union started to prepare for the development and growth of the industry before the internet gained the importance it has now days. After this proposal, they started conceiving regulations to integrate the markets and the European community.

The European Commission developed a single payment area across the European Economic Area, to create an integrated payment service market in which they are able to guarantee the same rules across all of the union, with clear information of payments, consumer protection, competition, and integration. [32] In 2007 they created the first Payment Services Directive (PSD1) establishing a set of rules, for electronic and non-cash payments, that could guarantee information protection for consumers and settle the foundation for the single euro payment area (SEPA). [33] This allowed consumers and businesses to make payments under the same conditions across the euro area.[34]

[30] Proposal for a EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE on certain legal aspects of electronic commerce in the internal market. COMMISSION OF THE EUROPEAN COMMUNITIES. 1998. Pg. 3. P.1 available at: http://aei.pitt.edu/13258/1/13258.pdf

[31] Proposal for a EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE on certain legal aspects of electronic commerce in the internal market. COMMISSION OF THE EUROPEAN COMMUNITIES. 1998. Pg 3. P.4

[32] Mr. Thomas Krueger, Mr. Paul R. Masson, Mr. Bart Turtelboom. EMU and the International monetary system. 1997.

[33] International Monetary Fund. European Union: Detailed Assessment of Implementation of the European Central Bank Observance of the Cpssiosco responsibilities of Authorities for Financial Market Infrastructures. IMF Country report No. 14/35. 2014.

[34] European Commission. Policies, information, and services. Payment Services. https://ec.europa.eu/info/business-economy-euro/banking-and-finance/consumer-finance-and-payments/payment-services/payment-services_en#revision-of-eu-legislation

SEPA, started in January 2002, and is the harmonization of the cashless euro payments, this allows governments, consumer, and businesses to make and receive all cross-border transactions under the same conditions and in the same terms as a domestic payment or transaction. It covers the whole European Union, including European countries such as Norway, Iceland, Liechtenstein, and Monaco, among others.[35]

The project to create this single payment area begun by the European Payment Council (EPC) aiming to ensure safe, transparent and cheap cross-border transfers into a single set of payment standards, bringing together industry, government, and consumers. In the beginning, it developed standards for credit and debit transfers and withdrawals at cash dispensers. Later on, it opened the framework to mobile payments and banking, and it integrated all electronic payment services in the euro area.[36]

This was possible due to amendments made in 2015 with the PSD2 regulation which improved the existing regulation by considering the new digital payment era. The new regulation became enforced in 2018 and included provisions to:

- "make it easier and safer to use internet payment services
- better protect consumers against fraud, abuse, and payment problems
- promote innovative mobile and internet payment services
- Strengthen consumer rights"[37].

This chapter will be divided into three subchapters to review how the European Commission has established a payment system integration that is inclusive, seeks for interoperability, and ensures competition establishing equivalent operating conditions for both existing and new payment service providers. The first subchapter will establish the payment methods evolution in Europe, the second one will be a revision on the key elements of the PSD1 and PSD2 directives, and finally the third subchapter will focus on the principle 21 of the PSD2 directive and how it promotes competition, interoperability, and acquisition across the union[38].

2.1 Electronic payment methods used in the European Union.

As stated in the previous chapters, payments have evolved excessively in the course of less than one century. With the first plastic card, which appeared in the market in 1951, payment methods have been replacing cash. Ever since that moment the internet and technology have grown enormously, where only in the European Union by 2014 the payment card transactions were 47.5 billion for a total value of 2.4 trillion dollars. This allowed new agents to arise from changing opportunities and establish efficient methods for merchants to grow and sell more

[35] European Central Bank. Annual report. 2012
[36] European Central Bank. Financial integration in Europe. 2007. Pages 25-45.
[37] European Commission. Policies, information, and services. Payment Services. Available on https://ec.europa.eu/info/business-economy-euro/banking-and-finance/consumer-finance-and-payments/payment-services/payment-services_en#revision-of-eu-legislation
[38] J.J. Bambara; P.R. Allen; K. Iyer. Blockchain: a practical guide to developing business, law and technology solutions. 2018. Page 8.

through electronic and virtual payments. At the same time, they gave the finance industry the opportunity to create and test new products, so they could keep competing in the market, while maintaining a healthy competition and equality in the spectrum of entry barriers in the industry.[39]

Europe prepared for these new technologies and methodologies creating regulations that could overcome technical, legal and market barriers. [40]Some examples are the SEPA initiative, the Payment Service Directive regulation adopted by the European Parliament in December 2007, and the Directive 2000/31/EC regulation that controls central issues regarding electronic commerce, commercial communications, formation of online contracts, and liability of intermediaries, among others. [41]

Some Electronic payment methods regulated by the EU are:

a) The EPC defined as a set of principles for SEPA cards with the objective of allowing the cardholders to use the cards throughout the SEPA area and the merchants to process the payments in a single terminal, allowing the achievement of an integrated electronic payment market. With these principles, all stakeholders, issuers, acquirers and operators must comply with the SEPA Cards framework, for all kinds of cards: debit, and credit[42].

   This is all possible because of a chip-based EMV (Europay MasterCard Visa) technology that protects users and merchants from fraudulent behaviors allowing all bank-issued cards to be accepted in the euro area without considering the country of origin.

   The document “Electronic Payment Architecture and Trends in Europe” made by Ingenico, explains how the SEPA for cards works to allow new agents to develop in the market with this technology, harmonizing and simplifying security procedures and compliance certifications for all terminals operation within SEPA (Ingenico-2012): *“In order to enable the SEPA for cards, new technical specifications for open and interoperable implementation standards will be developed allowing the solutions provider to develop standard products. In the SEPA for cards there are currently two implementations: 1. the harmonized security evaluation and certification for POIs and cards allowing the delivery of a single certificate to sell terminals everywhere in the SEPA area, taking place within the OSeC (Open standard for security evaluation certification) and a functional scope allowing any card on any terminal in the SEPA area to be accepted, independently of the card’s brand and the issuing country, within the OSCar (Open standards for cards) scheme”.*

b) They have developed alternative online payment gateways in different countries. These gateways are used in an internet platform and some banks have adapted their mobile banking to this platform, so consumers can make their online payments thought this gateway being directly connected with their bank accounts. They are useful for internet trade, making it easier and accessible for consumers; some of them are only used in the country of origin, like Idea in the Netherlands and Skrill in the UK, but, there are others that can be used all

[39]Electronic Payment Architecture and Trends in Europe. Ingenico, beyond payment. Koln. October 2012. Page 2. Available at:http://www.911software.com/files/Cloud9/ARCHIVE/Pinpad%20Driver/IPP%20320/electronic-payment-and-trends-in-europe.pdf

[40] Bradford, T., Davies, M., & Weiner, S. Nonbanks in the payments system. Federal Reserve Bank of Kansas City. 2003

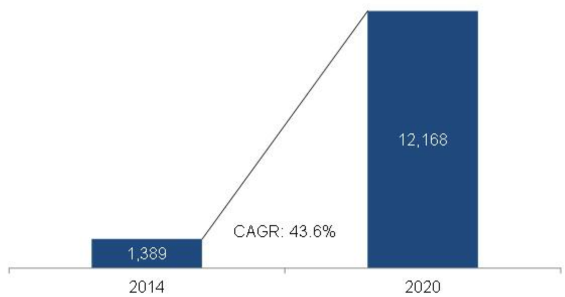
[41] European Central Bank (ECB) (2003) Oversight standards for euro retail payment systems.

[42] Electronic Payment Architecture and Trends in Europe. Ingenico, beyond payment. Koln. October 2012. Page 13.

over Europe and even in the world like PayPal and Safer pay. Currently this is one of the most used ways of electronic payments.

c) Contactless Payments is the payment made at higher speed and with a Pin for security. Companies like Google with Wallet and MasterCard with Pay Pass have used this kind of platforms which allow customers to make a transaction using their cellphones up to a contactless reader.

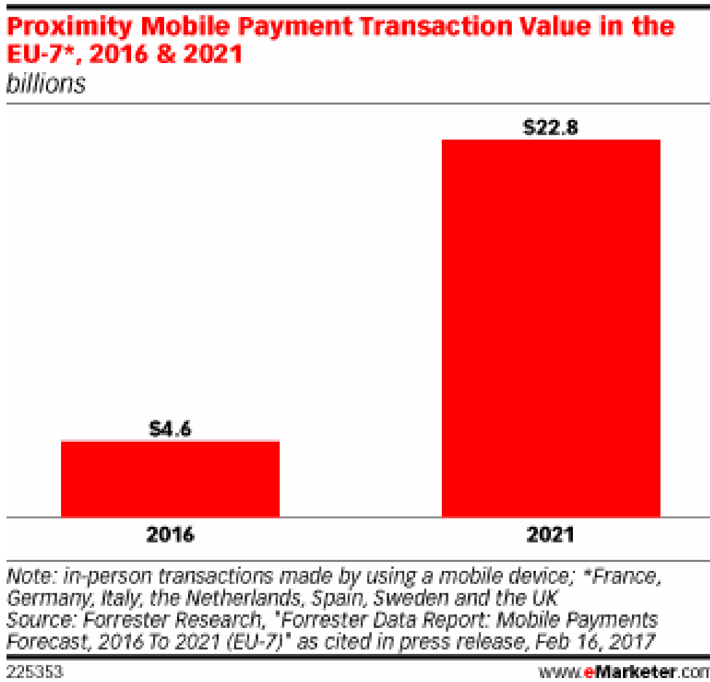
Volume of Contactless Card Payments in Europe (millions)



Source: Global Payment Cards Data and Forecasts to 2020 (RBR) [43]

d) Mobile payments are one of the most innovative developments in the electronic payment industry. By 2020, only in the United Stated, the average growth annual use of this payment method is 62%, and it is expected that the transaction value will be raised to 214.7 billion dollars. In Europe, the number is not that far away with an average annual grow of 40%. Mobile payments are hand on hand with mobile banking, allowing consumers to make all their transactions and payments just using their mobile cell-phones. Sometimes these mobile wallets allow people that do not even have a bank account to make transactions with it, allowing the range of users to increase enormously and permitting all kind of agents to be part of the industry. Based on GSM or GPRS technology, the terminals allow the merchants to sell their products everywhere and at any moment, minimizing the necessity of cash and allowing retailers that benefit only of seasonal activities to be active almost all year long.

[43] RBR LONDON. Premium intelligence on banking technology, cards and payments. Global Payment Cards Data and Forecast to 2020.



[44]

As we can observe these the payment methods, used by Europe, are similar as the ones being developed in Colombia. The difference here is that in the European Union, the regulations have been made in such a way that they promote integration and low barriers of entrance to the market. These regulations aim for competition and allow old agents to increase their technology and productivity to keep playing while establishing equal standards for anyone that wants to benefit from this.

The benefits of the regulations are endless not only for one country but for the whole continent. This leads to believe that if some of these regulations were taking into account for Colombian amendments, it would be easier to apply as it is only one country and it would provide big economic benefits and development for the country.

On the other hand, it is necessary to establish how the European Union has regulated the Governance in order to cope with these multinational challenges in the SEPA area, because all internal law decisions need to be in harmony with the union in order for this to work. At the beginning of the process, every country member of the SEPA integration installed a platform and discussion group to discuss the process internally. In the community level, the European Commission stated an institution that had three governing bodies to discuss all internal and international challenges: The European Payments Council (EPC), the Contact Group on Euro Payments Strategy (COGEPS), and the Euro system that consisted of national central banks and the European Central Bank. (Ingenico-2012)

[44] EMarketer. New York. Mobile Payments Forecast, 2016 to 2021.

2.2. General aspects of the Directives PSD1 and PSD2

The Payment Service Directive (PSD1) was adopted on 2007, aiming to create a unite payment market within the European Union by establishing open legal framework for all the countries. The main idea was to make cross-border transactions easy, efficient and secure. It also introduced the possibility for non-banking institutions to obtain licenses to provide payment services as regular financial institutions. This opened the market to new agents with the main goal of promoting competition within the union. [45]

Since the directive was introduced, the European economy has been benefited by it, allowing access in equal conditions for both, economies of scale and established financial institutions. This resulted in more options for consumers and more possibilities for merchants to increase their sales with the access for new payment methods. As the European Commission stated in 2015 "*The PSD has meant more transparency and information for consumers, for example about execution time and fees; and it has cut execution times, strengthened refund rights, and clarified the liability of consumers and payment institutions. A very tangible benefit is that payments are now easily made throughout the whole EU and much more quickly: payments are usually credited to the payment receiver's account within the next day".*[46]

In 2013 the Commission proposed to review the directive to include and regulate the new payment methods that were entering the market and were providing cheaper alternatives for online payments. It gave a legal foundation for the further development of a better integrated market for electronic payments, regulating new services and players as well as by extending the scope of existing services (European Commision-2015).

The entry of new agents into the market was due to the rapid growth of the Internet and with-it the consumers demand of faster and accessible transactions. Currently in the EU, around 60% of the population does not have a credit card so for the Commission it becomes mandatory to regulate new means of payment systems that are available for all types of consumers. With technology, the financial industry grows in ways that it was not conceivable before and countries have had to keep up with these changes, while making it an opportunity for new businesses to take advantage from it, while protecting and benefiting consumers as well.

This new directive:

- Introduced security measures that would have to be carry out by all payment's providers, including financial institutions as well as all new agents.
- Corrected some exemptions that were leading to legal uncertainty and provide a legal platform for all the Single Euro Payments Area.
- Aimed to give more protection to consumers and regulate the exchange of data between agents.

[45] European Banking Authority. Single Rulebook Q&A. 2017.
[46] European Commission. Payment Service Directive: Frequently asked questions. October 2015.

- Opened the regulation to fall in the scope of transactions in all type of currencies, not only euro, including transactions made with third countries only when one of the payment services providers is located in the European Union.

- Opened up payment markets to new agent generate competition, which leads to more choices, transparency and better prices.

- Established security requirements, protection of information and obligations for both providers of the services as well for users to reduce the risks of fraud and money laundry.

To conclude, both directives establish common rules for all EU members in order to stimulate competition in the electronic payments industry, by providing legal certainty for all, providing services agents, opening barriers, promoting transparency, and giving more choices for consumers.[47] All this together aims for economic benefits and development in the European Union. [48]

2.3 PSD2 principle 21

Principle 21 indicates *"The definition of payments services should be technologically neutral and should allow for the development of new types of payment services, while ensuring equivalent operating conditions for both existing and new payment service providers"*. With this statement, it can be deduced that the European Commission's biggest objective is to promote competition. The rules stated in this principle seek to guarantee that all agents can compete in equal terms in the payment market leading to a strength in consumers trust in the system while enhancing interoperability. This is what Colombian regulations should aim for to get to that economic benefit that this single market integration brings.

The directive benefits the potential market entrants by promoting the TPP's third party providers payment solutions.[49] For example, there are platforms that collect information of different bank accounts of a consumer in one place, called Account Information Services (AIS), allowing to have an overall view of the financial situation of that consumer. There are other agents called Payment Initiation Services (PIS) which help to initiate the payment or transaction from the consumer account to the merchant account by creating a bridge between them and exchanging all the information that is needed so the payment is completed.

This means that in the near future the costumers may use Google to pay their bills. Using P2P (Peer-to-Peer) transfers, the banks are compelled to provide these third-parties access to customers' accounts through open APIs (application program interface). These parties will be able to create and provide financial services, with new ideas on how to reshape the banking experience. This means that banks are not going to be competing only with banks but with all of the agents that are available to offer financial services.[50]

[47] Pauget, G. Systemic risk in payments. Financial Stability Review. Bank of France. pages 37-44. 2016.
[48] A. Menezes Cordeiro; A. Perestrelo de Oliveira; D. Pereira Duarte. Fintech novos estudios sobre tecnología financeira. Almedina. 2019.
[49] A. Menezes Cordeiro; A. Perestrelo de Oliveira; D. Pereira Duarte. Fintech novos estudios sobre tecnología financeira. Almedina. 2019.
[50] PSD2 – The directive that will change banking as we know it. Evry. Available at: https://www.evry.com/en/news/articles/psd2-the-directive-that-will-change-banking-as-we-know-it/

This new regulation changes the payment industry as it was stated before. Therefore, it changes the banking industry because due to technology, consumers are asking for faster, with less bureaucracy, accessible, and cheaper financial services.

With the open regulations the monopoly of the banks[51] could be on the verge to disappear because now they are not the only ones that could be the owners of the consumers information. It is not up to them to disclose the information as the directive demands them to share all customers' information. This open the door for a lot of companies that want to benefit for this market. [52]

Previously this TPP had barriers to entry the market because the information was accessible only to a few agents, mostly established financial institutions like banks. Now with thePSD2, these barriers are removed allowing the information to be available to all, so the AIS and the PIS can enter to play in the market. Nevertheless, the agents will have to follow the same rules as the traditional payment services providers; they have to register, get licenses and be supervised. For example, in order for third party providers of financial services to operate in the EU, they need to be licensed by their home state's financial authority. This is the only way it could be possible to unify the European market making it fair for all.

Financial Institutions at the same time are creating their own APIS, with the collaboration of FinTechs. For instance, Danish Saxo Bank and Capital One in the UK opened APIs in 2015 so their customers can benefit from it while they keep competing in the new technological market. This creates a chain of opportunities and employment for a lot of different markets including the financial industry, fintech startups, and even small merchants that want to expand their businesses using these new payment methods that are accessible and cheaper.

All of the above summarizes how the European commission has tried to make an all-inclusive regulation that gives businesses opportunities to new emerging technologies while maintaining the possibility of current institutions to keep competing and allowing it to be a secure, integrated and unified market for all merchants, consumers, and payment institutions.

[51] J.McMillan. el fin de la banca: el dinero, el credito y la revolucion digital. 2018
[52] J. Delmas-Marsalet. Report on the Banking Monopoly. Legal high Committee for Financial Markets of Paris. 2016.

Chapter 3

3.1 How to amend Colombian regulation on the electronic payment methods considering European Regulation.

With the political constitution of 1991[53] the Colombian government stated that the neoliberalism current would be the basis for the economic and political regulation. According to this model a healthy and sustainable economic model has to be based on creating an economy that enacts unrestrained competition, efficiency and the combination of private initiative with social progress, to ensure economic capacity and the well-being of the community[54]. All post-Constitution regulation must be based on these guidelines, but, as it could be inferred from the first chapter, not all the regulations are following this current because in order to satisfy some political agendas and ensure economic safety for investors some policies benefit only some industries. In order to achieve a sustainable and more developed economic model regulations such as the electronic payment methods must be amended so that they are open to competition without restriction.

As it is stated in the first chapter of this document, Colombia has made some progress adapting new electronic payment methods to its system and has helped the economic development in some areas in the industry. However, the country still has a long way to go as they have limited the entrance for new agents, they gave privilege to the already established financial institutions, and they are not generating programs to help small merchants access these technologies and thus benefit from them.

According to the article 3, numerals b, g, j, l, m, q and s, of the Treaty on European Union, some of the main objectives of the community are to achieve a sustainable development based on a balanced economic growth, competition, cooperation and consumer protection[55]. In the previous chapter it was shown how the European Commission has adapted its regulations based on those principles in order to create an inclusive system that is open to emerging technologies and new agents that are entering this market. They created an environment that works with interoperability and seeks for a system that is 100 percent competitive, giving everyone the same possibilities to enter the market and helping them by demanding the financial institutions to provide the costumers information to make this process easier for developing agents.

Colombia can learn from the European regulations to amend its policies and in this way help the economy. The main idea of this document is not to say that Colombia copies the European system, because their geographical and social conditions are completely different, but that the country could take as an example the way the Commission wrote their regulations, so they stop limiting the market and start generating more opportunities in the economy. However, it is mandatory to establish that while the European regulations aim for a transnational integration that facilitates commerce between different countries, in Colombia this regulation would be just for an internal market.

[53] Colombian Political Constitution of 1991.
[54] S. George. A Short History of Neoliberalism: Twenty Years of Elite Economics and Emerging Opportunities for Structural Change, Conference on Economic Sovereignty in a Globalizing World. 1999
[55] Treaty of the European Union. Article 3, page 12.

If a merchant finds the possibility of generating different payment methods, his/her business could expand, having the opportunity not only to make sales in his/her environment, but to start selling in other countries. Technology and the internet give the possibility of eliminating cross border barriers as any person with a cell phone can buy from businesses without merchants being worried for the receiving payment. It is a small step that could help the progress of these traders to reach a general benefit on the economy.

First, this could be done by amending the Decree 1400 of 2005 and the Decree 2555 of 2010. These regulations establish, as mentioned above, definitions for the entities that administrate the system of low-value payments, the principles of access, the use of the system, and how to set the fees for the transactions. Nevertheless, by defining these they limit the access of new agents and technologies to the system. In the amendment they should reorganize the definitions by giving general terms for the system and providing a set of general principles that aim the interoperability of the system and promote free circulation of the online services. Taking as an example article 21 of the PSD2, the regulation has to be neutral and ensure equivalent operating conditions for both existing and new payment service providers while establishing common fees for all operating systems and the consumers. The main idea is to create a law that does not limit the electronic payment, but creates principles while giving free entrance to different agents.

Second, the new or the amended regulation should implement articles that establish how to integrate the markets and how to allow other agents enter to compete with financial institutions. For example, the law states that only financial institutions can collect resources from the public. However, the law should give the possibility for TPP to create channels or bridges with the established financial institutions for the exchange of consumers' financial information. In the PSD2 article 40 it is set:

> *"1. the payment service provider shall not charge the payment service user for providing information under this Title.*
>
> *2. The payment service provider and the payment service user may agree on charges for additional or more frequent information, or transmission by means of communication other than those specified in the framework contract, provided at the payment service user's request.*
>
> *3. Where the payment service provider may impose charges for information in accordance with paragraph 2, they shall be reasonable and in line with the payment service provider's actual cost"*[56]

If the Colombian regulation creates articles like this one, they could open the gap for the agents playing in the market and achieve competition between current and new agents.

It is mandatory to state that in a country like Colombia, making these changes would be difficult because of the power that the financial institutions have. In order for this kind of regulations to be possible it is important to maintain the financial institutions position in the market and give

[56] Directive (Eu) 2015/2366 of the European Parliament and Of the Council. Payment Services Directive 2. Article 40.

them the possibility of imposing reasonable charges. In this way they can still maintain their position and have some power in the system.

Third, the regulation should establish a doctrine similar to the principle 93 of the PSD2, in terms of implementing interoperability as a main element in order to create an integrated system. The principle establishes:

> *"It is necessary to set up a clear legal framework which sets out the conditions under which payment initiation service providers and account information service providers can provide their services with the consent of the account holder without being required by the account servicing payment service provider to use a particular business model, whether based on direct or indirect access, for the provision of those types of services. The payment initiation service providers and the account information service providers on the one hand and the account servicing payment service provider on the other, should observe the necessary data protection and security requirements established by, or referred to in, this Directive or included in the regulatory technical standards. Those regulatory technical standards should be compatible with the different technological solutions available. In order to ensure secure communication between the relevant actors in the context of those services, EBA should also specify the requirements of common and open standards of communication to be implemented by all account servicing payment service providers that allow for the provision of online payment services. This means that those open standards should ensure the interoperability of different technological communication solutions. Those common and open standards should also ensure that the account servicing payment service provider is aware that he is being contacted by a payment initiation service provider or an account information service provider and not by the client itself. The standards should also ensure that payment initiation service providers and account information service providers communicate with the account servicing payment service provider and with the customers involved in a secure manner. In developing those requirements, EBA should pay particular attention to the fact that the standards to be applied are to allow for the use of all common types of devices (such as computers, tablets and mobile phones) for carrying out different payment services."*[57]

Implementing this kind of principle in the regulation opens the door for the entry of all types of agents to the market. It leads to a system where everyone can participate, creates the possibility for new platforms of electronic payments, facilitates the exchange of information, and guarantees the cooperation and integration that needs to be reached so all players have the same possibilities to access the market while being governed under the same conditions.

Lastly, are the high costs of the electronic payment methods, as mentioned in the first chapter. In Colombia, taxes surrounding transactions are very high, and thus these fees are an obstacle for small companies. That is why the government should amender the tributary regulations by generating tax benefits as incentives for small merchants to change this payment acceptances.

[57] Directive (Eu) 2015/2366 of the European Parliament and Of the Council. Payment Services Directive 2. Principle 93.

As a consequence creators of technologies will want to create new platforms that can reach small merchant who are willingly open to the new payment methods.

3.2 How these amendments can benefit small merchants in the country and the general economy.

As mentioned above, the problem of the low acceptance of electronic payment systems in Colombia is not only a problem of regulation, but also the lack of tools and access that the small merchants have to access these technologies. While these regulations are going to help the system become more open and generate opportunities, the government has to look at other factors that affect this market and search for possibilities on how to fix it.

From the survey, mentioned above, [58] there are 5 main factors that affect the low acceptance of electronic payment methods:

1. Informal merchants that do not differentiate their personal finances from the ones of their business.
2. The need for a bank account in order to get the acquiring relationship with a bank, in order to accept electronic payments.
3. Education of the owner.
4. The expectations of the use of electronic payment instruments by customers.
5. Competition has the greatest impact on the acceptance of electronic payments.

Most of these factor cannot be addressed by changes in regulations, they have to be treated with educational programs. If the government creates programs that teach small merchants how to prepare organized business models, create long term plans, manage budgets, and some other general economy elements like offer and demand and the importance of technology, they will be more willing to change their electronic payments acceptance.

Some of the problems arise from the lack of knowledge from these businessmen, as they do not have the vision to expand their businesses because they do not have the elements or knowledge to do so. The programs need to teach them the importance to differentiate their personal finances from the ones of their businesses to reduce risks and also that is an easier way to grow as businessman.

If they start preparing themselves by understanding that new technologies can be used as a tool for widen their commerces and that this technology is accessible and not expensive, the development will began. As the survey stablished the expectation by customers as well as competition are two of the main factors that impact the acceptance of electronic payments. Thus, these programs need to make businessman see that this is where the world is going, that with technology they are going to be able to make sells all over the country, that they will be more competitive than their neighbor, and that with new regulations that the government will establish they do not need an acquiring relation with a bank because with the new platforms they can enter and play in the market with only their cellphones and the Intenet.

[58] Carlos A. Arango-Arango, Héctor M. Zárate-Solan, and Nicolás F. Suárez-Ariza. “Determinants of access use and acceptance of electronic payments in Colombia”

There is a long way to go in the country, because at this moment it does not have all the necessary technological tools to be competitive worldwide. However, there has to be a starting point and making all these changes in regulations and programs, could be a way that the whole country benefits from electronic payments. These implementations can generate income, employment, inclusion, technology and all this together leads to an economic development of the country because the gross domestic product will be boost.

Conclusion.

This document analyzed how the improvement of the electronic payment system would benefit small businesses in Colombia and how this would help achieve, in the long term, a greater economic development in the country. This was made taking principles of the European Directive of Electronic Payments as a guide to promote competition and inclusion in the amendment of current regulations.

The advances in technology are going to keep on constant development and growth worldwide. Every year, new systems, platforms and agents will arise and the fintech industry will be in constant change, looking for more efficient, cheaper and accessible ways to perform transactions. Governments have to be prepared for this by making regulations that are able to adapt to the constant changes. Competition is a key element in the development of economies hence, regulations have to be less rigid and all inclusive.

As it could be observed in the first chapter, Colombian regulation has deficiencies and they must be amended in order to facilitate the use of electronic payment methods in all kind of business. Some of this deficiencies are: the imposition of too much bureaucracy for small businesses for example, the need to be acquired by a credit institution in order to process an electronic payment; also, the definitions that are stated in the law only limits the activity and the agents that can operate in the systems and ultimately the fees of electronic transfers are too high making it too onerous for small businesses to change their acceptance of payment methods. If we amend all this points, market competition will be guarantee and merchants would find electronic payments as the best solution for their businesses, not a burden.

In the second chapter we could see how in Europe since 1997 the Commission established the principle of free competition as the basis of their laws. European policies aim to eliminate the barriers and reduce the bureaucracy, these directives seek and promote the cooperation between systems, between agents, the passage of information; everything in order to generate an inclusive system of which all can benefit. The big financial institutions help the system but do not limit it or use it for their own benefit and this makes the economy flow and that it develops.

These are the bases on which the Colombian regulation should be made. But, as we established, the problem in Colombia is not only the regulations, because although it has its deficiencies and therefore must be amended in order to give entry access to new agents to trade and eliminate the benefits given to financial institutions, to be able to guarantee market competition and consumer safety, we can conclude that the biggest problem is that since it is a developing country, it is difficult to ensure that these technological advances are applied to society as a whole.

The survey that I took as reference to look at the factors that affect the little use of electronic payment in small merchants only uses 5 main cities of the country. It is important to emphasize that even though these cities have more access to internet and technology, the use of electronic payments here is still very low. If we delve into the rural parts of the country it could be concluded that these are almost inexistent.

This could lead us to conclude that even if the amendments of the regulation are made, by facilitating the access of new agents to the market, eliminating barriers of entry, removing the monopoly of the financial services, reducing the taxes in order to generate incentives in the merchants, and making it cheaper to make payments electronically than through cash, the most important thing is to create an awareness in society about the benefits of technology.

It is important to keep in mind that we are taking the European directives as an example but is really hard to compare it with Colombia, because first these principles were established long time ago in Europe, a continent where there is much more development, and everything is facilitated by the opening of trade markets. Conversely, Colombia is much newer in these issues. Therefore, it is important to take Europe as an example on how they have been managing their regulations based on inclusion and economic development. However, these regulations cannot be expected to be in the same conditions.

The Colombian government should then not only focus on the amendment of its regulations but focus on creating programs to teach small businesses how to operate with these means of elective payment and the benefits this would bring to their businesses. Creating programs and tools that facilitate access to technology in all parts of the country and making small changes, step-by-step, the country can reach a development that will lead to economic benefits.

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