

Association for Information Systems

## AIS Electronic Library (AISeL)

---

CONF-IRM 2020 Proceedings

International Conference on Information  
Resources Management (CONF-IRM)

---

5-2020

### Digital entrepreneurship and institutional changes: Fintechs in the Brazilian mobile payment system

Gabriel Machado Braido

Amarolinda Zanela Klein

Follow this and additional works at: <https://aisel.aisnet.org/confirm2020>

---

This material is brought to you by the International Conference on Information Resources Management (CONF-IRM) at AIS Electronic Library (AISeL). It has been accepted for inclusion in CONF-IRM 2020 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

# Digital entrepreneurship and institutional changes: Fintechs in the Brazilian mobile payment system

Gabriel Machado Braido  
Univates University  
[gabrielb@univates.br](mailto:gabrielb@univates.br)

Amarolinda Zanela Klein  
Unisinos University – Business School  
[aczanela@unisinos.br](mailto:aczanela@unisinos.br)

## Abstract

*In mature and highly regulated markets, digital entrepreneurship may demand institutional changes to flourish. This paper aims to analyze institutional changes associated with the entry of new digital entrepreneurs (fintechs) into a national payment system. To achieve this goal, we conducted a case study in the Brazilian mobile payment system, with data collected from multiple sources, such as interviews with fintech entrepreneurs, document analysis, a survey with 580 users and non-users of mobile payments, and participant observations during a fintech summit. The Institutional Theory supported the understanding of institutional changes regarding the regulatory, normative, and cultural/cognitive pillars of the mobile payment system needed to support the new entrants (fintechs). The institutional work performed to carry on these changes is also analyzed.*

**Keywords:** Digital Entrepreneurship, Institutional changes, Fintechs, Mobile payments, Institutional Theory.

# Digital entrepreneurship and institutional changes: fintechs in the Brazilian mobile payment system

## 1. Introduction

Mobile payments encompass the payments of goods, services, or bills through a mobile device using wireless communication networks (Dahlberg, Gou & Ondrus, 2015; Wang et al., 2019). Innovations in mobile payment technologies bring opportunities for digital entrepreneurship, or the pursuit of entrepreneurship opportunities based on the use of digital technologies (Davidson & Vaast, 2010). This technology also allows firms to create new products, services, and business models (Nambisan, 2017; Hinings, Gegenhuber & Greenwood, 2018). The information technology, which until recently was considered a barrier for organizations to enter the payment sector, is now seen as an opportunity, especially with the spread of mobile technologies and digital platforms. In this context, new entrants have the potential to offer innovative solutions for a population currently excluded from the payment system (Gomber, Kauffman, Parker & Weber, 2018).

This context, therefore, is favorable to digital entrepreneurship, resulting in the development of new technology-based organizations, such as fintechs, which aim to solve problems with a set of innovative and often disruptive services. Nevertheless, institutional conflicts may arise when new digital solutions may be incompatible with formal and informal laws and regulations in established industries (Geissinger, Laurell, Sandström, Eriksson, & Nykvist, 2019).

Several researchers have argued for the need to investigate digital entrepreneurship in light of new theoretical approaches. They suggest that an institutional perspective helps to analyze how critical actors socially legitimate new businesses and how they interact with the existing institutional arrangements (Hinings, Gegenhuber & Greenwood, 2018). This is particularly important when new digital ventures operate in mature markets with stable and routine interactions between participants (Scott, 2014).

In this sense, our research studies the case of fintechs entering the payment sector. Fintechs refers to "a new financial industry that applies technology to improve financial activities" (Schueffel, 2016:32). These companies have been developing new technologies and designing new services, typically addressing the consumers' needs in very direct, valuable, and innovative ways, with new business models (Gomber et al., 2018). Fintechs may break the paradigms of the traditional financial system, which often inefficiently use the available technological resources (Gomber et al., 2018; Du, 2018). Given this context, we aimed to answer the following questions: *(a) What are the institutional changes associated with the entry and development of fintechs in the mobile payment sector? (b) What type(s) of institutional work has been conducted in this sector to promote digital entrepreneurship of fintechs?*

We considered the institutional theory (DiMaggio & Powell, 1983; North, 1990; Bruton, Ahlstron & Li, 2010), as a theoretical lens to understand the institutional changes. Institutions are the "rules of the game," established to reduce the uncertainty in relationships and transactions and to guide the behavior of individuals and organizations (North, 1990). Institutional changes, in turn, are understood as changes that occur in the relationship between institutions and organizations (North, 1994; Kanazawa, 1999).

This article contributes theoretically by analyzing, in the light of Institutional Theory, the relation between digital entrepreneurship and institutional changes in mature and regulated business environments. Therefore, the article contributes to the knowledge generation on the role of digital technologies in entrepreneurial pursuits (Nambisan, 2017) and the understanding of institutional factors that act upon it. From a managerial point of view, this study is useful for digital entrepreneurs wishing to understand better the institutional issues regarding the entry and development of new organizations based on digital innovations. Concerning governments, the study analyzes the relationship between norms and regulations in the payment sector and digital entrepreneurship, which is often encouraged to promote local development.

## 2. Institutional changes and institutional work

We study the institutional change in the light of institutional theory, which addresses how organizations protect and improve their positions and legitimacy, under the established rules and norms in the institutional environment (Meyer & Rowan, 1991). In this context, the term “institution” refers to the formal sets of rules and agreements that organizations and individuals must follow (North, 1990; Bruton, Ahlstron & Li, 2010). Those derive from regulatory structures, government agencies, laws, professions, and other social and cultural practices that generate compliance pressures on them (DiMaggio & Powell, 1983).

The institutional theory emphasizes that organizations are not purely rational systems of production of goods and services; they are social and cultural entities embedded in an institutional order (Hinings, Gegenhuber & Greenwood, 2018). This institutional perspective analyzes how new arrangements are socially legitimated by critical actors, exploring how actors interact with the existing institutional arrangements. Scott (2014) identified regulatory, normative, and cultural/cognitive systems that are vital for institutions (Table 1). From an institutional perspective, the legitimacy of new organizations is not a commodity to be owned or exchanged. Still, it is related to rules and laws, normative support, and alignment with cultural/cognitive structures (Scott, 2014).

Dimensions	Regulatory	Normative	Cultural/Cognitive
<b>Indicators</b>	Rules, laws, sanctions	Certification, accreditation	Common Beliefs, Shared Logics of action
<b>Basis of compliance</b>	Expedient	Social Obligation	<i>Taken for grantedness</i> Shared understandings
<b>Basis of order</b>	Regulative Rules	Normative Expectations	Constitutive schema
<b>Mechanisms</b>	Coercive	Normative	Mimetic
<b>Logic</b>	Instrumentality	Appropriateness	Orthodoxy
<b>Affect</b>	Fear guilt/innocence	Shame/Honor	Certainty/confusion
<b>Basis of Legitimacy</b>	Legally sanctioned	Morally governed	Elements understandable, recognizable, culturally supported

**Table 1:** Three pillars of institutions (Scott, 2014: 60).

The role of the actors when creating new institutions has been examined based on the concept of institutional entrepreneurship. Institutional entrepreneurs are organized actors who envision new institutions as a means of promoting interests and are highly valued and suppressed by the existing logic (DiMaggio, 1988). The concept of institutional entrepreneurship is important because it focuses on how the actors work to influence their institutional context through particular strategies, such as market and technical leadership, lobbying for regulatory change, and discursive action (Lawrence & Suddaby, 2006).

Research on institutional entrepreneurship should explain how actors can envision and impose alternative futures (Hinings, Gegenhuber & Greenwood, 2018). This is related to the concept of institutional work.

The perspective of institutional work is primarily focused on understanding how action influences social and institutional structures. That is, it aims to understand the work developed by individuals, groups, and organizations to promote the creation, maintenance, or disruption of institutions (Lawrence, Suddaby & Leca, 2009). Creating new institutions requires institutional work done by a set of actors with different resources and skills (Lobley et al., 1991). Table 2 presents the possible forms of institutional work related to the creation of institutions and their definitions, as proposed by Lawrence and Suddaby (2006).

<i>Forms of institutional work</i>	<b>Definition</b>
<i>Advocacy</i>	The mobilization of political and regulatory support through direct and deliberate techniques of social suasion
<i>Defining</i>	The construction of rule systems that confer status or identities, define boundaries of membership or create status hierarchies within a field
<i>Vesting</i>	The creation of rule structures that confer property rights
<i>Constructing identities</i>	Defining the relationship between an actor and the field in which that actor operates
<i>Changing normative associations</i>	Re-making the connections between sets of practices and the moral and cultural foundations for those practices
<i>Constructing normative networks</i>	Constructing inter-organizational relationships through which practices become normatively sanctioned via peer group concerning compliance, monitoring, and evaluation
<i>Mimicry</i>	Associating new practices with existing sets of taken-for-granted practices, technologies, and rules to ease adoption
<i>Theorizing</i>	The development and specification of abstract categories and the elaboration of chains of cause and effect
<i>Educating</i>	Educating actors in the skills and knowledge necessary to support the new institution

**Table 2:** Institutional work for the creation of institutions  
(Source: Lawrence & Suddaby, 2006:221)

The forms of institutional work can be divided into three groups. The first group, including the work of advocacy, defining and vesting, reflects the political work by which actors reconstruct the rules, property rights, and boundaries that define the access to material resources. The second group, consisting of constructing identities, changing normative associations, and constructing normative networks, emphasizes the actions in which actors' belief systems are reconfigured. The final group (mimicry, theorizing, and educating) involves activities intended to change abstract categorizations in which the boundaries of meaning systems are changed (Lawrence & Suddaby, 2006).

### 3. Method

We conducted a case study, considering as the unit of analysis the entry and development of mobile payment fintechs in the Brazilian payment sector. Following Eisenhardt (1989), we collected data from different sources and in different ways, via document analysis, interview, questionnaire, and participant observation. We collected the data in five steps:

**Step 1: Mapping the Brazilian mobile payment fintechs:** To identify the mobile payment

fintechs in Brazil, we performed an advanced Google search for the term “mobile payments,” only in Brazilian and Portuguese-language websites, on November 30, 2017. We considered the first 30 pages of results, corresponding to 300 websites. These were accessed and had their content evaluated. In this search, we identified 34 companies offering mobile payment solutions. All of them were contacted, and 9 agreed to participate in our study.

**Step 2: Conducting interviews with fintech managers:** we used a script with 19 questions, with nine of them being specific to the company interviewed, and ten about the Brazilian payment sector. The interviews lasted 50 minutes on average. They were recorded, later transcribed and saved in a single database created in NVivo software. The profile of the participating companies is shown in Table 3.

	Solution Offered	Foundation	# of Employees	Area of operation
<b>I1</b>	Bank transfers via app	2016	5	Brazil
<b>I2</b>	Payment and money recharge smartphone app	2015	20	Brazil
<b>I3</b>	Mobile food voucher	2013	6	Brazilian inland
<b>I4</b>	Prepaid Card	2013	160	Latin America
<b>I5</b>	Prepaid Card	2012	150	Brazil
<b>I6</b>	Payments and receipts via smartphone	2015	9	Brazil
<b>I7</b>	Validation of payments using face recognition	2015	15	International
<b>I8</b>	Payment and transfer via app	2013	20	Brazil
<b>I9</b>	Digital card	2017	-	Brazil

**Table 3:** Profile of the fintechs studied

**Step 3: Survey with users and non-users of mobile payments:** we conducted a survey on the use of mobile payments in Brazil with both users and non-users of this type of payment. The questionnaire was previously reviewed and tested by a group of 17 academics (masters and Ph.D. students). The link to the online survey was shared within the researchers' social networks, with snowballing, from July to October 2018, and 580 people answered it.

**Step 4: Participation in the event Fintouch 2018:** the first author participated in the Fintouch 2018, considered the largest fintech event in Latin America. The event featured 35 lectures and workshops, 3 of which were selected for recording, as they addressed topics directly related to this research. The lecturers were recorded and transcribed, and their content was imported into the NVivo database.

**Step 5: Mapping the activities of ABFintechs (Brazilian Association of Fintechs):** we collected the content of the ABFintech Facebook page from the date the page was created, on October 26, 2016, until October 5, 2018. We saved 222 articles and images and imported them into NVivo. We categorized and analyzed the content about the activities of this association.

Initially, we coded all the data sources in "case nodes," and each interview received a code (01 to 09) followed by the name of the company, for example: 01\_fintech1. The Fintouch lectures were classified according to the player represented in each speech, for example: Central Bank (CB) of Brazil (in Portuguese, Banco Central do Brasil), Brazilian Stock Exchange (CVM), ABFintechs, etc. After coding the case nodes, assigning each document to a given player, we coded the content using the open coding technique. Open coding divides qualitative data into discrete parts while closely examining and comparing them for

similarities and differences, leaving them open to all possible theoretical directions (Saldaña, 2009). Thus, initially, we established the categories based on the data collected, without linking them to a theoretical approach. The open categories that emerged from the field were then linked to theoretical categories of analysis in the light of institutional theory (Table 4).

Categories	Definition	Source
<i>Institution</i>	“Rules of the game,” established to reduce the uncertainty in relationships and transactions and to provide the structure guiding the individual and organizational behavior.	DiMaggio & Powell, (1983); North (1990); Bruton, Ahlstrom & Li (2010)
<i>Organizations</i>	Players who aim to combine their skills, strategies, and abilities to "win the game," following the rules (institutions) established, working in the process of institutional change.	North (1990); North (1994)
<i>Legitimacy</i>	It consists of the social approval of specific actions and forms of organization.	Meyer & Rowan (1977); Hofer & Green Jr. (2016)
<i>Institutional Changes</i>	Changes in the relationships between institutions and organizations.	North (1994); Kanazawa (1999)
<i>Institutional Pillars</i>	The institutional pillars (regulatory, normative, and cultural/cognitive pillars) reflect aspects of institutions in various perspectives based on obedience, legitimation, and order, mechanisms, logic, indicators, and emotion.	Scott (2014)
<i>Institutional Work</i>	Work developed by individuals, groups, and organizations to promote the creation, maintenance, or disruption of institutions (see types in Table 2).	Lawrence & Suddaby (2006); Lawrence, Suddaby & Leca (2009)

**Table 1:** Theoretical categories considered in the data analysis

We attempted to follow criteria to check the research reliability and validity (Gibbert & Ruigrok, 2010) such as (i) a protocol was created with the entire case study planning; (ii) multiple sources of evidence were used (interviews, documents, participant observation and survey); (iii) the data were triangulated during the analyses; (iv) a brief survey report was sent to the participants; (v) the data collected were stored and organized in a single NVivo database.

## 4. Results

First, the regulation and development of mobile payment fintechs in Brazil are overviewed, following the institutional changes that already occurred and those that still need to happen in this context (according to the research participants) for the entry and development of fintechs.

### 4.1 Regulation and diffusion of mobile payment fintechs in Brazil

According to the Central Bank of Brazil (CB), the Brazilian Payment System comprises the entities, systems, and procedures related to the processing and settlement of fund transfer operations, transactions with foreign currencies, or with financial assets and securities. The payment arrangements are defined as a "set of rules and procedures regulating the provision of particular payment service to the public, accepted by more than one payee, through direct access by end-users, payers and payees" (BC, 2017). The payment system involves a set of norms, standards, and instruments that control money transfers between several economic agents, including organizations, individuals, banks, government, among others (Brito, 2002; BC, 2017). Table 5 presents a description of the role of each player in the system.

Over time, the sub-acquirer (Table 5) emerged as a new player in the payment system to intermediate companies/users and other players, thus facilitating operations. Interviewee 6 explains: “*Since about 2008, 2009, a new player has entered this umbrella of the*

arrangement, which are the **sub-acquirers**, which is where we [fintechs] fit in. So, most of our contracts are brokered by our acquirer, it does all the contracts with the credit card companies, and with the banks".

Fintechs that participated in this research are classified as acquirers or sub-acquirers. They aim to provide a more focused and target-oriented service, improving the relationship between consumers and companies and acting as intermediates with the players of the sector. The website of the CB (Banco Central do Brasil, 2019) defines fintechs as “companies that introduce innovations in the financial markets through the intensive use of technology, with the potential to create new business models. They work through online platforms and offer innovative digital services related to the sector.”

<b>Player</b>	<b>Role</b>
<b>Acquirer</b>	It is the company that accredits a business to accept an electronic means of payment, being responsible for capturing, processing, and settling the transaction.
<b>Credit Card Brand</b>	It is the payment arrangement settlor, responsible for the organization, structure, supervision, and the operational and safety rules necessary for the system to work.
<b>Issuing bank</b>	It is responsible for issuing payment instruments/cards and for offering credit to the holder. It is the primary institution that is in contact with the holder.
<b>Cardholder</b>	It is the holder of the payment instrument (credit, debit, or prepaid card). In the case of a credit card, the holder has a credit limit pre-approved by the card issuer (a bank or other card issuing institution).
<b>Business Owner</b>	It is the business that accepts payment instruments/cards as a means of payment for products and services and may be a physical or an online store.
<b>Sub-Acquirer or Facilitator</b>	Any entity that enables receiving users to accept various payment instruments and participates in the settlement process as a business owner's debtor, who may also be an individual, celebrating a contract with receiving users.

**Table 5:** Players and Roles in the Brazilian Payment System

(Source: Research data and Cartilha de Meios de Pagamento ABECS, 2019).

This page indicates that fintechs are regulated by resolutions 4,656 and 4,657, from April 2018, issued by the National Monetary Council. However, these resolutions do not present the term "fintech", and focus on two types of organizations only: Direct Credit Societies and Personal Loan Companies, which may operate on electronic platforms and issue electronic money. The resolutions allow these organizations to work without the intermediation of banks, but with monetary values restricted to specific values to ensure the security of the financial operations. This legislation does not directly address mobile payment fintechs; they fall under the current legislation on payment institutions and arrangements (Law no. 12,865 from 2013).

Mobile payments have been diffused in Brazil, but still, face some barriers. Our survey results with 580 respondents indicated that 85% of them have already made some type of mobile payment; almost half (49%) make mobile payments weekly and 42% monthly. However, it is not yet part of the everyday life of Brazilians, since only 9% state that they use mobile payments daily. The smartphone is the most used means to make mobile payments, either via app or web (67%), and payments by Near Field Communication is used by 16% of respondents only. The respondents that use mobile payments pointed to the benefits of practicality and convenience in transactions (98.79%), speed (94.14%), and mobility (91.31%). The main barriers indicated in the survey are the lack of perceived security of mobile payment systems (61%), the risk of loss or theft of mobile devices (54%), and the lack of knowledge about this form of payment (52%). Other barriers that deserve attention are the lack of internet access or slow internet access (32%) and bureaucracy to activate mobile payment systems (28%).



## 4.2 Institutional changes related to the entry and development of fintechs in Brazil

The interviewees indicated advances in the legislation as one of the main institutional changes related to the entry and development of fintechs in Brazil. The main change is the Law #12,865/2013 about payment arrangements and institutions and the subsequent government regulations. Due to this law, new means of payment began to emerge and spread in Brazil. I6 reports that the Central Bank was a key actor in the approval of this law and has worked day by day to improve and innovate the payment sector in Brazil: *“mainly the Central Bank has been a very favorable and very active agent for change”*. According to the respondents, the impacts of this legislation are positive, such as increased market security, ease of fundraising by fintechs, knowledge of the “rules of the game”, and blocking of the entry and development of adventurous companies.

A second change refers to the openness of the Central Bank to the fintechs. Companies report that some time ago, the rules were simply enforced, and everyone should abide by them; today, the reality is different. The respondents mention that there are frequent meetings between the financial companies and the Central Bank to discuss norms, as well as working groups to discuss changes in the legislation and rules.

The third main change was the creation of ABFintechs. Its emergence as a representative association of fintechs in Brazil gave voice to this group of companies, and the association influences the regulatory agencies. I1 works on the board of ABFintechs, and reaffirms this commitment: *“we fight for the smaller ones to become one voice and to be heard so that things stop being easy only for the larger companies.”* The association also plays a vital role in organizing events and diffusing information about the Brazilian market of fintechs, promoting the competitiveness of these companies.

Finally, a fourth change reported by the respondents is the opening of large players to the fintechs. There is a number of innovation and entrepreneurship programs offered by major banks and credit card companies. As highlighted by I6: *“Banks themselves, they... all of them, without exception, have innovation programs in which they approach fintechs, but I still see that they haven't found the right way to get that approach.”*

In this sense, several institutional changes are still needed to overcome barriers to the entry and development of mobile payments fintechs in Brazil. The first change indicated by the interviewees refers to get easier access to venture capital and public funding programs. The fintechs report great difficulty in proving themselves profitable for investors and federal funds. I6 makes this point very clear when comparing the fintechs with banks: *“For example, for a bank to raise capital from scratch, [...] it comes with their own capital, obviously, with its own funding, but for a bank to raise capital with agencies ... federal institutions, it is much easier than, for example, for a fintech”*.

Another issue highlighted as a necessary change refers to the abandonment of the *hardware*, as there is still a heavy reliance on and use of payment machines. According to the respondents, it could be replaced by applications: *“it is necessary to abandon this hardware attachment, the installed hardware base of card reading machines [...] I think the point would be to change the view of the hardware installed base and replace that base with smartphones.”*

Changes in legal, fiscal and regulatory elements are also necessary, especially regarding the acquirers and sub-acquirers in the Brazilian payment system, as highlighted by I7: *“I think there needs to be created a layer of legislation for sub-acquirers, for smaller companies, so*

*they can be regulated*". The interviewees pointed to the need to establish differentiated rules for mobile payment fintechs that are different of traditional and large financial institutions. I7 commented on the establishment of different levels of regulation, according to the stage and the volume of money traded by the fintech: "*that limits the risks to volume, as it is, for example, in England, in which there are API and SPI: API is authorized payment institution; SPI is small payment institution. And for you to move from one phase to another, it's a matter of volume. So, this is something that you would solve intelligently, but for political reasons [...] there is resistance to that, but the Central Bank is starting to be open to this.*" (I7)

The respondents pointed out that larger players have a stronger voice in Brazilian regulatory agencies while influencing the market rules, defending their interests, and ensuring their benefits because of their power and size. For example, withdrawal operations are centralized in the hands of large players, which ends up making the cost too high for fintechs: "*today the cost of withdrawal is very high because we can't get inside a bank network with a reasonable cost; today the cost is too high... and that's a barrier*". (I5)

They also mentioned their struggle to understand and complying with the current regulations, as explained by I3: "*The challenge is the regulation. When you are about to start, it is complex to meet all this regulation ... until you can map everything, you have to understand that the legislation available is not easy to understand. I am a trained lawyer and I've spent a lot of time studying it. I said that non-lawyers cannot understand this. They [fintechs] will have to hire lawyers, and it will be very expensive*". Therefore, simplifying legislation is a necessity.

The lack of communication between the regulatory agencies in Brazil and the high level of bureaucracy was also pointed as a barrier. In an attempt to regulate a food voucher solution, for example, I3 highlighted a number of mismatches faced along the way, as the Ministry of Labor and the Central Bank were not aligned on the related rules. The lack of public policies to increase Internet access by the Brazilian population also appears as a barrier to the development of fintechs, especially regarding the people excluded from the traditional payment system. Evidence about it also emerged in the survey with users and non-users of mobile payments that emphasized the lack of Internet access in all locations (even in large Brazilian urban centers) as a barrier to the use of these services.

## **5. Discussion**

Some digital innovations challenge the existing institutional arrangements as they involve legitimacy and regulatory issues (Hinings, Gegenhuber & Greenwood, 2018). The research data show that the technology drove a set of institutional changes in the Brazilian payment system when new players – the mobile payment fintechs – entered this context. This result confirms that the emergence of new technologies can create a form of “exogenous shock”, imposing a need for change within an established field (Geissinger et al., 2019). The main institutional changes identified were classified into the three institutional pillars (Table 6).

Hinings, Gegenhuber & Greenwood (2018) emphasize that, despite the faster development of technology, the diffusion process is variable, and new technologies do not necessarily become legitimized faster. In this context, the institutional theory suggests that institutional changes extend over time; there is a time-lapse between the emergence of new institutional frameworks searching for legitimacy and the existing arrangements (Brownsword & Yeung, 2008). The creation of new institutions also requires institutional work done by a set of actors with the resources and skills to act as entrepreneurs or to support or facilitate an

entrepreneurial behavior (Loblebici et al., 1991). In this sense, we identified four main types of institutional work (see theoretical definitions in Table 2) in the case study, summarized in Table 7.

INSTITUTIONAL CHANGES IDENTIFIED						
INSTITUTIONAL CHANGES ALREADY MADE	REGULATORY PILLAR	<ul style="list-style-type: none"> <li>- Publication of Law no. 12,865/2013 on payment arrangements and institutions</li> </ul>	NORMATIVE PILLAR	<ul style="list-style-type: none"> <li>- Openness of the Central Bank to the fintechs</li> <li>- Emergence of ABFintechs</li> <li>- Openness of the large players to the fintechs</li> </ul>	CULTURAL/COGNITIVE PILLAR	<ul style="list-style-type: none"> <li>- Acceptance and use of a new means of (mobile) payment</li> </ul>
FUTURE INSTITUTIONAL CHANGES	REGULATORY PILLAR	<ul style="list-style-type: none"> <li>- Specific regulation on <i>mobile payment</i> fintechs</li> <li>- Better public policies to promote internet access</li> </ul>	NORMATIVE PILLAR	<ul style="list-style-type: none"> <li>- Improved relationship between fintechs and large players</li> <li>- Legislation simplification</li> <li>- Debureaucratization and better communication between public agencies</li> </ul>	CULTURAL/COGNITIVE PILLAR	<ul style="list-style-type: none"> <li>- A better understanding of mobile payments</li> <li>- Abandonment of the <i>hardware attachment</i></li> <li>- Knowledge of the current legislation</li> </ul>

**Table 6:** Institutional Changes Identified

**Advocacy** consists of an essential institutional work in which organizations of interest are formally established to make demands and represent a group of actors (Lawrence & Suddaby, 2006). In the analyzed case, ABFintechs has this role and is responsible for the mobilization and representation of the fintechs with the Central Bank and other agencies. Lawrence & Suddaby (2006) emphasize that advocacy involves lobbying for resources, promoting agendas and proposing new laws, or attacking current legislation, which ABFintechs has done through the promotion of events (such as Fintouch) and the discussion of regulations. The second form of institutional work identified was **defining** (Lawrence & Suddaby, 2006), strongly performed by the Central Bank when establishing rules, standards and roles, regulating companies, and defining what organizations can and cannot do within the payment system. Related to this, **constructing identities** is also a critical form of institutional work to the creation of institutions since identities describe the relationship between an actor and the field of work. In the context analyzed, the construction of identities was observed through the development of the new organizational form (fintech) through the use of information technology by the entrepreneurs. Finally, the **construction of normative networks** (Lawrence & Suddaby, 2006) emerged through the interorganizational connections between the fintechs and their representative agency (ABFintechs) with other players and with the Central Bank and regulatory agencies. Based on these connections and related interactions, practices may become normatively sanctioned.

Form	Empirical Example
<b>Advocacy</b>	Role played mainly by ABFintechs, an association that aims to mobilize actors and defend their interests with higher agencies through political action.
<b>Defining</b>	Role played mainly by the Central Bank, by proposing laws, rules, and standards to establish roles, regulate companies, and set the limits of what each member can do within the payment system.
<b>Constructing Identities</b>	Construction of a new organizational form (fintech) based on information technology, recognized in the financial sector.
<b>Constructing Normative Networks</b>	Construction of inter-organizational connections (fintechs with other players of the sector, ABFintechs, Central Banks, and other regulatory agencies), through which practices become normatively sanctioned.

**Table 7:** Main types of institutional work identified

Some forms of institutional work were not identified in the case analyzed here. The main one was **education** – which involves educating actors by developing their skills and knowledge necessary to support the new institutions (Lawrence & Suddaby, 2006). For example, there is a need to further educate citizens about mobile payments. According to the survey data, there is still some resistance and a certain fear for making these payments, especially regarding the security in transactions. Educating could also be used to stimulate a change in the "hardware attachment" identified.

## 6. Final Remarks

This article explored the institutional changes associated with the entry and development of fintechs in the mobile payment sector and the institutional work performed to promote digital entrepreneurship in this context. The institutional theory provided support for understanding the institutional changes already made and those that still need to be made in the regulatory, normative, and cultural/cognitive pillars (Scott, 2014) of the payment system and the related institutional work. Therefore, the article contributes to the knowledge about the development of fintechs and the mobile payment sector, which is linked to the role of digital technologies in entrepreneurial pursuits (Nambisan, 2017), and the understanding of institutional factors that act upon it. This research also contributes to the practice of entrepreneurs or future entrepreneurs wishing to enter the payment sector, as well as provides subsidies for regulatory agencies and the creation of public policies for promoting the entrepreneurship and development of fintechs, which can help to increase the financial inclusion of the population.

Our study focused on analyzing the creation of new institutions. We suggest that future studies analyze how institutional work can be performed to maintain and/or disrupt institutions (with the use of information technology) in the financial sector. Future research can also analyze conflicts of interest and the possible influence of large players on the creation of norms and rules established for the financial system that may affect digital entrepreneurship of fintechs. The institutional conditions for the creation and development of fintechs that aim to include low-income users in mobile payment services are also indicated.

## References

- Banco Central do Brasil (2017). *Visão geral do sistema de pagamentos brasileiro*. Retrieved from <[shorturl.at/noOW6](#)>. Access May 7, 2017.
- Banco Central do Brasil (2019). *Fintechs*. Retrieved from <[shorturl.at/zBNY5](#)>. Access 6 Dec 2019.
- Brito, A. (2002) A reestruturação do sistema de pagamentos Brasileiro e seus impactos nas instituições financeiras. *Rev. contab. finanç.*, 13 (28), 66-85.
- Cartilha da Abecs sobre o mercado de meios de pagamento*. (2019) Retrieved from <[shorturl.at/oJRY1](#)>. Access 24 Feb 2019.
- Brownsword, R. & Yeung, K. (2008) *Regulating technologies: Legal futures, regulatory frames and technological fixes*. Portland: Hart Publishing.
- Bruton, G. D.; Ahlstron, D. & Li, H.L. (2010) Institutional Theory and Entrepreneurship *Entrepreneurship Theory and Practice*, 34, 421-440.
- Dahlberg, T.; Guo, J. & Ondrus, J. (2015) A critical review of mobile payment research, *Electronic Commerce Research and Applications*, 14(5), 265-284.
- Davidson, E., & Vaast, E. (2010). Digital entrepreneurship and its sociomaterial enactment. In *2010 43rd Hawaii International Conference on System Sciences* (pp. 1-10). IEEE.
- DiMaggio, P. & Powell, W. (1983) The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147-160.
- DiMaggio, P.J. (1988) Interest and agency in institutional theory. In L.G. Zucker (Ed.),

- Institutional patterns and organizations*. Cambridge, MA: Ballinger.
- Du, K. (2018). Complacency, capabilities, and institutional pressure: understanding financial institutions' participation in the nascent mobile payments ecosystem. *Electronic Markets*, 28(3), 307–319.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Geissinger, A., Laurell, C., Sandström, C., Eriksson, K., & Nykvist, R. (2019). Digital entrepreneurship and field conditions for institutional change—Investigating the enabling role of cities. *Technological Forecasting and Social Change*, 146, 877-886.
- Gibbert, M. & Ruigrok, W. (2010) The “What” and “How” of Case Study Rigor: Three Strategies Based on Published Work. *Organizational Research Methods*, 13(4), 710–737.
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of Management Information Systems*, 35(1), 220-265.
- Greenwood, R.; Suddaby, R. & Hinings, C.R. (2002) Theorizing change: The role of professional associations in the transformation of institutionalized fields. *Academy of Management Journal*, 45, 58–80.
- Hinings, B.; Gegenhuber, T. & Greenwood, R. (2018) Digital innovation and transformation: An institutional perspective. *Information and Organization*, 28, 52-61.
- Hofer, R. L. & Green Jr., S. E. (2016) A rhetorical model of institutional decision making. *Academy of Management Review*, 41(1), 130–150.
- Kanazawa, M. (1999) Institutions and institutional change: the evolution of groundwater law in Early California. In: *ISNIE*, Washington, D.C.
- Lawrence, T. & Suddaby, R. (2006) Institutions and Institutional Work. In Clegg, C. Hardy, T. Lawrence & Nord (Eds.). *The SAGE handbook of organization studies*. London: Sage.
- Lawrence, T.; Suddaby, R. & Leca, B. (2009) *Institutional work: actors and agency in institutional studies of organizations*. Cambridge: Cambridge University Press.
- Lobley, H. et al. (1991) Institutional Change and the Transformation of Interorganizational Fields: An Organizational History of the US Radio Broadcasting Industry, *Administrative Science Quarterly*, 36(3), 333–363.
- Meyer, J. W. & Rowan, B. (1991) Institutionalized Organizations: Formal Structure as Myth and Ceremony. In: *The New Institutionalism in Organizational Analysis*. Eds. W. W. Powell and P. J. DiMaggio. Chicago: University of Chicago Press.
- Meyer, J. & Rowan, B. (1977) Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83, 340–363.
- Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice*, 41(6), 1029-1055.
- North, D. C. (1990) *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.
- North, D. C. (1994) Economic performance through time. *The American Economic Review*, 359-368.
- Saldaña, J. (2009). *The coding manual for qualitative researchers*. Los Angeles: Sage.
- Schueffel, P. (2016). Taming the Beast: A Scientific Definition of Fintech. *Journal of Innovation Management* Schueffel, 4 (4), 32-54.
- Scott, W. R. (2014) *Institutions and organizations: ideas, interests and identities* (3rd ed.). Thousand Oaks, CA: Sage.
- Wang, G.; Putri, N. M.; Christianto, A. & Hutama, D. (2019) An empirical examination of characteristics of mobile payment users in indonesia. *Journal of Theoretical and Applied Information Technology*, 96(1), 169-182.