Banking and Digital Transformation: Towards an Integration of Fintechs' Activities to Develop Innovation

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The emergence of Fintechs, these new entrants whose vocation is to associate digital technologies with finance, is today overturning the business models of traditional banking institutions. While traditional banks are still dependent on existing bureaucratic systems, Fintechs provide new financial solutions enabling customers to adopt new, faster and more flexible ways to manage their finances in a digital environment. Also, given the new competitive environment, banks have realized that Fintechs have a disruptive potential that needs to be integrated in order to maintain a competitive advantage. In this research, we wish to mobilize the theoretical framework of "absorptive capacity" (Cohen and Levinthal, 1990; Zahra and George, 2002) in order to identify and understand the determinants and mechanisms implemented by banks to integrate the skills developed by fintechs. The results show that the integration of these skills could enable banks to keep pace with a changing banking industry by appropriating disruptive services and business models, while leveraging their own strengths.

Keywords: banking sector, innovation management, absorptive capacity, crowdfunding, organizational strategy

INTRODUCTION

The emergence of Fintechs, these new entrants whose vocation is to combine digital technologies with finance, is revolutionizing the business models of traditional banking institutions. A study conducted by the firm EY indicates that banks should increase their digital innovations to remain competitive (EY, 2016, p.10). In this context, one of the possible options for banks is to take over certain activities developed by Fintechs in order to benefit from the advances and/or disruptive potential of the latter. According to some authors, there is no doubt that Fintechs are the engine of innovation in the financial services industry (Drasch et al., 2017). They are also predicted to play an important role in the future (Dapp, 2014). Financial innovation is defined by Lerner and Tufano (2011) as "*the act of creating and popularizing new financial instruments, technologies, institutions, and markets*". Thus, while banks are still heavily dependent on existing bureaucratic systems (Palmer, 2015), Fintechs provide new financial solutions that enable individual and institutional clients to adopt new, faster and more flexible ways of managing their finances in a digital environment (Christensen, 2013; Ansari and Krop 2012). Also, given the new competitive environment, banks have realized that Fintechs have a disruptive potential that needs to be integrated in order to maintain a competitive advantage.

In this research, we wish to mobilize the theoretical framework of "absorptive capacity" (AC) (Cohen and Levinthal, 1990; Zahra and George, 2002) to identify and understand the determinants and mechanisms implemented by banks to integrate the skills developed by fintechs. The concept of AC offers the advantage of operationalizing how external knowledge is integrated with an organization's existing knowledge (Bourkha and Demil, 2016). It is a concept well anchored in research on knowledge, knowledge transfer, organizational learning, innovation or strategic alliances (Noblet and Simon, 2010). According to Ferreira and Ferreira (2017), it was initially introduced and defined by Cohen and Levinthal (1989, 1990) as "a *firm's ability to identify, assimilate and exploit information available in its environment*". Thus, if traditional banking institutions want to take advantage of the skills generated by Fintechs, they will have to develop a AC to "internalize external knowledge" (Cohen and Levinthal, 1990, p. 130). Also, to illustrate our approach, the example of crowdfunding (CF) seems to us to offer relevant empirical material if we seek to infer the nature of the banks' CA to integrate the expertise developed by the Fintechs. Indeed, CF appears to be one of the most salient manifestations of the digitalization of the banking and financial sector as a whole. It is also one of the most dynamic sub-segments of fintechs in recent years[1]. In principle, CF relies on the mobilization of a large number of people (the "crowd") to support projects of all kinds (Onnée, 2016), either in the form of donations (*Donation-based crowdfunding*), or in exchange for a future product or a reward (prepaid product, gifts, etc.) (*Reward-based crowdfunding),* or in the form of loans (*crowdlending)* and, finally, or in the form of a shareholding in the company's capital (*crowdequity*). Thus, compared to traditional bank financing, funds can be raised from a wide audience through a digital platform through which any person can participate according to his or her individual abilities.

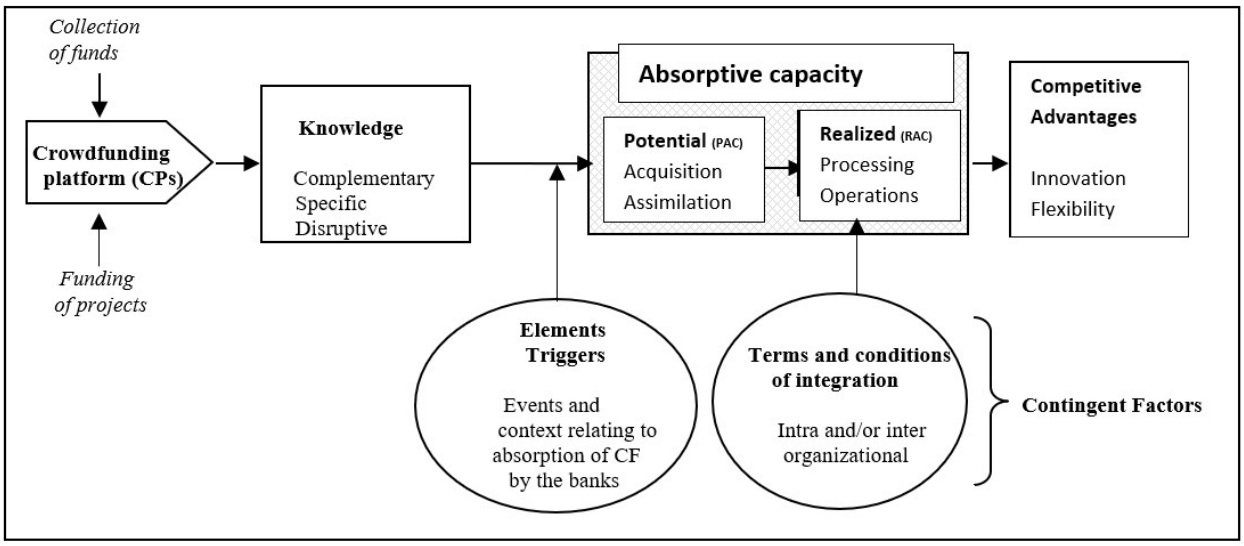
The following discussion first introduces the concept of absorptive capacity (AC) and its implications for this research. Then, the research methodology will be presented, as well as the results of the empirical study. Finally, a conclusion will discuss the lessons learned and the main achievements of this research.

Mobilizing the Theoretical Framework of "Absorptive Capacity" to Understand the Determinants of the Appropriation of Fintechs by Banks

Changes in the operational environment of banks and the emergence of new players are challenging existing business practices and established structures (Châlons and Dufft 2017; Bharadwaj et al., 2013). Professionals in the sector have understood the challenges they face. In order to face them, it appears crucial to overcome stated internal problems (Tornjanski et al., 2015) and create a competitive advantage by taking into account external innovation (Chesbrough, 2004). In such a context of exploiting new external opportunities, the field of strategy and organization research has focused on the interactions that may exist between the information present in the environment and the company's ability to integrate and reuse it for commercial purposes (Bocquet and Mothe, 2014). This interest for researchers has given rise to the concept of "absorptive capacity" (AC). Since the pioneering papers by Cohen and Levinthal (1989 and 1990), AC is now a well-established concept (Aribi et al. 2014). There is a large body of literature attesting to its crucial role in innovation and firm management (Zahra and George, 2002; Imbert and Chauvet, 2012; Mariano and Walter, 2015; Costa and Monteiro, 2016). Cohen and Levinthal (1989) defined this concept by first presenting it as "*the ability of a firm to recognize the value of new information, assimilate it, and apply it for business purposes*". The second definition is "a *firm's ability to value, recognize, assimilate and commercially exploit external knowledge*" (Cohen and Levinthal, 1990). According to Zahra and Georges (2002), absorptive capacity represents the dynamic capacity that sustains a firm's competitive advantage: "*It is a set of organizational routines and processes by which the firm or system acquires, assimilates, transforms, and exploits knowledge to produce dynamic organizational capacity.* Thus, following the example of Zahra and George (2002), we consider AC as a "dynamic" capacity in the sense of Teece et al. (1997), which refers to the ability to integrate, build and reconfigure resources and skills in a changing and increasingly competitive environment (Bocquet and Mothe, 2014).

In this research, we wished to develop a conceptual model that would make it possible to highlight the process and determinants of banks' AC to integrate the expertise developed by crowdfunding platforms (CP) (*Figure 1*). This model is notably inspired by the theoretical models proposed by Zahra and George (2002, p. 192) and Todorava and Durisin (2007, p. 776).

FIGURE 1
MODEL OF CF ABSORPTIVE CAPACITY BY BANKS



Adapted from Zahra & George (2002); Todorava & Durisin (2007)

In this model, several aspects are worth discussing. First, the model describes a structured process for developing AC. The rectangles encompass the variables in which the AC process occurs.

- The **knowledge** is about the history of AC. In our context of analysis, these combine the expertise developed by crowdfunding platforms (CPs) with the existing capabilities of banks. They focus on similarities in practices and/or distinctive (specific and/or disruptive) skills. In this perspective, Haas et al. (2015) were able to demonstrate that the services offered by CPs are not fundamentally specific compared to those offered by traditional banking institutions, insofar as both business models are based on the same objective: to enable the collection of savings to finance the needs of the economy. However, Haas and his colleagues postulate that some of the services offered by CPs are quite innovative compared to those offered by traditional banking institutions. Specifically, CF's comparative advantage over banks is that it is able to serve market segments that banks cannot effectively serve, thanks to specific regulations that are more flexible[2] in terms of risk management. Indeed, because of the regulatory constraints imposed by the Basel Accords[3], which force banks to limit excessive risk-taking, banks can only finance projects that they consider less risky according to their selection criteria. In addition, other skills such as the online connection between project sponsors and providers of funds, as well as risk assessment by the "crowd", are completely new for banks. In fact, CPs are taking advantage of the benefits of digitalization to bring together, on the basis of the principle of sharing and/or collaboration, different online players. Beyond this, the CF also allows the project leader to test the public interest in his project and at the same time to verify its viability, to obtain suggestions likely to improve the project by using the "wisdom of the crowd" (Surowiecki, 2004). However, this type of benefit cannot be mobilized by the project promoter when he or she resorts to bank financing.
- Also, in the model presented, **absorptive capacity** refers here to the acceptance of this concept proposed by Zahra and George (2002). These authors propose a two-dimensional conception of absorptive capacity by defining the *acquisition* and *assimilation of* knowledge as **potential absorptive capacity** (PAC), and the *transformation and exploitation of* this same knowledge as **realized absorptive capacity** (RAC). *Acquisition* is supposed to capture efforts to identify and acquire new external knowledge. *Assimilation* consists of understanding the information

and knowledge acquired. Indeed, a bank will only be able to use information if it has been understood with regard to its potential applications. The *transformation* process is carried out by combining pre-existing knowledge with newly acquired knowledge to produce new knowledge. *Exploitation involves putting into* practice the knowledge acquired, assimilated and transformed, in order to propose a new product or a new offer. Some studies mention the possibility that a company may have a high level of PAC, i.e. a capacity to acquire knowledge of the external environment and assimilate it, but a low RAC, i.e. a low capacity for transformation and exploitation (Jansen et al. 2005). Thus, mere exposure to external sources of information does not necessarily lead to the development of RAC, especially when there is little complementarity with pre-existing knowledge, but also because of existing regulatory constraints, such as those imposed by the Basel agreements on banks that may pose certain obstacles to the development of RAC.

- Finally, in the AC process, we deduce that if a bank is able to develop a AC, it is likely that such a bank can gain a **competitive advantage** by developing innovation and flexibility. Thus, according to Barney (1991), the combination of different absorption capacities (PAC and RAC) leads firms to achieve superior performance, which often results in a competitive advantage. In the original model of Zahra and George (2002, p.192), the AC process is completed by the addition of three moderating variables: the *triggering factors* at the interface between knowledge and absorptive capacity, the *social integration mechanisms* between PAC and RAC, and the *existence or not of protective measures* to reduce imitation when creating new products/services as a result of the AC process. These so-called "contingent variables" (Todorova and Durinsin, 2007, p.776) are likely to influence the development of AC. In Figure 1, we have adapted and reconfigured these variables to our research objectives. These are represented by the circles. These are: triggers and mechanisms for organizational integration.
- **Triggers** are events that will encourage or compel the bank to respond to "*internal or external stimuli*" (Zahra and George, 2002). Thus, some research indicates that events that can influence the future of a given industry (crises, technological breakdowns, political changes, etc.) can become potential catalysts leading the firm to develop a AC (Zahra and George, 2002; Imbert, 2015).
- The **integration mechanisms** here focus on organizational implementation modalities. In this framework, Jansen et al (2005) stipulate that absorption processes can be enhanced by the presence within the organization of a range of organizational mechanisms that facilitate this process. Similarly, Todorova and Durisin (2007) suggest that organizational mechanisms of integration facilitate the acquisition, sharing and exploitation of knowledge. These mechanisms are concerned here with the operational models through which banks can orient their absorption strategies (creation of an internal platform, spin-off or partnership with an existing CP).

In this article, we are therefore interested in these two so-called "contingent" variables in order to explore the banks' turnover to integrate the skills developed by the CPs. Indeed, although the current literature has identified some specific contingent factors that moderate a AC process (Ziam et al. , 2013), it is not yet clear how this moderation works in the banking and financial ecosystem. Moreover, although there is a large literature on AC, this topic has received little attention from researchers in the context of the present analysis. To our knowledge, the work of Bourkha and Demil (2016), and Cepeda-Carrión et al (2016) are the few works that have sought to empirically understand the determinants of turnover in the banking context, by analyzing respectively the imitation in the bank card market in France, and the relationship between turnover and the value created to stakeholders (internal customers or employees, and external customers) in the Spanish banking sector. Our research contributes to this literature by extending the analysis to contingent factors of turnover.

The following first presents the research methodology adopted and then the results observed.

RESEARCH METHODOLOGY

The research is based on an exploratory approach aimed at providing an initial portrait of the banks' absorption practices. A more process-oriented approach may be undertaken at a later stage to test the links between the variables in the model and to assess their impact on competitive advantages. Indeed, the banks' CF absorption initiatives are still recent. In this respect, we believe that it is too early to approach a study from this perspective. In this research, we must position ourselves as interpreters in the field (Stake, 1995) by relying on the perceptions of bank professionals. To do so, we chose to use the inter-site comparison case study methodology as defined by Eisenhardt (1989) and Yin (1994). This approach, which consists of analysing several cases simultaneously, is interesting here in that it enriches the field observation process and allows us to identify differences/similarities between cases (Baxter and Jack, 2008). It also makes it possible to discover regularities between the cases studied. We have thus identified and selected seven (7) cases, in this case 7 major French banking groups, according to a reasoned approach (Seawright and Gerring, 2008). In other words, we constituted a sample with regard to the interest taken by banks in the provision of CF services (see Table 1). Note that the relatively low number of cases in the sample in no way compromises our analyses. Indeed, according to Fortin and Gagnon (2016) and Dyer et al. (1991), in a case study methodology, the number of cases or the length of the researcher's stays in the field are not in themselves the key issue. What is more important is whether the researcher is able to describe and understand the context of the case(s) studied (Gustafsson, 2017). In this context, the researcher should be concerned with providing valid data rather than questioning its representativeness. Thus, the semi-structured interviews that constitute our main empirical material took place from January 2017 to July 2017. They were conducted with interlocutors concerned by the issues of digitalization and/or new technologies within the banks of the sample (see Table 1). The semi-directive interview guide was structured around several themes relating to the respondents' perception of the development of absorption capacity, including the motivations and willingness of the banks to adopt CF services, and the vision of an organizational model for the integration of CF services. The synthesis of the various questions is presented in Appendix 1. The interviews, which lasted an average of 1 hour, were recorded and transcribed. We chose to triangulate the data from the interviews with secondary data from different sources (financial press, websites, online information on CF, fintechs and banks). The secondary data allowed us to better understand the general framework of our research problem, to shed light on and sometimes confront the respondents' comments. Finally, concerning the data analysis methodology, the qualitative nature of the information collected led us to opt for a "content analysis". In this framework, the data collected was first analyzed within the site to identify the responses of each respondent. The information collected was then compared from one case to another in order to identify regularities, points of convergence and/or differences.

TABLE 1
LIST OF ENTITIES ANALYZED, FUNCTION OF RESPONDENTS AND FC ABSORPTION MODES

Name of the organization	Legal status	Function of the respondent	CF absorption modes
Banque Populaire Caisse d'Epargne (BPCE)	Mutualist Cooperative	Director of the digitalization of business offers and new business models	-Partnership with HAPPY CAPITAL, a PC dedicated to investing in the capital of start-ups and SMEs; -Creation of PROXIMEA, a regional PC, a 100% subsidiary of Banque Populaire; -Creation of ESPACE DONS, a PC dedicated to serving associations, foundations and endowments.
BNP Paribas	Public limited company	Head of the "Development and Innovation" department	-Creation of REALTYPIES, a PC dedicated to real estate financing;

			-Partnership with PC ULULE, TO which the bank finances projects that have successfully finalized their financing on PC.
Crédit Agricole	Mutualist Cooperative	*Director of* Digital Development	-Partnership with MiiMOSA, a PC dedicated to agriculture and food. The PC was "incubated" by VILLAGE BY CA, the banking group's start-up incubator.
Crédit Coopératif	Mutualist Cooperative	Head of partnerships, research and development	- Creation of AGIR & CO, a PC focused on giving and rewarding; -Partnership with various PCs, including : *AFEXIOS, an equity-crowdfunding PC, *ARIZUKA, a donation CP (partnership and equity investment in the capital of the CP), *CAPSENS (SPEAR), a loan PC.
Crédit Mutuelle Arkéa	Mutualist Cooperative	Executive Vice President, Innovation and Operations	-Creation of KENGO, a regional PC based on donation and reward; - Investment in KOREGRAF, a PC specialized in real estate; -Acquisition of a stake in the capital of PRÊT D'UNION (loans to individuals).
La Banque Postale	Public limited company	Deputy Director of Strategy and Development	-Partnership, then 100% acquisition of PC KISSKISSBANKBANK, one of the leaders in CF in Europe. -Partnership with PC HELLOMERCI.COM, a PC based on solidarity loan.
Societe Generale	Public limited company	Head of Innovation	-Partnership with the BULB IN TOWN platform, dedicated to financing local projects; -Partnership with the SPEAR platform, specialized in solidarity financing.

Cross-site analyses from the empirical study have led to the results presented in the following section.

EMPIRICAL RESULTS

In accordance with the objectives of this research, the presentation of the results therefore focuses on the two so-called "contingent" variables presented in the research model, namely the **triggers** and **the organizational integration modalities**. It should be recalled that the first category of variables, the triggers, focus on the events that led the banks to develop AC. As for the organizational integration methods, they cover the organizational options taken by the banks to operationalize turnover (orientations given in the valuation of CF financial instruments, creation of an internal platform, spin-off or partnership with an existing CP). Thus, by analyzing these two variables of the model, we respond here to the main objective of this research, namely: to understand the determinants and mechanisms implemented by banks to integrate the skills developed by the CPs.

The presentation of the results that follows will rely primarily on the expression of the different points of view of the respondents, based on the "*witness sentences*" (Krief & Zardet, 2013) from the interviews.

Triggers for Bank Turnover

To explore the triggers, we looked at the **main motivations of** the banks for providing CF services. One of the motivations for banks to enter the Crowdfunding (CF) market is related to its growth:

"The CF was initially considered by the banks as something anecdotal, more associated with the solidarity economy than a real tool for financing the economy. Today, the CF represents a form of financing that is in full expansion, which now rubs shoulders with the banks and other major traditional financing players. Even if CF does not yet represent an important part of the financing universe, its rapid development is worrisome and forces each of us to react in one way or another. The right reflex today, from a banker's point of view, is to make a choice right now with regard to this new sector".

Respondents also see CF and its digital character as a factor in the transformation of the banking sector. The adoption of digital solutions appears to be essential to adapt to the changes in the industry. CF is seen as a solution to adapt to digitalization:

"It's about bringing CF closer to how banks should change their own business model. The massive arrival of digital technology in our professional lives, whatever the activity, is leading to behavioral changes that organizations must be able to appropriate".

For another respondent:

"Crowdfunding is really one of the most important innovative business models coming out of the banking sector, because before that you weren't really able to do something like that. If you needed a loan, you would have to go to the bank, but now, thanks to digitalization, the internet, social networks, you now have an alternative, so to speak".

Respondents also perceive CF as a factor in improving traditional and bureaucratic banking processes:

"When you apply for a loan, you first talk to a customer advisor whose hands are nicely tied, after which you are transferred to a credit unit at the head office, even if your bank branch has all your information. There, another person with a slightly higher level of decision making will decide whether or not to give you credit. And this process can take weeks or even months.

Beyond the motivations related to the growth of CF and the rigidity of banks' current organizational processes, respondents also described motivations related to improving the banks' image and the possibility of reaching new markets.

For example, one respondent justifies the donation-based CF as follows:

"Mainly, it's the reputation that could improve the image of cooperative banks, which have really had a slightly declining reputation, not being really top quality in terms of digitalization. With this, we are trying to really modernize our image, to be close to people and really help people. Developing a donation platform was a perfect complement to our activity based on cooperative values.

Another respondent acknowledged that this is an opportunity to expand the banks' current service offering:

"We're talking about a very traditional bank financing service, and how it could be expanded. Also, when we talk about financing, we're talking about financing by the public (i.e. the crowd). The money does not come from the bank's balance sheet, but is collected on the market. Traditionally, this was only possible for listed companies, especially large companies. In addition, banks have to take into account changing regulations and the possibilities of financing smaller and riskier companies. Thus, the two aspects related to

CF are the development of the business environment, with the creation of many start-ups, and the evolution of regulations, which forces us, the banks, to propose new solutions".

Another respondent stated:

"The traditional banking circuit is not necessarily suited to grasping the opportunities of emerging markets, which are sometimes atypical, or allowed to take risks when the prospects of success are based on too many unknowns. With CF, you can certainly take advantage of new customer targets, or do business where, for various reasons, you could not do it otherwise. For example, in terms of risk management. You may intend to help a client, whether private or corporate, to make a loan to that client, but you can't do so because of the risk involved. Whereas with CF, you can involve other investors in the risk taking, which will help you serve your client. So, it's a very interesting area.

Still on the subject of risk management, another respondent stated:

"With CF, there are virtually no collaterals or commitments, as there are with bank loans. When banks lend money, they want to make sure they can get their money back and usually there are fairly restrictive terms, which can be detrimental to start-ups and SME growth. CF provides a channel for banks to respond to riskier clients, who currently cannot be served due to regulatory constraints. It's a good lever for them to support innovation, but at the same time isolating the risk".

In the end, as can be seen in the various statements, the banking players have taken the measure and scope of CF in their ecosystem. CF is a booming activity that banks can no longer ignore. Also, through its absorption, banks have the opportunity to rethink their organizational practices by relying on the expertise developed by the CPs. They have an opportunity to integrate the digital world. Banks can also benefit from an increase in notoriety by absorbing this fast-growing mode of financing. The offer of CF services in a digital environment would thus enable banks to move from an image of obsolete service providers to players capable of supporting certain types of projects currently not or insufficiently supported by banks. The integration of CF would also provide banks with a new channel to reach new markets and finance new risks. This raises the question of what organizational options can be taken by banks to operationalize CF.

Organizational Integration Methods

In order to explore the organizational integration methods, we examined the orientations given by the banking players with regard to the use of the various financing tools proposed by the CF; then, the organizational options for operationalizing the CF.

The Banks and the Use of the Various FC Financing Vehicles

There are four main models of financing through CF: the donation-based *crowdfunding model*, the reward-based *crowdfunding model*, the *crowdequity model* and the *crowdlending* model[4]. These different models differ from one another in terms of financing objectives and remuneration (Hemer, 2011; Pazowski & Czudek, 2014). Here we choose to treat the donation and reward models together. Indeed, in the banks' strategy, these two models seem to have similar objectives. Moreover, the reward-based model is sometimes referred to as "gift with reward" as opposed to pure gift. Thus, for Hemer (2011), giving is not similar here to the altruistic act of giving without expecting a reward in return. The reward here may be a tangible element (product, gifts, etc.) (Belleflamme, et al., 2015, p.12), or a simple thank you at the end of the campaign.

Gift and Reward-Based Models. The interest of these models for banks would come from non-profit objectives such as community service or patronage. Another objective is customer loyalty. As noted by one respondent:

> *"From our point of view, as a cooperative financial group, it is mainly used for customer loyalty, and also from a social point of view. This is also one of the aspects for which CF can be adopted by banks. ...] It is therefore not to increase the volume of business".*

Another respondent expressed similar motives, adding that the donation model offers an opportunity to test the market for potential expansion to other forms of CF:

> *"Our platform is essentially based on donations to foundations, and focuses on associations and individuals who collect money for their associations, for social aid or sponsorship projects. We also use it [the platform] as a first entry into the CF, to learn, to see how the CF develops, before entering into a service offer for companies".*

Thus, beyond the not-for-profit and customer loyalty objectives, it seems that donation-based CF is a segment that can be used to initiate a more comprehensive CF service offering. In this way, a bank can enter the market without the reputational risk that may arise from the financial losses that investors may face. Indeed, the CF market, which is still immature, and even more so than well-established markets, is not free of risks of default on the companies financed. These defaults can be detrimental to the bank's image insofar as investors bear the full risk.

The Capital Investment Model. Respondents see this model as a way for banks to facilitate the financing of innovation. As one respondent put it:

> *"Setting up a capital-based CF service can be a good idea if you want to approach the start-up market, if you are looking for contacts with start-ups. If you think it is important to develop your customer base of future companies, by putting more effort into financing start-ups that could become viable businesses tomorrow".*

The capital-based CF also appears as a means of offering investors the possibility of diversifying their portfolios beyond traditional financial instruments. As indicated by another respondent:

> *"This is the only new investment area that was not previously available to individual investors. But most of the companies using the capital-based CF are start-ups. Not all, but most of them. So, it's a new fundraising channel for companies; and for investors, it's really a new asset class. So, if before you couldn't invest in venture capital funds, now you can choose start-ups that you think are interesting and for which you are sure that this is really the product of the future. Thus, for investors, CF offers a greater variety of products on which they can invest".*

The capital-based CF would ultimately allow banks to access the start-up market and innovation financing. This same possibility is also offered to individual investors who can now access a market that was traditionally inaccessible to them. Nevertheless, a major challenge could come from the lack of expertise of the latter in assessing project risks. As noted by one respondent:

> *"I think it's good if less experienced investors invest in start-ups. This allows everyone to finance the economy, but it is useful to know how to assess the investment risks. Less experienced investors don't have the experience to evaluate projects.*

It also seems possible to evoke this same challenge on the banks' side. Indeed, one respondent emphasizes the lack of experience of some banks in this area and deems it necessary to recruit experts in order to facilitate, if necessary, the implementation of a capital-based CF service.

The Loan-Based Model. The most common argument among respondents was the similarity of loan-based CF to traditional bank loans. The main difference here is in the method of financing. Whereas traditional banks deploy financing from their own balance sheets, here loans are financed by the "crowd" that comes together in a single loan. Respondents also point to the current credit expertise held by banks. As noted by one respondent:

> *"To adopt CF, I would advise starting with loans, because that's our core business. That's where we feel comfortable. It would probably be easier for us to enter this market. Second, we think there's a slightly lower risk on the lending side. Because if you're going into equity financing, it's obviously high risk, high return. And that's not really the culture we have in the bank. So, there would be a slightly higher risk, because obviously 90% of the startups will fail, so we will lose money and it's not really comparable to our current situation. Our key vision for customers is always to say: our bank is safe; our money is safe. So that would be somewhat conflicting.*

Another respondent noted similar advantages to the loan-based CF model compared to the capital-based model.

> *"As banks, we are in the business of providing loans and have been doing so for more than a hundred years; our financing models and organizational structures are built on the basis of providing loans. So, it's easier for us to integrate and start with the loan model. Providing capital would be a completely new ball game for us, especially in start-ups".*

For another respondent:

> *"Loans may be more suitable for banks in the sense that there is a term and interest that can be paid monthly. This ensures that you can seize the business at an early stage if it is facing problems. With equity participation, you can't necessarily get something out of the business until it's too late because the stock of the business is the first to burn".*

However, this same respondent also sees a problem related to the cost of credit in loan-based CF:

> *"With loans, the evaluation process should be completely different, and it is difficult to think of this type of loan being issued with reasonable interest levels.*

Indeed, the loans offered by the Crowdfunding Platforms (CPs) have relatively high rates (of the order of 5 to 10%). The respondent's argument also seems to refer to the lack of expertise of banks in the project appraisal process. Whereas under CF, the collective evaluation of projects by the community (i.e., the crowd) is often a specific resource for mobilizing expertise appropriate to each particular project. In short, the challenge for banks is to combine their strengths with the advantages that CF can bring. It is in this sense that the organizational implementation modalities must be thought out.

The Banks and the Different Organizational Models of CF Operationalization

The choice of an organizational model for banks cannot be seen unequivocally. Indeed, the design depends strongly on individual objectives and on the way, banks perceive the integration of CF in their activity. One respondent reflects this reasoning as follows:

"I would say that it's naturally a question of business strategy, and it depends on how you see your business; what your business model is and how you see its role in serving your customers and the bank's business in general".

With regard to the design of an organizational model for the operationalization of CF, the same respondent identified three possible models:

"In Europe and throughout the world, either you practice it (crowdfunding) as part of your banking operations, but you must also take into account the wide range of laws imposed on credit institutions, which remains in the background in each country; or you create a subsidiary through which you will offer a CF activity. In this case, it will be the subsidiary that will carry out this activity on its own. Another approach for banks would be to collaborate with existing CPs".

The three models mentioned above are presented in the following discussion, starting with the examination of the integrated model, followed by the approach through the creation of a subsidiary and, finally, the hypothesis of a collaboration with an existing CP.

The Integrated Model. The adoption of an internal model may be justified by the desire to have total control over the business. However, there is one main impediment to the implementation of such a model: regulation implicitly excludes any internal model because it is dealt with under the prudential regulation of banks. As mentioned above, this regulation prohibits any excessive risk-taking. One respondent comments on the internal approach as follows:

"If you want more influence on how the CF should work, then an internal CP might be the way to go. However, the risks taken are incorporated into the bank's balance sheet. In that sense, setting up a subsidiary or having a partner to collaborate with is much more appropriate.

Another respondent explained one of the risks involved in creating a CF activity internally by stating:

"You have to be careful about that, especially on the point of reputation. If I create such a platform, the smallest thing I want is an unsatisfied customer, who later goes to the media and says: well, they didn't tell me how risky it was and I was still able to invest in these loans and now all my money is gone. So I'm skeptical that it's a good idea for a bank to do this, so I would rather work with a partner.

In short, the internal model could allow banks to freely control the activity. However, the possibility of providing a CF service as part of the bank's day-to-day operations is built into the prudential regime of banking regulation from the outset.

Provision of CF Services From a Subsidiary Company. One respondent justifies the creation of a subsidiary on the grounds that regulations are less stringent in this respect, as risks are outsourced compared to the integrated model, and the subsidiary is subject to the more flexible specific regulations of the CF. He describes the trend towards a subsidiary as follows:

"If I want to set up the lightest possible structure from a regulatory point of view, but also from a risk point of view, a subsidiary seems to be a reasonable choice. The risks would be allocated there, and of course the reputational risk will always be there, but in some ways, it seems to be a viable option. So, I think if you look at it from a risk perspective, a subsidiary seems to be the smartest choice.

The subsidiary model seems particularly relevant in France, as the regulations came into force in 2014[5], which are more flexible than those for banks, clarify the rules relating to CF. Banks must comply with the regulations imposed on credit institutions, which in many respects are much stricter than the regulations imposed on CPs in terms of risk management. If a bank sets up an independent subsidiary, which would operate solely to provide CF activity, the regulatory requirements would be much less restrictive because they would be dealt with under CF regulations. Thus, the creation of a subsidiary appears to be a more accessible option for a bank that wants to take over the CF business.

Cooperation/Partnership With an Existing Platform. The bank can initiate a partnership with an existing CP or partner with a CP by redirecting customers to the CP without taking part in the decision-making process. One of the respondents clarified the potential of a partnership model by stating:

> *"A modular and flexible platform model, capable of adding new functionality to our current (banking) system, may be the best channel from the bank's perspective for collaboration. Banks are used to being attached to these large mastodon systems, which have remained pretty much the same for the last 20 or 30 years, and we know how difficult it is to make them evolve at the moment. For this reason, this type of modular system may be the smartest way to proceed.*

Another respondent explained the benefits of cooperation as follows:

> *"We believe that, due to the pressure of digitalization on our side (the banks), it will be beneficial to work with CPs. They are small and they can have quick adjustments in their processes. It's a way to get high-risk loans, so cooperation with them would be nice.*

When we asked for his views on the choice between setting up a subsidiary or cooperating with an external PC, another respondent made the following comments:

> *"Well I think something in between. If I want to create my own platform, it's probably not a good idea to cooperate with a competitor. So, I would prefer to adopt a cooperation from the beginning. On the other hand, I wouldn't do all this by myself at all, because with online platforms, banks don't do too well. They don't have too much experience when it comes to user-friendliness and interaction with customers in an online space. Obviously, it depends on the bank, but for our group, we are really good with customers in local territories, personal contact. So, I would certainly like to have the support of partners who already have existing platforms".*

The same respondent also expresses an opinion on the benefits of collaboration by referring to the capital-based CF model as follows:

> *"My theory is that it's a good idea to do this (capital-based crowdfunding) with other financing players or even other banks, and not necessarily alone because you'll have difficulties choosing the right start-ups. Moreover, with capital-based CF, the market is probably even narrower than loan-based CF.*

In sum, cooperation with a CP would help banks not only to attract projects online, but also to provide appropriate expertise in the *due diligence of* submitted projects. These findings are in line with previous research that suggests two main reasons why banks may engage in B2B cooperation. First, for technological considerations involving the capture of tacit knowledge related to the partner's technology (Harrigan 1985; Pisano et al., 1988). Second, for market access considerations and the pursuit of new opportunities, including new products and markets, market entry, and expansion of product range (Hladik 1985, 1988).

Therefore, technological and market access considerations can be seen as two reasons why banks may cooperate with CPs in an absorption process.

Table 2 below summarizes all the results of this research. On the one hand, the factors encouraging or constraining banks to trigger and develop a process of CF absorption; on the other hand, the organizational levers mobilized in this framework.

TABLE 2
DETERMINANTS AND MECHANISMS OF BANKS' AC TO INTEGRATE THE SKILLS DEVELOPED BY THE CPS

Observed factors	Observation criteria	Observation results
AC Triggers	Motivations of banks to provide CF services.	-CF is a new and growing form of financing. -The digital nature of CF is a vector for adapting to changes in the banking and financial sector. -CF is a vector for improving traditional and bureaucratic banking processes and the image of banks. -CF is an opportunity to broaden the service offer by financing new risks. -CF offers the possibility of pooling risk with online fund providers.
Integration mechanisms	Orientation given to the use of the products offered by the CF	-Giving and rewarding: community service, patronage, customer loyalty. -Capital investment: facilitating the financing of start-ups and innovation; a tool for diversifying client portfolios. -The loan: expertise already held by banks, but opportunities to access new targets online, to have projects evaluated by the crowd.
	Possible organizational models	-Integration of CF into the bank's current activity: impossible due to prudential regulations. -Spinning off of the activity: relevant due to more flexible regulations, but obligation to mobilize appropriate expertise. -Cooperation/partnership with an existing CP: relevant not only because of more flexible regulations, but also because of a better capture of the tacit knowledge of the partner.

DISCUSSION AND CONCLUSION: TOWARDS AN OPEN BANKING ECOSYSTEM TO DEVELOP INNOVATION

The operational environment of banks is today strongly influenced by digitalization and its corollary, the development of Fintechs (Barberis, Chishti 2016). According to some experts, "the banks that are able to identify and adopt digital technologies from Fintechs, whether disruptive or collaborative solutions, will be the ones that manage to stay ahead of their competitors" (Accenture, 2017; DeVauplane, 2015). In this respect, the objective of this article was to identify and analyze the determinants of the banks' absorption capacity to integrate the skills developed by Fintechs. Among Fintechs technologies, crowdfunding (CF), whose development has been steadily increasing over the last ten years, is now attracting more and more interest from banks. The article has gathered the perception of banking professionals and illustrated different points of view on the absorption capacity (AC) of CF by banks.

According to the results observed, the integration of external expertise should enable banks to keep pace with the developing Fintechs industry by taking ownership of innovations and innovative business models. CF provides banks with a testing ground for adapting their current processes to move towards

digitalization. Concerning the different forms of CF financing, the donation-based model seems to offer banks the advantages of image through their involvement in public utility and/or sponsorship works. The model also seems to offer a means of initiating the activity without any reputational risk linked to the possible non-viability of the projects supported, and a means of observing the evolution of the market before a possible integration of other forms of CF. CF based on capital investment is perceived as a relatively risky tool by banks for a number of reasons. First of all, the skills required to evaluate start-ups may be outside their current expertise. Second, the risks involved are relatively high for online individual investors, who should be informed with a high degree of awareness during the financing phase. However, the tool is seen as a way to tackle the whole CF market. Loan-based CF bears a closer resemblance to the banks' historical and current service offering and expertise. In this respect, the model may be a priori less risky than the capital-based model due to a smaller potential information asymmetry for banks. Indeed, the banks already hold large amounts of data that could be used in the framework of a CF service offer. In addition, the loan-based model represents the segment that is practically the fastest growing segment in the market[6], and could therefore create additional volume and revenues for the banks.

As far as implementation strategies are concerned, the choice of an organizational design is variable and depends on the bank's business strategy. The use of a model that is integrated into the bank's day-to-day operations could be justified by the need for full control over the service offered, but is far removed from the bank's current skills and/or operational modes. More importantly, the model appears impossible to implement given the regulatory restrictions imposed on banks. The creation and/or acquisition of an external platform, as well as a partnership with one or more existing platforms, seem to be two possible options for a bank wishing to enter the CF market. Indeed, the stricter banking regulations compared to the CF market could be circumvented by these means. Also, the use of an external partner could solve the difficulties related to the evaluation of start-ups, an area that is not necessarily within the historical expertise of banks.

Finally, the contributions of this research are both theoretical, insofar as we show how the concept of absorptive capacity (AC) can be applied to the financial services industry, and empirical insofar as they extend the usefulness of this same theory to explain how banks can appropriate the emerging and disruptive activities of Fintechs. In this sense, the contribution provides some answers to practitioners with regard to many issues related to the design of organizational forms adapted to innovation management. In this framework, banks can provide themselves certain services for which they have expertise, while at the same time they can procure other truly disruptive services from Fintechs in an evolving ecosystem. So, to complete our approach, a closer analysis of the relationship between the banking industry and the fintechs could prove fruitful. Without claiming to be exhaustive, we suggest below some lines of thought for an empirical analysis of bank/fintechs relations in general, and bank/crowdfunding in particular, in the French context.

- Firstly, this research lays the foundations for further research in the field of Fintechs and their relations with banks, or even with other players in the banking and financial ecosystem. In this respect, we believe that a further exploration of the concept of "absorption capacity" would be relevant for several reasons. In particular, it would allow a more detailed analysis of the underlying mechanisms and their interactions in order to better understand the process of an absorption sequence. Future research could also focus on measuring the impact of absorptive capacity on the performance and/or competitive advantages obtained as a result of an absorption process. Thus, we could better understand the causal or process link between information/knowledge, absorptive capacity and competitive advantages, especially in terms of innovation. Understanding the mechanisms underlying absorptive capacity at both bank and system level can thus help managers to better adapt their actions in favor of innovation.
- Second, in terms of the volume of services offered, it might be interesting to analyze the impact of the financial relations between the banks and the CF on the quantity of financial transactions. In other words, would the establishment of cooperation or the appropriation of CF by the banks promote the granting of a greater volume of credit than in the past?

- Finally, and thirdly, in terms of risk control, it might be possible to analyze the impact of these relationships on credit risk. In other words, might not the experience gained in the management of this type of risk by banks be an area from which the CPs could benefit? On the CP side, could they not use their know-how in the new data processing processes (*Big Data*) that digital technology makes available? On these two questions, it is possible to predict that CPs have been able to develop high-performance tools for mass data processing, but that they lack the raw material (data) to feed them in order to produce innovative products and services. Conversely, the banks hold large stocks of data relating to all the compartments of their activity, but that they have difficulty in exploiting them in their current information systems, which are often heavy and complex, and that it seems difficult to make them evolve rapidly.

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ENDNOTES

1. According to a study by the association Financement Participatif France, which brings together CF professionals, and KPMG, "*alternative means of financing (participative financing, online loans, etc.) more than doubled in 2016. CF alone represents 37% of the total, i.e. 233.8 million euros, 96.6 million euros of which are in the form of loans and 68.6 million euros in the form of equity investments*".
2. Order no. 2014-559 of May 30, 2014 relating to equity financing, supplemented by the provisions of Decree no. 2014-1053 of September 16, 2014 and Decree no. 2016-1453 of October 28, 2016.
3. The prudential regulations imposed by the Basel agreements require banks to value their capital in proportion to the loans granted, weighted or increased according to the level of risk of the borrowers.
4. It should be noted that in the context of loans granted to companies (P2B or B2B), the lenders and the companies financed may agree on a percentage of the company's profits (*royalties),* which may serve as an alternative to interest payments.
5. Order no. 2014-559 of May 30, 2014 relating to equity financing, now supplemented by the provisions of Decree no. 2014-1053 of September 16, 2014 and Decree no. 2016-1453 of October 28, 2016.
6. *According to the 2016 barometer of 'Financement participatif' France, an association that brings together CF players in France, among all the branches of CF, Crowdlending is the one that is growing the fastest: +46% over one year, compared to +37% for donations and +36% for capital investment in particular.*

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APPENDIX 1
MAINTENANCE GUIDE

1/ Triggers of absorption capacity

What do you think are the elements or events that motivate banks to take an interest in crowdfunding (CF)?

2/ CF operational procedures

A. Orientations given by the actors regarding the use of the different financing tools proposed by the CF

There are different funding models through the CF. These different models differ from each other in terms of funding objectives and remuneration. What direction would you give to each of these models if you were to adopt this activity?

-*Donation-based crowdfunding* model,
-Reward-based *crowdfunding* model,
-Model based on equity participation (*crowdequity*),
-*Crowdlending* model.

B. Organizational arrangements

What do you think of the following organizational options available to you to integrate CF into your entity?

-Integration into the bank's current activities
-Creation of an internal platform,
-Subsidization through the creation of an external platform
-Partnership with an existing platform