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HOW DO BANKS COLLABORATE WITH FINTECHS TO INNOVATE?

AN ABSORPTIVE CAPACITY VIEW OF COLLABORATION PROJECTS TO MAKE THE MOST OUT OF IT AND AVOID POTENTIAL DISAPPOINTMENTS

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I dedicate this work to my Family who has given me the strength and mental fortitude needed to finish this personal and intellectual journey. I especially dedicate this work to my father who taught me the pleasure to leave one's comfort zone and to my children I encourage to continue learning throughout life as well.

I wanted to recognize some of the people who supported me on this journey. So many important changes occurred during this work: changes of research problems, several professional changes including an entrepreneurial experience, movings of family home, Covid-19 crisis… Without them, I would have never completed this dissertation.

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ABSTRACT AND KEY WORDS

Though collaboration between fintech and banks, after a surge, are becoming mainstream, banks do not feel comfortable with their past and current experiences. We suggest that a lack of understanding of the mechanisms at stakes and a too narrow perspective regarding expected outcomes leads to potential disappointments and underutilization of collaboration experiences. We suggest adopting a learning perspective that provides better managerial insight. Therefore, we apply the Absorptive Capacity concept on a multi-case and longitudinal study within the subsidiaries of a multinational banks enables us to better explain the mechanisms, outcomes, difficulties, and enablers underlying collaborations. Based on the literature review and our observations, we propose an extended and enriched ACAP model that better fits the specific context of Fintech/banks collaboration and knowledge transfer within the framework of inbound innovation. Our model highlights the contingency factors that most significantly impacts collaboration. Notably it introduces new factors (notably the active role and dynamic features of the fintech or the resources' availability) that were overlooked though massively impacting the process and its outcomes. Our results uncover specific mechanisms (like the dynamic consistency of Business Opportunity and Prior/Core knowledge, the virtuous ACAP loops embedded in modern project methodologies, the value of constraints for Transformation, the significance of Open Innovation IT and data infrastructures…) that are useful to better manage collaboration and select fintechs. Finally, this research has practical implications for both banks and fintechs and opens promising avenues for future research.

Key words: *Open Innovation. inbound innovation. Absorptive Capacities. MNC's. Fintech. Bank*.

1. INTRODUCTION AND SYNTHESIS

The time where banks and fintechs were supposed to fight each other is over. Collaborations has become the must-have strategy. Fintechs and incumbent banks agree that they now must partner to grow. But no one feels that comfortable nor knowledgeable about how to implement it and make the most out of it. In this context, collaboration between banks and fintechs is obviously a challenging and relevant topic to look into, both for academics and managers.

1.1. RESEARCH PROBLEM

Banks still feel uncomfortable with collaborations though the industry acknowledges it is becoming a capability to survive.

There is a **paradox** on the market.

On one side, there is a pressure to adopt Open Innovation (OI) practices to support innovation strategies.

The banking sector has finally followed this trend and has invested in open innovation set-ups. Based on declarations from every banking institution, pursuing an **OI has become mainstream and a lasting trend** (Chesbrough and Brunswicker - 2014). Fintechs are an established stakeholder in the financial industry. The will to collaborate with them is now a given in the sector. Consequently, top management and investors start to have **increasing expectations** regarding what will come out of it. In addition, banks expect fintech to improve their business positioning but also to transform their current capabilities. The industry seems very optimistic and investments in fintechs are rising.

The development of **Open Banking pushes for collaboration with fintechs**. As the new business rules of the game in the banking sector, Open Banking fundamentally relies on collaboration. Indeed, Open banking eases secured access to assets that are provided by organizations out of the boundaries of the bank organization. The favorite business model associated to open banking is the so called “bank as a platform”. It enables the bank to remain the customer preferred interface by proposing value added

services that sometimes are better delivered by fintech. In this competitive landscape, the selection of partners and the management of collaboration project become core competencies.

Competition forces incumbent banks to make strategic moves. Fintechs newcomers target parts of the banking value chain that are under/badly served by traditional banks. Yet, they lack customer access to scale and **now fintechs seek for collaboration rather than competition**.

Digital tech giants (the so called GAFAM and BATX) are ready to leverage their huge customer base to propose financial services and would be very attractive to the best fintech to partner. They are born digital and open. Thus, they are used to collaboration. They could benefit from the weaknesses of the banks to enter the baking industry with the partners that banks are unable to attract and work with. Therefore, **banks must develop such collaboration competencies to remain relevant for the best fintechs**.

On the other side, though there is an inflation of communication on collaboration and active OI strategies, there are **relatively few and limited collaboration successes to celebrate**.

Banks have been multiplying collaboration experiences for the last 5 years. They have invested in dedicated innovation functions and OI set-ups. Yet, beyond communication postures, **banks still feel uncomfortable on how to make the most of collaboration with fintechs**. They claim to industrialize their collaboration process and structures. Yet, they all testimony on their difficulties to cope with such specific collaborations that "stress test" their organization and routines. Finally, banks still manage those collaboration types quite opportunistically and are still pretending to be "**learning by doing** ".

The industry is aware of this paradox. Consultants who try to address this problem come up with very generic advice. The key success factors they highlight to manage collaborations are no different from any type of alliances or partnerships and are not that actionable.

The financial industry is transforming. In this context, collaboration with fintechs has become a paramount managerial challenge that remains to be investigated to help practitioners succeed in it.

We raise the assumption that banks adopt a too restrictive perspective on collaboration with fintechs to make the most of them.

Indeed, banks are struggling to make this type of collaboration a success. But we observe they just do **not know enough how collaborations effectively work** and they may underestimate the complexity of the underlying mechanisms. What path for such projects? What potential enablers and difficulties?

By default, banks treat collaboration project as traditional projects and focus on traditional tools, teams, organizations and indicator of performance (mainly direct commercial and financial impact). They monitor the relationships and the project deliverables but seem to neglect to monitor the flow of knowledge that paradoxically legitimates OI practices. By doing so, **they may overlook the knowledge absorption mechanisms at stake**.

Banks may also not be aware enough of the specificities of the collaboration that derive from the specificities of the two partners involved: fintechs and banks. Fintechs are specific counterparts that largely differ from banks. Collaboration with such "objects" is relatively recent. Banks are not used to manage projects with such small organization that nevertheless could convey the potential disruption of their own business. The underlying mechanisms are new and probably specific and more complex. Indeed, fintech do not just differ in terms of size. They are defined more by their knowledge (often technical) and their agile working method. They challenge the established routines of the banks that are used to deal with traditional partners.

Consequently, **banks may mismanage the collaboration project and untap or even overlook the potential benefits from these promising collaborations. We suspect this may explain current disappointments.**

There is a need to enlarge the way banks look at collaboration with fintechs. Therefore, we propose to adopt an Absorptive Capacity (ACAP) perspective. Indeed, ACAP are organizational capacity supporting OI and especially knowledge exploration from outside. This would enable them to identify the learning and knowledge transfer mechanisms that occur. Then they would be able to manage them consciously and to dedicate appropriate set-up to make it happen.

In large organizations like banks where communication and politics may bias any initiative to assess projects, **there is a need for objective analysis of effective practices on how fintech and banks collaborate.**

Our thesis aims at addressing this business problem *why collaborations between fintech and banks though rising remain uncertain and often disappointing*?

1.2. LITERATURE REVIEW

Our literature review focuses on the two theories we choose to apply to the analysis of collaboration between fintechs and banks: **Open innovation and Absorptive Capacities**.

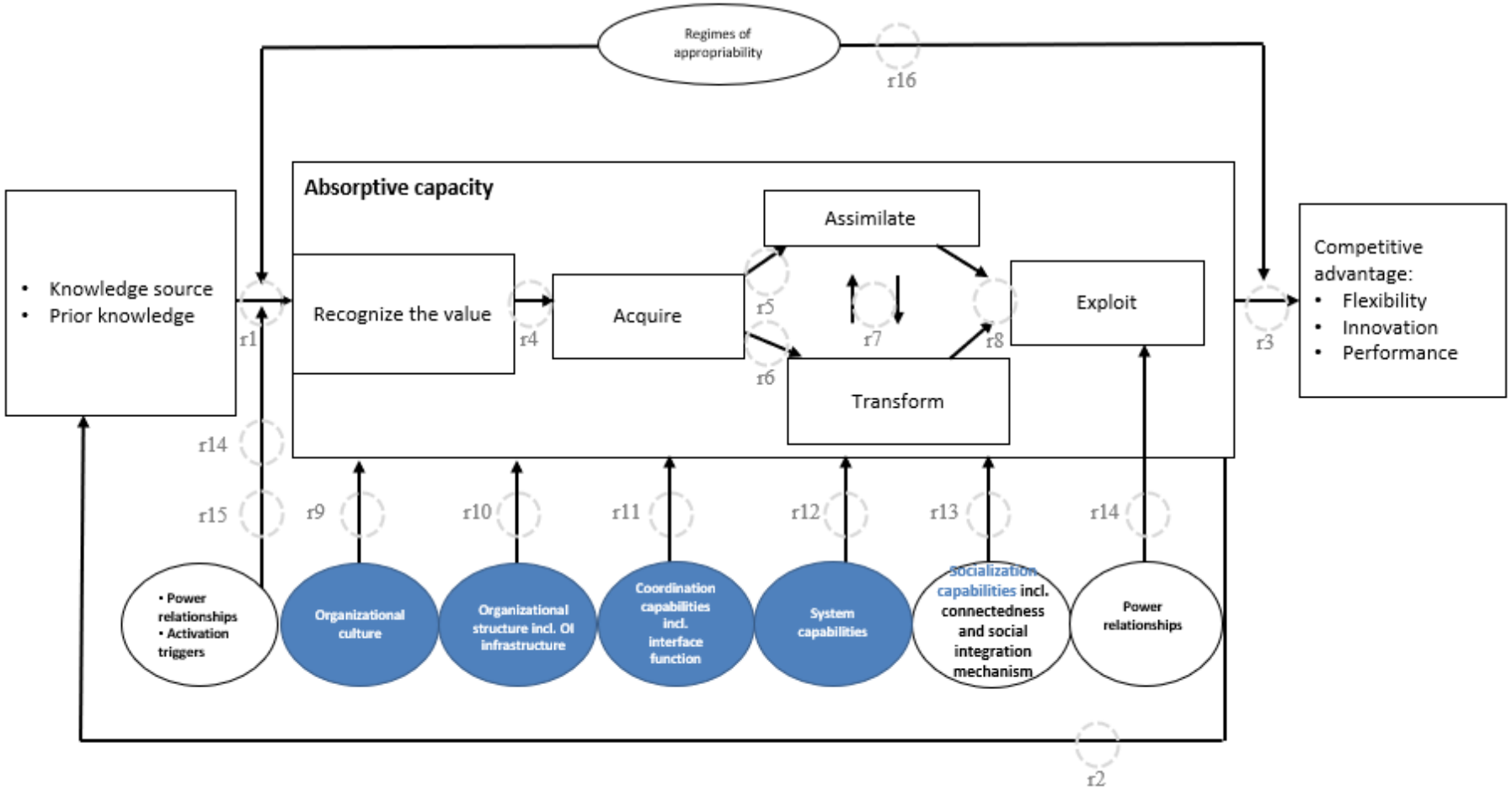
Collaboration between a bank and a fintech relates to **Inbound innovation** which is a major aspect of Open Innovation (OI). Chesbrough has demonstrated that OI has a significant impact for company's performance.

The main challenge of OI lays on being implemented (Chesbrough, 2003) and notably on succeeding in integrating a new solution within the corporate organization. Yet paradoxically, implementation and especially integration has not been the most studied facet of OI.

The contribution of Lichtenthaler (2011) supports adopting a process view of OI to face the implementation challenges practitioners are facing. It also explains why absorptive capacity (ACAP) are intertwined with OI. Indeed, OI is about knowledge flow to be exploited by the firm in interaction with the outside. OI is defined as "systematically performing **knowledge** exploration, retention, and exploitation inside and outside an organization's boundaries throughout the innovation process." (Lichtenthaler & Lichtenthaler - 2009). Implementing such initiatives is challenging and particularly requires a specific type of capacity which determines its performance: the **Absorptive Capacity** (ACAP). Cohen and Levinthal (1990) defined **the absorptive capacity** that "consists of the capabilities to recognize the value of new knowledge, to assimilate it, and to apply it to commercial ends. Absorptive capacity depends on the knowledge source and prior knowledge, it is conditioned on the appropriability regimes, and it influences the innovative performance of the Firm".

The underlying ACAP process and theory has been regularly reconceptualized either to reduce ambiguity (e.g.: by Zahra and George, 2002) or to enrich it (e.g.: Todorova and Durisin, 2007; Lichtenthaler, Ulrich, and Eckhard Lichtenthaler, 2009) to better capture the complexity of the phenomenon at stake**. We choose the Todorova and Durisin's (2007) ACAP model that describes the complexity of what impacts the performance of ACAP. Yet we suggest extending it by consolidating additional components out of the literature.** The thesis describes exhaustively the following extended theoretical model (section 3.2.2) that will frame the research.

Extended ACAP model proposed to investigate collaborations.



Source: Adapted from Todorova, Gergana, and Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». Academy of Management Review 32, no 3 (July 2007): 774‑86. In blue are the complements or simplifications to the Todorova and Durisin model we identified in the Literature Review. By default, r9,r10,r11, r12 and r13 relationships are impacting the overall absorptive capacity. This model will be challenged and refined during the empirical analysis.

The thesis details the ACAP process components and contingency factors impacting the process (section 3.2.3). All the relationships between ACAP components that were depicted in past literature are synthetized (section 5.4.2).

Lichtenhaler (2011) **recommends adopting an integrative view of processes and organizational levers at stakes. Past OI analyses have largely been performed at company level** (Kim and Al., 2015). **At project level, he found relatively few studies.** The existing studies are not describing the detailed mechanisms at stake to implement in-bound innovation and the unit of analysis remain the firm which make it **difficult to get actionable managerial insights**.

Both OI and ACAP research have addressed the banking or fintech context quite recently with few scholarly works. To the best of our knowledge, there is no study that is dealing with collaboration between a fintech and a bank from an ACAP implementation perspective. Martovoy, Mention and Torkkeli (2015) recall the importance of technology knowledge in the banking sector. Studies addressing the collaboration with startups are focusing on this phenomenon within corporate accelerators (Kohler T, 2016; Kupp M, Marval M, Borchers P - 2017) and mainly treat the design of such set-ups, the engagement model and the portfolio of startup. They do not cover knowledge absorption process nor fintech type of startups.

A complementary semi-quantitative literature review confirms **there is no ACAP research dealing with collaboration between banks and fintechs and that, in addition, adopt a research design where analysis is qualitative, process and focused on the project as a core unit of analysis.**

Therefore, OI and the ACAP research fields should benefit from our study and our thesis ambitions to contribute to the identified research gaps we identified.

1.3. RESEARCH QUESTIONS

For us to address the managerial paradox of an increase in the number of collaboration projects with fintechs and the remaining disappointment of banks regarding these collaborations we propose the following Research Questions:

Research Question (RQ): ***How do banks collaborate with fintechs?***

- RQ1 - Does this specific type of outside-in flow of knowledge involving a large banking firm and a Fintech follow the traditional **Absorptive Capacities (ACAP) process to innovate**?

- RQ2 - What **role do the dedicated Open Innovation (OI)** set-ups implemented by a multinational company (MNC) banks (i.e. within their network of international subsidiaries) play in this knowledge absorption process?

- RQ3 - What are the **difficulties and enablers** to implement an ACAP process when collaborating with a Fintech?

- RQ4 - What type of **learnings and outcomes** at project and at organizational level (especially within an MNC) do we observe and incidentally, do banks misestimate (under or overestimate) the potential role of such collaboration in their innovation and transformation journeys?

1.4. RESEARCH METHOD

Being an interpretivist and my favorite philosophy of research being **abductive reasoning,** I propose a hybrid exploration based on an **abductive reasoning relying on ACAP** theoretical framework and leveraging my position as innovation practitioner, **yet with no direct impact on nor participation in the cases studied**, to refine my understanding and analyses. In addition, to ensure my external positioning regarding the research field, a mitigation plan has been chosen and implemented for the data collection.

To address our Research Question, **in our research design,** we **ambition to perform a qualitative analysis and to observe and analyze and compare diverse case studies within the European retail activities of the Société Générale Group**.

The unit of analysis of this cumulative multi-case study is the collaboration project as the locus for the collaboration between the bank and the fintechs. Nevertheless, we will consider the organizational context and look at the transfer of knowledge beyond the project.

We adopt a bank perspective and focus our analysis and our data collection on banks. Nevertheless, we will perform some triangulation with data coming from some fintechs involved.

We propose to adopt a knowledge and learning perspective relying on the ACAP theory. Based on the literature, we propose an **extended model based on the Todorova and Durisin model (2007) that** we will use it as theoretical framework to carry out observations to confirm existing ACAP conceptual framework but also to potentially discover some necessary adjustments to produce knowledge.

To investigate the mechanism underlying the collaboration, we will run a **process and a longitudinal research**. To strengthen our process view of collaboration, we will adopt a "**Visual Mapping Strategy**" (Langley, 1999) **to perform a longitudinal and multilevel process analysis** that is appropriate to get a

deep understanding of complex mechanisms. We believe that this longitudinal view will ensure that we capture the dynamic and temporal aspect of the ACAP process.

In terms of data collection, we will perform **a multiple case studies of 4 cases** (see section 5.1.2). This corresponds to meeting 10 people and performing 16 focus interviews. The latter is completed by multiple secondary data accessed thanks to my professional position (head of innovation of the Business Unit) that enables further triangulation. The extended ACAP model we propose frames our focus interview guide.

In terms of coding strategy, we used **NVivo** (data structure and coding strategy are described in section 5.4.2) to support our qualitative analysis. All the relationships between ACAP components that were depicted in past literature are synthetized (section 5.4.2) for completion and challenge thanks to our empirical analysis. Together with the extended ACAP model we propose, this shapes the a priori NVivo coding structure.

The main **epistemological pitfalls** related to my research design are identified and mitigated.

1.5. MAIN RESULTS

The analysis of each case completed by a cross case analysis provided valuable and numerous insights to address our Research Question: *how do banks collaborate with fintechs?*

- RQ1 - Does this specific type of outside-in flow of knowledge involving a large banking firm and a Fintech follow the traditional **ACAP process to innovate**?

Globally, collaboration do follow the ACAP process: from Recognizing the value to Acquire the Knowledge then Assimilate/Transform and finally Exploit it. Yet we need to emphasize hereafter the main specificities of collaboration along the ACAP process they follow. These specificities are underestimated and even overlooked by the existing literature or by practitioners.

Firstly, in the case of a collaboration between a bank and a fintech, useful prior knowledge has two main specific origins: prototypes and motivated individuals. We found out that the knowledge that all the banks targeted is both a content and a process knowledge and that the **fintech as a dynamic source of content and process knowledge** that can evolve overtime and then affect the ACAP process.

Secondly, the **Knowledge Gaps and Business Opportunity are dynamic foundation for absorption process**. One of the main reasons why collaboration can fail is the lack of consensus on a viable Business Opportunity. Recognizing the value is mainly an ability to detect opportunities. We complement existing literature on complementarity of knowledge by looking further at the dynamic equilibrium between knowledge and the Business Opportunity. The strength of the collaboration and its chance of success relies on the consistency of the triangle: Knowledge required to seize the Business Opportunity / Prior knowledge / Core knowledge of the fintech. This consistency check shall be performed permanently because the items of the virtuous triangle are dynamic which was not stressed in the previous studies. The Business Opportunity is fundamental to the entire absorption process. Acquisition is a key moment where you can challenge the real collaboration intent and objectivize the value effectively recognized to the knowledge. This is the proper time to clarify and manage expectations. The Exploitation phase is about testing to validate both the knowledge and the assumptions underlying the business opportunity.

Thirdly, we discovered **constraints are useful catalyst for Assimilation and Transformation.** Therefore, somehow constraints should be welcomed. However, the identification of implementation constraints **implies bi-directional exchanges of knowledge and absorptive capacity on fintech's side.**

Fourthly, we refined the understanding of **ACAP loops that serve as Exploitation engine to reduce knowledge gap**. We observed that ACAP loops are rather triggered by the Exploitation of knowledge and secondly that this approach is not just to reduce project execution operational risks but rather to better absorb the fintech's knowledge. Each ACAP does not only increase the stock of prior knowledge and reduce the knowledge gap between the bank and the fintech, but it also orchestrates the contribution of employees and customers to the diffusion of knowledge and the creation of knowledge. This justifies why highest ambition regarding Exploitation shall be set as agreed target. In addition, a culture fostering "try and error" or "learning by doing" projects favors quicker implementation, hence Exploitation

Fifthly, we pointed out the **specific temporality of collaboration**. Collaboration take time: never less than 8 months and up to 14 months. The absorption process is less sequential than it appears: acquisition and assimilation overlap and contractualisation does not condition the start of the downstream phases. The pace of collaboration depends on factors that are mainly internal to the collaboration which makes our ACAP process analysis even more relevant to understand how to accelerate them.

- RQ2 - What **role do the dedicated OI** set-ups implemented by an MNC banks (i.e. within their network of international subsidiaries) play in this knowledge absorption process?

The main finding is that the role of an OI gatekeeper or a lab is not that impactful as long as it has no sufficient delivery resources. we argue that the main locus of ACAP is at project level and individual levels.

- RQ3 - What are the **difficulties and enablers** to implement an ACAP process when collaborating with a Fintech?

Our results insist on new or significant impacts of known factors on ACAP components.

Firstly, IT **Open Innovation infrastructures act as integration engine that provide a competitive advantage to banks**. Open innovation or open banking IT/data infrastructures do significantly impact the absorption process. Open IT architecture favors Transformation by easily building up on respective knowledge. Open innovation or open banking IT/data infrastructures are even more important for banks that they provide structural competitive advantages in the most promising domains in financial sector: open banking and data / artificial intelligence based on value proposition.

Secondly, **fintechs' new project methodologies behave as Transformation boosters. Indeed,** Collaborative tools and agile methodologies at project level and coordination mode make the joint teamwork efficient. These modern project practices boost the coordination and soziabilization capabilities of the bank which in return boost the absorption process. This introduced a new bi-directional relationship between coordination capabilities and ACAP components that was not mentioned in previous studies: absorbing knowledge from a fintech improves your coordination capabilities and reciprocally, coordination capabilities favor ACAP.

Thirdly, we displayed the ambivalent role of Power relationships as a contingency factor. Indeed, power relationships can play a positive or a negative role on the ACAP process. It does not just trigger the start of the ACAP process and the decision to exploit knowledge, but we found out that it can also hamper the whole ACAP process. A fintech is a political object that can be subject to power games. Reviving internal power organizational boundaries tensions, collaboration projects can activate negative attitudes from opponents. Then key decisions and milestones shall be governed in a very explicit way at entity level. Project improving the core business processes of the banks should build on a firm's existing organizational processes and structures. For more exploratory innovative projects this would penalize resources' allocation.

A major contribution of our thesis is the identification of **two emerging major factors** that were not mentioned in the literature, the fintech and resources availability.

Firstly, **we emphasized the need to reconciliate tension on resources availability.** The role of resources availability on the ACAP process is critical and ambivalent. It does not just hamper agile methodology and pace of project but does also hamper knowledge absorption. Yet, paradoxically, the Management of the banks are consciously allocating extremely limited resources to collaboration projects. Management believes that innovative projects including collaboration ones would benefit from frugality. We did not observe any empirical evidence confirming this. Yet we noted the ambivalent role of resources availability: a lack of internal resources favors Transformation thanks to the experts and resources provided by the fintech. Moreover, slack time-based staffing selects the most motivated and entrepreneurial team members. Implementing a "fast track" process that ensures validators are reactive and dedicated to any collaboration project and staffing Open Innovation set-ups with resources required for Exploitation could lower the resources tension. Regarding Transformation banks shall welcome as many resources from fintechs as possible.

Secondly, **the fintech is a dynamic and active source of knowledge that plays a decisive role on ACAP process**. This extremely specific counterpart is no more just than an input of the ACAP process (a knowledge source) but rather as a major contingency factor of the ACAP process. It is an emerging and major contingency factor that impacts the entire ACAP process (mainly Acquisition and Transformation) and some contingency factors (coordination capabilities, socialization capabilities) while suffering from power relationships. Therefore, selecting and regularly reassessing a fintech is a crucial activity to succeed in collaboration projects. We classified the fintech's features that impact the ACAP into 3 categories we suggest to select fintech : intrinsic knowledge features, knowledge transfer capabilities features, and knowledge exploitation capabilities features. A fintech is a complex source of knowledge which brings to the project and the bank much more than technology. The management of the bank, the project's team members and even the fintech do not totally appreciate the usefulness of a fintech and the richness of its impact on the absorption process and on the bank's Organization. Both parties shall pay an active role: the fintech shall invest in knowledge transfer activities and the bank shall regularly assess the fintech's core knowledge and fully embrace its methodology. Moreover, a fintech acts as an agent for change that will structurally impact the following ACAP contingency factors for future collaboration projects: Organizational Culture, Coordination Capabilities,

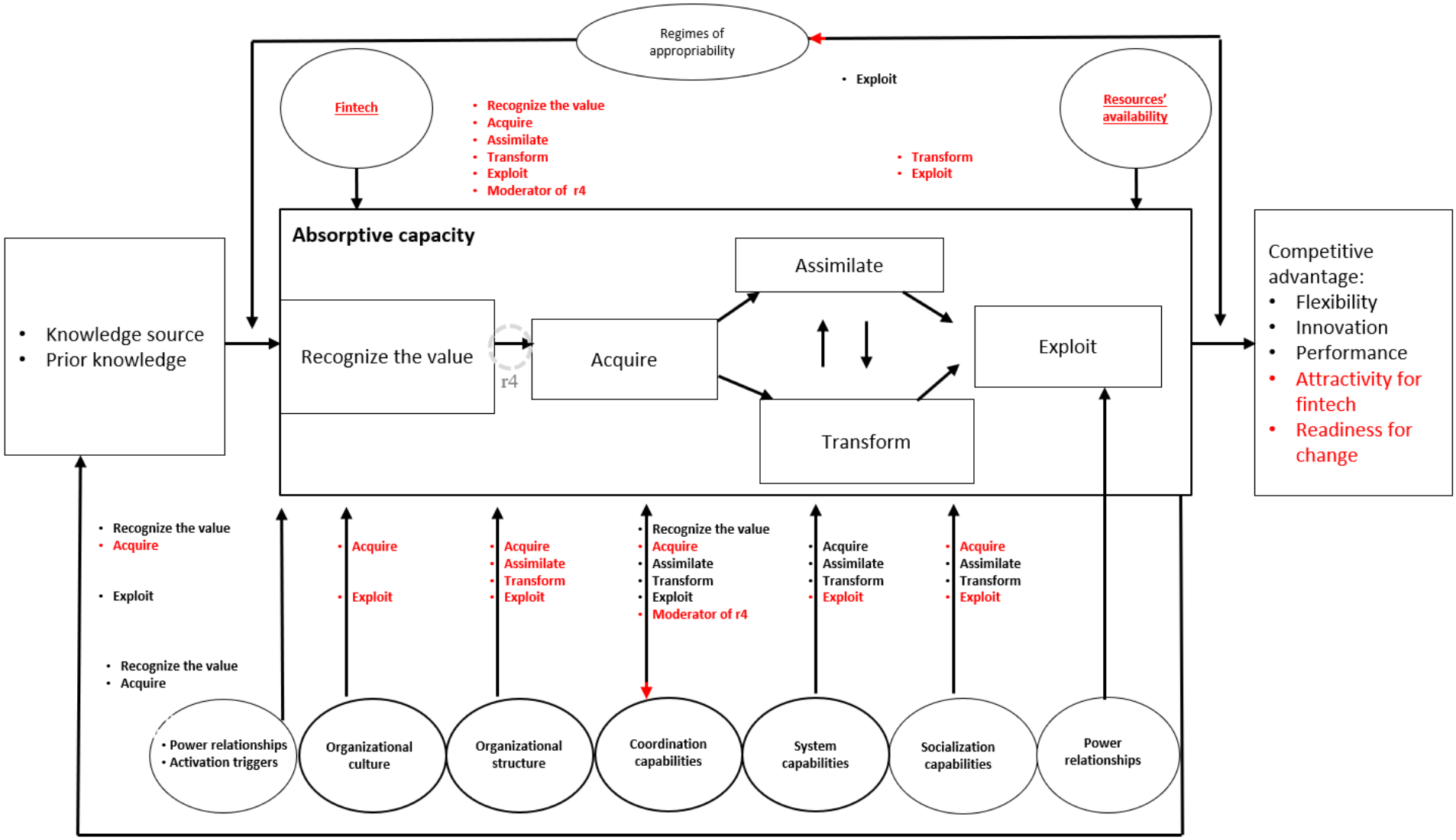
Organizational structure and power relationships. The implications are straight forwards. Firstly, top managers shall use a fintech as a means to transform its Organization.

- RQ4 - What type of **learnings and outcomes** at project and at organizational level (especially within an MNC) do we observe and incidentally, do banks misestimate (under or overestimate) the potential role of such collaboration in their innovation and transformation journeys?

Projects' outcomes have long lasting effects both on the entity and on individuals. Outcomes exceed the strict business performances of the project and structurally lay the foundations for an increase in competitiveness. At entity level, these new assets are capabilities to ease integration with new knowledge which facilitates Exploitation and awareness to change. Any collaboration that increased awareness to make the organization less rigid, or that improved its IT and data integration or that are more acquainted with business opportunities assessment and associated decision to abandon projects has gained long term advantages. Finally, this diversity of outcomes interestingly puts into perspectives the potential failure of collaboration projects.

Lastly, based on our research, we propose **an enriched ACAP model** (see hereafter) to better grasp the complexity and specificity of fintech / banks collaboration. This model demonstrates the complexity of an absorption process and shows the contingency factors that impact the biggest number of ACAP components. The main ones are in decreasing order: the Coordination Capabilities, the Fintech and the Organizational Structure. The model also shows the components that are subject to the biggest number of contingency factors. The main ones are in decreasing order: Acquisition, Assimilation and Exploitation phases. We also positioned the new bilateral relationships we observed: Exploitation on Regime of Appropriability and ACAP on Coordination Capabilities. Finally, we enriched the outcomes list with two major competitive advantages items: Attractivity towards fintechs and Readiness to change.

Proposed enrichment of the ACAP model based on the literature review and our research



Adapted from Todorova, Gergana, et Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». *Academy of Management Review* 32, n° 3 (juillet 2007): 774-86.

In red are the new categories and relationships we propose as academic contributions.

1.6. CONTRIBUTIONS

Regarding our research design

We contributed to the field in providing an **additional process and longitudinal study on Open Innovation and ACAP** including the "integration and commercialization" phases that have been less studied (West and Bogers, 2014). By studying fintechs we focus on a certain type of suppliers **complementing existing studies on the innovation potential of suppliers**. All in all, we performed the **first ACAP process and longitudinal in-depth study applied to fintech and bank collaborations.**

Regarding our academic findings

Overall, all collaborations studied followed the majority of the ACAP process which confirms the relevancy of applying the ACAP lens to the management of collaboration between fintechs and banks. The existing literature is poorly describing the detailed operational activities performed during the absorption process, we systematically listed the main tasks performed.

Nevertheless, we suggest from our research some necessary emerging contingency factors and relationships to add to the model to study collaborations between fintechs and banks.

First one is to consider the **Fintech as a dynamic and active contingency factors** and no more as a specific type of knowledge source i.e. of input for the ACAP process. Second one is to add **Resources' Availability as a significant contingency factor**.

We shed light also on some specific mechanisms like the **knowledge gap and Business virtuous cycle**, and the **ACAP loops.**

We explained how the **temporality of collaboration are driven only by internal factors.**

We demonstrated that the **main locus of collaboration is at project level** challenging the role of organizational set-ups dedicated to open innovation.

Regarding management implication

We derived some actionable recommendations from our results for practitioners to better manage collaboration and **stop underestimating the role of some difficulties and enablers** they should consider or invest in if they want to thrive in the digital age. We list them hereafter (and fully detail them in section 7.2):

- Celebrate collaboration projects whatever their short-term results.
- Unleash the absorption capacity of Individuals and recruit them in collaboration projects.
- Create or leverage an existing Governance that ensures explicit commitment on business opportunity.
- Select properly the fintech adopt a knowledge absorption perspective grid and then fully leverage its specificities.
- Embrace the modern methodologies and support coming from the fintech.
- Welcome constraints.
- Invest in open innovation infrastructures and set-ups.
- Settle the resources' allocation tension with fast-track process and organization.

Limits and future avenues for research

In terms of methodology, our research could be further developed by extending the cases to other the types of collaboration (e.g. new sourcing modalities), to younger fintech (that may need more support from the babk) or to other industries to confirm our findings. Other research could complete and deepen our macro multi-level analysis. In general, performing additional multi-level analysis on a larger sample of collaborations and Innovation setups (labs or any other organizational innovation engine or catalyst) would be beneficial to refine conclusions regarding their effective role in collaboration. Finally additional quantitative studies could confirm the relationships we qualitatively described.

In terms of content, we postulated that describing how collaborations work was a necessary first step to deal with the complexity of collaboration between banks and fintechs. Now, additional research could focus on understanding the rationales and motivations to engage in such collaboration and if managers are aware of them and behave according to them. Secondly, additional research could investigate the outcomes of collaboration and provide insights into the ways in which to measure the impact on performances. Thirdly, we generically mentioned “agile” working practices that improved the coordination capabilities. Additional works focusing on Agile methodology and theory would further clarify and detail the benefits of such practices on collaborations’ activities.

2. RESEARCH PROBLEM

2.1. THE RISE OF COLLABORATION WITH STARTUPS

2.1.1. The need and will to collaborate are now a given in the financial industry

Many large firms in almost every sector have decided to adopt an open innovation strategy to boost their developments or react to disruptors. According to recent survey conducted by S. Brunswicker and H. Chesbrough, open innovation continues to be widely practiced in about 80 percent of responding firms[1]**. Today, large firms care about small players start-up** because they bear some agility and because they think differently[2].

On their side, banks have been experiencing various types of open innovation practices with different external counterparts they connected to. But we observe that, for the last couple of years, banks have been more and more concerned by fintechs. It has reached a point where now **all banks claim to strengthen or accelerate their initiatives towards startups or fintechs.** At this stage, we define startup and fintechs globally as small, technology-enabled, fast-growing and innovative new entrants.

For long, the financial and banking industry has been relying on suppliers to deliver and run its systems. Nevertheless, **explicitly involving suppliers and especially startups within their innovation strategy are something relatively new but getting huge traction.** As a marker of this trend, the term Fintech have been significantly searched on google quite recently[3], in the 2013-2014 years. It has become a fascinating topic and that their relationship with banks is a growing concern. Thus, the term "fintech" has been more and more searched over time (to reach over 300 0000 searches a month).

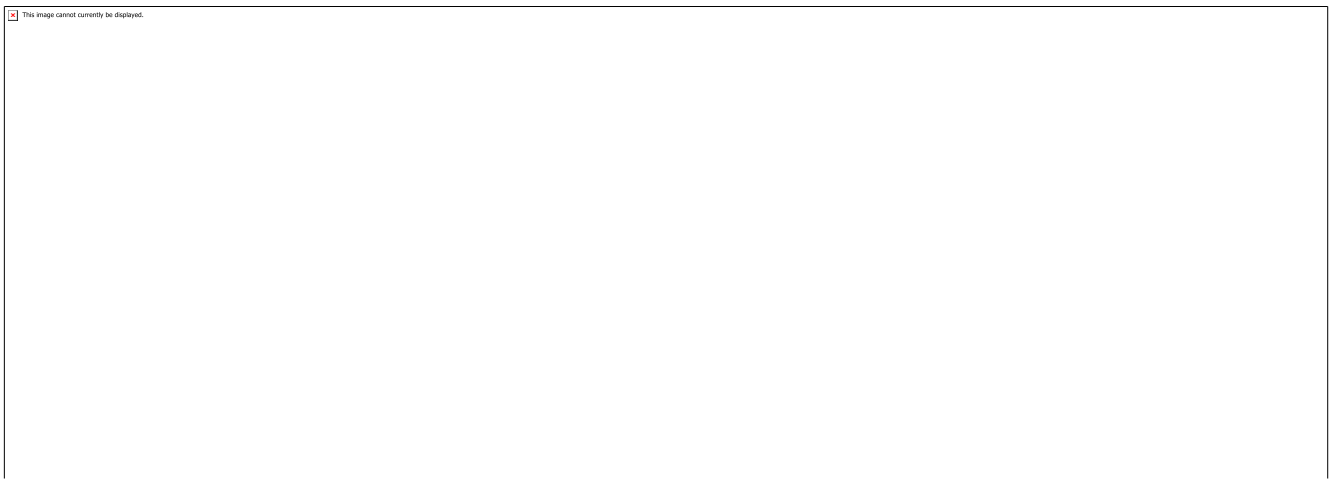
[1] Brunswicker, Sabine, and Henry Chesbrough. "The Adoption of Open Innovation in Large Firms." Research Technology Management 61, no. 1 (February 1, 2018).

[2] « Les grands groupes se ruent sur les start-up pour penser autrement » Les Echos - 28/02/2018. Sabine Delanglade.

[3] The Fintech term first arose in 1972 and then reappeared in the early 1990ies (P. Schueffel - 2016).

Furthermore, we see that there is a growing interest searching for both “banks and fintech” (see [Fintech- Bank] google chart hereafter) as a proxy for collaboration.

Figure 1. Results on worldwide search volumes in Google over the 2014-2018 period



Source: Google Keyword Planner

Fintechs are becoming key established stakeholders of the financial industry[4]. They now account for a growing slice of the financial sector. Collaborating with them is wise because “banks must recognize that fintechs are players who are here to stay in the sector and that they will, with varying degrees of success, overcome the barriers they currently face.”[5]

Finally, as a second marker of this collaboration trend, financial institutions see fintechs as a major part of the digital future and massively invest in them. **“As evidence of this, financial institutions have invested more than US$27 billion in Fintech and digital innovation since 2015”[6].** And global Fintech – VC backed equity funding hit a new record in 2017 at $16.6 billion (across 1 128 deals- source CB-Insights).

This real enthusiasm for fintechs and startups is driven by social and business rational reasons.

[4] Regis Bouyala. « La révolution FinTech : acte 2 ». Revue Banque. 2018.

[5] “FinTech & Banking: Collaboration for Disruption”. Report from Axis Corporate & Efma. July 2016.

[6] “Forging the future: How financial institutions are embracing fintech to evolve and grow”. KPMG International. 2017.

Banks consider fintechs both as key players in the competitive landscape and as a source of innovation. Current regulation pushes also to cooperate: "*Financial services are therefore, after the technology sector, the primary buyers of services provided by startups (a median of 20 startup suppliers per company in 2016). Maintaining their strategic position also requires investment and they are indeed the largest investors in terms of value, among all the respondents in 2016. This momentum is expected to accelerate with the new European payment directive, (PSD2) and many ongoing API-fication and transactional data sharing projects that will facilitate interaction with startups.*[7]"

Banks have been urged to do so notably because the mainstream culture of the "tech" sector states that start-ups are said to be the future of almost any incumbents frozen in their technological legacy and their lack of understanding of the new (digital) usages. Thus, **the objectives for collaborating are linked to both transformation**[8] **and improvement of business positioning** (see hereafter).

[7] Fintech Barometer

[8] Another example of the expectation towards Fintech regarding banks' transformation. http://cestpasmonidee.blogspot.com/2017/08/startup-et-grand-groupe-quelle.html.

Figure 2. Ranking of Fintech strategy objectives – by industry

Source: KPMG international global Fintech survey, 2017

The need to collaborate further is becoming prominent and is driven by external market opportunities and threats.

The development of Open Banking pushes for collaboration with fintechs. It enables banks to enlarge their services range with value added services that help them remain the preferred customer interface and avoid being disintermediated by new entrants (“bank as a platform” model). Open banking is also an opportunity for banks to test new business models and sources of revenues. It relies on opened IT systems (through the APIs technology) to ease access to assets (algorithm, data, functions) from partners. By nature, it relies on collaboration with external partners and especially fintechs that know better how to provide the value the bank is looking for. This structural trend is fostered by regulation (DSP2) and technology (APIs).

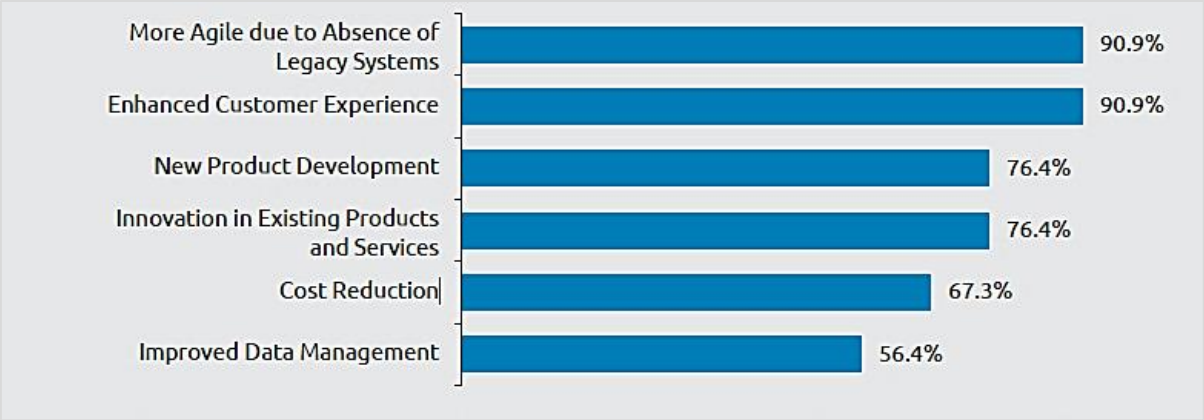
At firm level, mastering collaboration may have become a competitive advantage. This know how is becoming a key success factor on the industry. Thus, we observe now that fintechs are becoming more aggressive in expanding their lines of business beyond initial use case and partner together to make it

happen[9]. It is now about "fighting fintechs with fintechs". Indeed, both fintechs and banks shall get prepared to face the web giants (so called GAFA and their Chinese equivalent the BATX). The latter have the capacity to make the most of the new banking opportunities offered by the digital economy and the dominant liberalism principles conveyed by EU regulations. Moreover, they are also good at collaborating with startups[10].

In this competitive landscape, the selection of partners and the management of collaboration project becomes core competencies.

The opportunities to collaborate are clear from both sides. Fintech should help banks be more laser focused on clients because they have changed customers' experience and expectations and they are good at it. They will also provide their complementary know-how to banks should push for collaboration. Finally, most of the Fintech need banks to scale and are massively moving towards B to B strategy. Therefore, Capgemini for instance talks about a "*Symbiotic relationship between fintechs and financial institutions*" with the following fintechs' competitive advantages banks should leverage.

Figure 3. Fintech key competitive advantages, fintechs' view (%), 2017



Source: Capgemini, Efma World Fintech Report, 2018

[9] CB Insight report: "Fintech trends to watch 2018". https://www.cbinsights.com/reports/CB-Insights_Fintech-Trends-2018.pdf

[10] Amazon has a banking license in Luxembourg and is about to launch a current account. Messenger will become a payment channel. Wechat has disrupted the Chinese financial sector not a Fintech.

The industry seems very optimistic: "*Each form of collaboration has its own challenges and its own obstacles, but ultimately big banks and fintechs have a great deal to offer each other. Banks have a large customer base, stable infrastructure, and deep pockets to fund new projects. Start-ups provide out-of-the-box thinking, technical expertise, and the agility to adapt quickly to change. The limitations of fintechs are precisely the strengths of incumbent banks, and vice-versa. The future for them lies in pursuing a collaborative relationship. Together, they can be far more successful at improving financial service offerings than if they compete against one another*"[11].

Tangible benefits are expected from successful collaboration: "[European] *banks can gain a potential 3 to 5 percent in revenues by collaborating with fintechs, through enhanced customer acquisition, more fee-based revenues, better pricing accuracy, and lower cost of risk"*[12].

2.1.2. Relationships between banks and fintechs have evolved overtime and are still not stabilized

If collaboration seems obvious now, both parties started to get closer recently and progressively. At the beginning, fintechs were ready to fight with any financial institutions whose image had not yet recovered from the 2008 crisis[13]. Many fintechs emerged with the goal of better serving and even revolutionizing the way of satisfying customers and finally to overtake incumbents. On their side, banks participated to growing numbers of "learning expeditions" to face and even touch the reality: start-ups are of different kinds and at least banks can get inspired by them. Given their commercial and recruitment tractions, start-ups and pure tech firms are said to have the right organization, the right technology and the right go-to-market strategy. Overcoming the Not Invented Here Syndrome (NIH), banks are progressively acknowledging that they can and would better not do everything by their own in the digital age and that they can take the opportunity to "outsource" their R&D[14].

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[11] "FinTech & Banking: Collaboration for Disruption". Report from Axis Corporate & Efma. July 2016.

[12] "Where Will Fintech Lending Land?". Accenture study 2017 on European Banks.

[13] "Efma - World FinTech Report 2018." https://www.efma.com/study/detail/26811

[14] « Les fintechs, laboratoires externalisés des banques » ? La Tribune, C. Teissier et A. de Catheu. 23/08/2016. http://www.latribune.fr/opinions/tribunes/les-fintech-laboratoires-externalises-des-banques-593825.html

On their side, fintechs have progressively changed their posture and positioning towards banks. They are now also eager to build partnerships as they struggle with regulation, scale and customer adoption and that finally banks still have good assets to leverage on[15]. Globally there are now two categories of fintechs. On one side, there are the B to "banks" fintechs that are supplying banks or even other fintechs. Those fintechs are growing in terms of numbers and business traction. They are the ones that banks of course are willing to cooperate the most with. On the other side, there are the "B to C" fintechs that believe they will reach sufficient scale and associate profitability based on the sustainable differentiation features they built compared to banks. Cooperation with this type of fintechs are then less common and more specific: they are mainly driven by acquisition[16] or co-branding intents.

To move forwards, banks have invested and explored in various initiatives and dedicated set-ups to enable collaboration during the last years[17]**.** Many multinational companies have launched initiatives to build relationships with external parties aimed both at "acculturating" their "old schools" organization and obviously to hopefully come up with successful innovative project to strengthen their market position. They have multiplied new and dedicated OI set-ups (innovation teams, labs, Hackathons, accelerator programs partnerships with innovation ecosystems like incubators or co-working spaces etc.…) aimed at connecting and working with their environment to foster innovation by absorbing some value out of their relationships with their partners. Banks have implemented alternative models shaped by their own business culture and most traditional ones made sure that they preserve sufficient control

of the development and data associated with their businesses. Though some banks claim collaboration 's performance is improved when they involve some OI setups (e.g.: accelerators), f**inally, their approach has mainly been experimental with no sufficient historical background to conclude which one have been efficient and above all why.**

Finally, a**fter a round of observations, collaboration initiatives are effectively mushrooming everywhere using various models** and banks are investing more and more heavily in fintechs.

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[15] 75.5% of the fintech interviewed by Capgemini indicate wanting priority to collaborate with traditional actors.

[16] The largest US banks have acquired only 18 fintech startups since 2013, but activity in the last 5 months has started picking up. In total, 2017 saw more acquisitions by top US banks than any other year. Source CB Insights

[17] « Les champions de l'innovation » Innovation Review. April 2018.
http://www.innovationreview.eu/articles.php?article_id=2576

2.2. THE PARADOX OF ATTRACTING YET DISAPPOINTING COLLABORATIONS

2.2.1. While soaring, collaborations' experiences remain frustrating

Collaboration initiatives are getting trendy and launched in a very optimistic atmosphere. **Yet both fintechs and banks feel puzzled and at the same time voice doubt whether if it can succeed**.

Firstly, **it is quite challenging to collaborate**: "*there are very few fintechs that have been integrated in the activity of the bank and that effectively scaled and transformed the bank*" [18]. Whatever the industry and modalities, OI is a complex journey by itself. It is even more complex if you want such different, specific and complex types of organization to collaborate. But the tricky thing is that banks cannot transform overnight into such evolving and sophisticated organisms. They notably have some "legacies" that they used to call "assets" before: procedures, structures, premises, own IT infrastructures etc. … and people.

Secondly, **banks are not used to work with fintechs**: they do not know them and how to assess them and they have not experienced any projects with them. Banks have been used to work with external big providers or suppliers but not with this type of new and small "objects" that can be successively and even simultaneously suppliers, partners and even competitors. The temptation is to apply the same routines they used to work with traditional suppliers with fintechs and start-ups. The other temptation is to apply a make/acquire or buy limited thinking to drive collaboration.

Thirdly, discussions and initiatives on collaboration are growing, yet the industry still does not know how they work. There are more and more events to mix large firms and start-ups but there is almost **no detailed sharing on the practices underlying the implementation** of such collaborations.

[18] Elias Ghanem, Fintech Lead for Continental Europe at Capgemini / EFMA – World Fintech Report 2018 Presentation 06/03/2018 - Paris

Fourthly, while collaboration with fintechs is becoming a must and various initiatives are publicly launched, paradoxically **there are very few successful track records** with large banking firms yet. So, it may be a little bit too early to confirm and extrapolate that some financial institutions have turned the threat of the fintech[19] into opportunity[20]. On the one side, the proliferation of fintechs provides financial institutions with a "supermarket" for capabilities, allowing them to use acquisitions and partnerships to rapidly deploy new offerings. On the other side, very few banks demonstrates tangible results so far and all together with the fintechs admit huge difficulties in experiencing collaboration initiatives. When financial institutions compare themselves against their competitors in terms of fintech capabilities, only 50% of them consider they perform on par with their competition and almost 30% behind competitors[21]. Most of them do not go beyond the NDA or procurement stage. "*While traditional financial institutions and fintech firms understand the value each can provide, the market has seen few success stories in which an incumbent/fintech partnership has generated significant growth*"[22]."*Financial institutions too often deal with fintech in a very inefficient, fragmented and tactical manner*" […] "*less than half of those organizations with a fintech strategy believe that their strategy is well aligned to current fintech challenges and disruptions*" (KPMG International global fintech survey, 2017). Finally, there are no previous track records nor clear nor proven experiences to guide on how to proceed. A lot of advertisement is made by almost every banking and financial institutions regarding their capabilities to work with start-ups and fintechs. They often claim that they now are better prepared to face the digital revolution[23]. Yet few of them can demonstrate effective performance. This does not mean they do not have benefited from it at least internally but there is no detailed description of the projects they managed in collaboration with an external counterpart and what them made from it.

[19] In the thesis, we will use the generic term "Fintech" standing for both start-up and more established Fintech. Yet, we will explicitly describe the level of maturity of the external counterpart to better characterize the external counterpart of the collaboration.

[20] "Beyond Fintech: A Pragmatic Assessment Of Disruptive Potential In Financial Services Part of the Future of Financial Services series" World Economic Forum's prepared in collaboration with Deloitte. August 2017

[21] Source: KPMG International global fintech survey, 2017

[22] "Efma - World FinTech Report 2018." https://www.efma.com/study/detail/26811

[23] « Startup et grand groupe: quelle collaboration ? »- 02/05/2017- Patrice Bernard http://cestpasmonidee.blogspot.fr/2017/08/startup-et-grand-groupe-quelle.html

There is no magic recipe regarding how to best handle and get organized to succeed. Every stakeholder in the financial industry is exploring various way to manage collaboration. In fact, **banks are learning by doing along to collaborate with startups and fintechs.**

2.2.1. While largely shared current collaboration success factors are too generic to be meaningful and useful

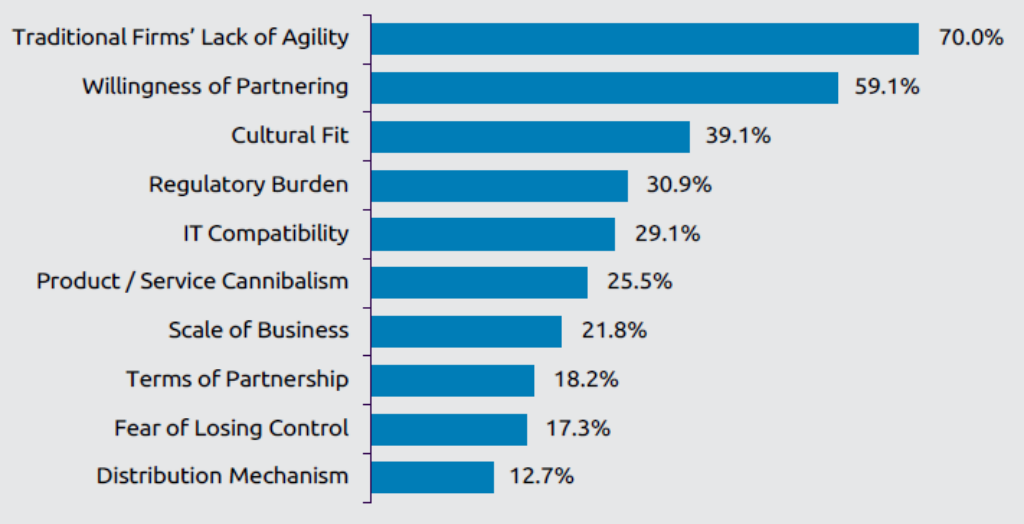
So far, very little attention has been paid on describing in depth and scientifically collaborations. During the past 3 years, there have been almost no fintech events or banking innovation forums without dedicated roundtables or pitches on collaboration between fintech and banks. But they all aimed at providing some guidance and best practices to succeed rather than sharing the detailed journey they went through. We think that this posture is detrimental to building a deep understanding of the mechanisms at stakes and hence to build a robust knowledge on the topic.

Reasons for failure and attention points <u>from the Fintech perspective</u> are known and are shared among practitioners.

A for an example, when looking at the 2018 EFMA survey (see Figure 4 hereafter), main obstacles for attempting to find a suitable partner are:

1. Structural: *the traditional lack of agility of traditional banks players*, *the regulatory burden*, *the IT compatibility; The scale of business*)
2. Cultural: *the cultural Fit between banks and startups/fintech*)
3. Strategic: *the effective willingness to collaborate; The product/service cannibalism; the terms of partnership; the fear of losing control; the complex distribution mechanism.*

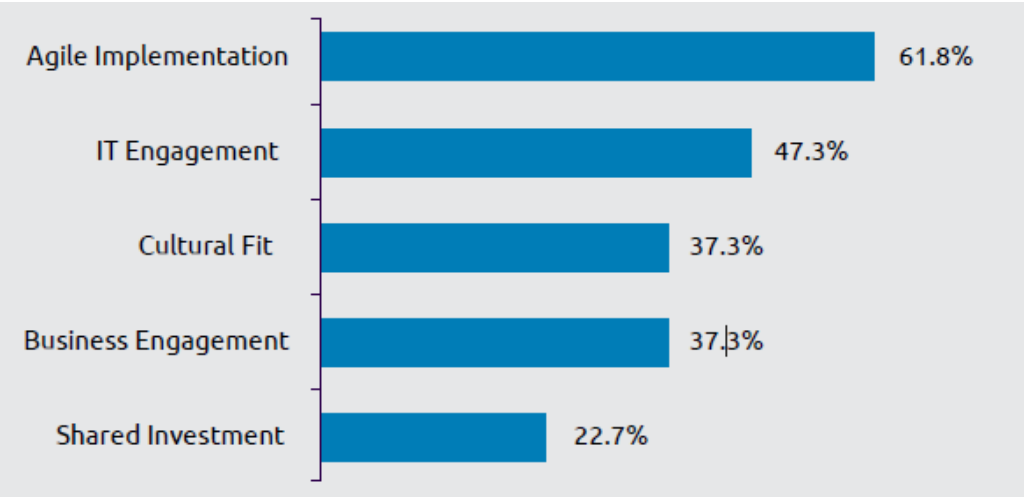
Figure 4. Challenges fintechs face while looking for partner (%), 2017



Source: Capgemini, Efma World Fintech Report, 2018

When it comes to engaging with banks (see Figure 5 hereafter), main obstacles are again structural (*agile implementation and IT implementation*), Cultural and strategic (*business engagement and shared investment*).

Figure 5. Concerns when working in a partnership, fintech perspective (%), 2017

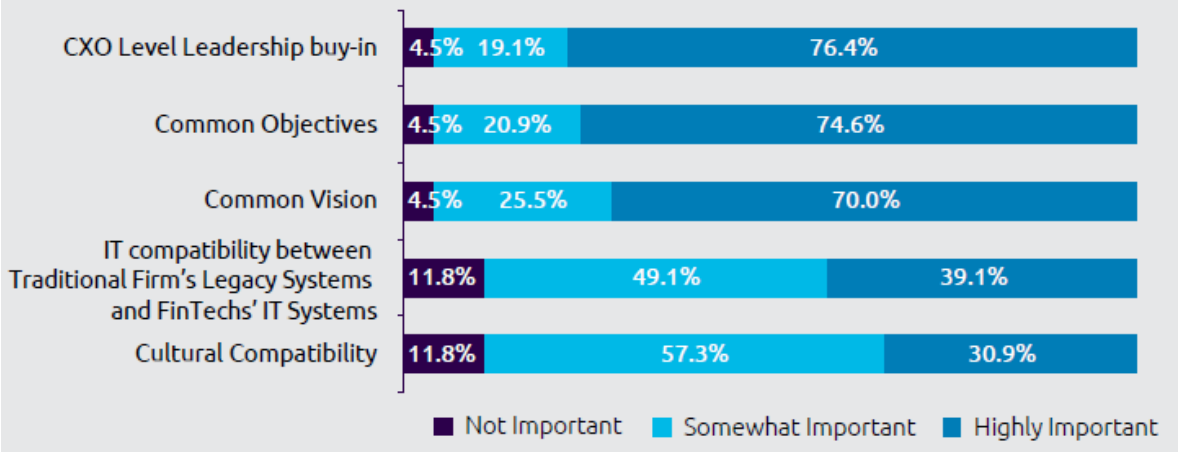


Source: Capgemini, Efma World Fintech Report, 2018

Finally, the key success factors to try to overcome above obstacles are also:

1. Strategic:
   - C Level direct support and facilitation
   - Alignment of vision and objectives to ensure willingness to collaborate for real
2. Structural: Capability to integrate / communicate with the systems of the bank
3. Cultural fit including required new agile and simple ways of working (agility and iterative vs perfect deliveries).

Figure 6. Key success factors for collaboration, fintechs perspective (%), 2017



Source: Capgemini, Efma World Fintech Report, 2018

Those hints remain to be more scientifically proven and seem both generic and incomplete.

Fundamentally, it is difficult to state robust key success factors at this stage because we lack historical data and so far, there have been very few objective successes to refer to. People generally state key success factor without demonstrating the link between them and the successful output (which by the way is never precisely defined). There is room for proposing a more robust study on collaboration with fintech.

Except for the required level of agility and the highly regulated environment, all the obstacles and key success factors mentioned are the same as for any alliances. They bear no specificities which is surprising regarding the specific nature of start-ups and fintechs. Indeed, as for an example, collaborations between fintech / banks bear specific organizational challenges: banks have no R&D departments[24] and most of the fintechs cannot afford to manage Open Innovation. Therefore, they must define specific ways to manage collaboration.

Another example of specific feature is the number and variety of potential partners for the banks. This bears a strategic and operational challenge regarding how to select partners and cope with their singularity. There are more and more potential partners to screen and with limited track records. Therefore, traditional KPIs and routines are difficult to apply. “Banks struggle to cut through the clutter generated by several thousand recently founded Fintech firms”[12]. This prevailing need to collaborate and the associated difficulties is becoming a market for leading consulting firms. Some of them (Capgemini, Mckinsey and KPMG) recently designed a new service offering aimed at facilitating the identification and matching of fintechs for banks[25].

It is true that this type of asymmetric alliances is relatively new and that alliances’ outcomes are contingent to a lot of factors. Yet, this cannot fully explain why we are still that weak to identify more powerful specific key success factors. We believe it is because the fundamental work of describing Fintech/Banks collaboration has not been sufficiently and deeply performed to reveal key specificities.

The grey literature does not mention some criterion that academics consider as paramount. For instance, C.M. Wittmann, S.D. Hunt and D.B. Arnett[26], propose three main interdependent factors that explain alliances success: the resources (each partner brings to the alliance or that is generated by the alliance), the competences (“as an organizational ability for finding, developing, and managing alliances” - Lambe et al., 2002, p.145; cited by Wittmann, Hunt & Arnett, 2009) and the relational factor

[24] A very large proxy for R&D spending in banks are « change the bank » IT spendings. Organizationnaly R&D is mainly located in labs fully dedicated mainly dedicated to emerging technologies (e.g.: blockchain or AI)

[25] « Capgemini veut relier banques et fintech ». Les Echos - 27/02/2018, Ninon Renaud.

[26] Wittmann, C. M., Hunt, S. D., Arnett, D. B. (2009). “Explaining Alliance Success: Competences, Resources, Relational Factors, and Resource-Advantage Theory”. Industrial Marketing Management, 38(7), 743-756.

(as motivations to build the alliance and share some values). J.L. Cummings and SR. Holmberg[27] reveal the importance of specific competencies and capabilities in the alliance management and the selection of the partner. They mention four critical success factors areas to fit with during the selection of partners. The first deals with what the firm wants to achieve by partnering with another firm ("Task-related key success factors- KSF). The second deals with the explicit or implicit knowledge the firm has identified and will use ("Learning-related" KSF). The following deals with the conditions that will positively impact the type of relationship the firm seek for the partnership (Partnering-related KSF). The last area is about identifying the risks the firm will have to manage (risk-related KSF). [28]

We observe that learning issue is overlooked in the key success factors that are commonly shared in the grey literature. From a resource-based view, Knowledge, as a generic resource is at the very core of the rational to access to resources. From a Knowledge-based view, it even the most strategic resources of the firm.

Conversely, academics focus more on the selection of the appropriate partner rather than the way collaboration should be taken care of during the entire relationship.

Both academics and grey literature underline the structural key success factors that lay the good environment for collaboration to succeed. But academics suggest that it requires specific competencies and organizational ability to make the most of the resources everyone bring. Though banks have all invested in dedicated set-up (innovation functions within the organization, labs, accelerators, …) to develop and animate their innovation ecosystems, there is too much advertising and too little industry discussions to describe and recommend how a bank should get organized. It is because there is no certitude as to how OI setups and resources should be articulated. Some innovation events even conclude now that OI setups implemented by banks should be mistrusted! Understanding their effective role in innovation process would be valuable.

[27] Jeffrey L. Cummings and Stevan R. Holmberg. "Best-fit Alliance partners: The Use of critical Success Factors in a Comprehensive Partner Selection process" (2012)

[28] We made a reference to the academic literature on "alliance" to demonstrate some lacks from consulting research. The in depth literature review (see section 4) will be dedicated to the core concepts of OI and ACAP.

Therefore, we believe a valuable analysis on collaboration should adopt a knowledge driven perspective, address the specific organizational innovation set-up at stake and finally cover the entire process from the partner's selection phase to materialization of the partnership. Both academics and practitioners lack the sane analytical ground to run additional analysis. So, we believe there is a value in further and differently investigating collaboration to come up with different lenses to identify more specific obstacles and eventually come up with complementary and more operational success factors.

2.2.2. A bank and knowledge-based perspectives are required to understand collaboration and avoid current disappointments

We propose to focus on the **bank perspective**[29] of the collaboration as it is the most pragmatic and powerful way to improve collaboration efficiency. Indeed, if both parties must adapt, the challenge is more on the banks side to transform itself than on the fintech's side. As for the fintech, by essence, with their "startup's DNA", they are used to adjust and evolve.

Collaborations are fragile and difficult to implement. Lots of collaboration fail though very few consulting firms do position on supporting effective collaboration implementation. When they claim to do so they do not detail or adjust their methodology. This indicates that implementation is not just contingent but more fundamentally still a new frontier to explore and for sure be analyzed (vs focus on partners' selection process). The operational tools or recommendations that the industry is implementing[30] aim at improving the quality of the relationship or the operational, legal and technical routines. But they miss to ensure that all these improvements shall also contribute to the main goal:

[29] Note that some studies adopted start-up's perspective to analyze the motivation to work with MNCs (Vapola, T - 2011). For start-ups, acquisition of knowledge (notably regarding international markets was key motivation source. Startups choose their MNC partner regarding the easiness to leverage the knowledge, the ease of technically complementing, matching and leveraging with the MNC's products and services. "The more the MNC is a technology leader in the industry and lower the barrier to leverage from the leadership, the more attractive the MNC is as a partner to start-ups"

[30] See for example the recommendations of the "a guide to partnerships between financial services institutions and FinTechs" p. 6 from the City UK, Santander and Shearman & Sterling. November 2017

absorb knowledge to accelerate innovation. Sign of the times, public initiatives[31] and some open innovation consulting companies have recently setup barometers to measure the perceived quality of collaborations. This demonstrates both that collaborations are valuable but also that they are fragile and need careful attention and close monitoring[32] to identify and diffuse best practices. They monitor three simple pre-defined criterions: time (of decision making and execution), simplicity of procedure and caring. **Time is for sure a key specific element we should consider in analyzing collaboration. But if collaboration fail or are disappointing it is maybe because they are just monitoring relationship criterion or task related criterion overlooking the main challenges with its own timescale and organization to mobilize: knowledge management resources.** Motivation for collaborating may go beyond a stable commercial or industrial partnership. Success is not just about delivering a common project or acquiring the partner. It is often about acquiring a knowledge (more than the technology), about co-constructing a product or services whose consumer adoption is not known) **and most of all is about learning i.e. gaining sustainable knowledge to better innovate overtime.** Note that it echoes the initial rational for any strategic alliances[33] but in that type of alliance, we believe Knowledge is both the most critical goal and the best approach to manage the collaboration. We even assume that adopting a Knowledge perspective is good to manage expectation and to derive more robust KSF we lack so far. Banks' CEO should assess outcomes differently and not limit the value of collaboration to economic outcomes (that are in addition not easy to get).

Given "there is no clear winner when it comes to fintech today", there may be a need to revisit the true goals and opportunities at stake when it comes to collaborating with a fintech. By doing so, we may better align firms' fintech strategy with organizational objectives, better considers current assets and capabilities and better manage a "transformation that may never have a defined end point as fintech will continue to evolve" [34].

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[31] Example, the 1st edition French Tech Barometer of Startup-Corporate Collaborations in France: http://startups-grandsgroupes.lafrenchtech.com/

[32] https://www.entreprises.gouv.fr/files/files/directions_services/innovation-ouverte/barometre-relation-grans-groupes-startups-2017.pdf . Bluenove and Le Village by CA initiative. Based on self-assessment questionnaires sent to 117 startup and 51 large groups from different sectors.

[33] For L. Cummings and S.R. Holmberg, the main objectives for companies to build an alliance are "to access needed capabilities, gain knowledge and seek competitive advantage" (2012).

[34] "Forging the future: How financial institutions are embracing fintech to evolve and grow". KPMG International. 2017.

Practitioners are quite ready to acknowledge the importance of knowledge when challenged on this. Yet, they **lack operational tools and description of the knowledge engagement model they should implement and how learning process contribute to the innovation process**. We also think the industry lacks an integrative approach describing the way banks manage the flow of knowledge carried out by their partners. The industry needs a consolidated view and a consistent understanding of how knowledge and innovation articulate from ideation to implementation phases.

The managerial problem we ambition to address in our thesis is *why collaborations between fintechs and banks though paradoxically rising remain uncertain and often disappointing*?

Synthesis of the research problem section

We have underlined a **huge paradox for practitioners**: Open Innovation (OI) is becoming a prevailing strategy in the banking sector yet collaborations with fintechs are globally still perceived as disappointing or bearing huge uncertainties regarding outcomes and operational processes at stakes.

Banks and investors have **developed huge expectations** regarding collaborations. They are said to increase their knowledge base and to accelerate a bank's innovation and even transformation journey. Therefore, banks have multiplied dedicated OI set-ups and collaborations projects. But they do not know exactly how to make the most of their open innovation initiatives.

There is a need to investigate collaboration to address a **business problem** we synthetize as follows: ***why collaborations between fintech and banks though rising remain uncertain and often disappointing*****?**

Indeed, so far**, there is no dominant practices** that seem to emerge regarding how to collaborate with this new type of suppliers they are not used to work with.

We can conclude, then there is **a clear value in deep diving into collaboration projects to observe and understand the empirical mechanisms at stakes.** This may explain some existing disappointments but may also explain why banks continue to bet (yet not exclusively) on such collaborations. Observing that key perspectives are paradoxically not sufficiently considered, we propose to adopt **a knowledge perspective** as the most relevant ones to ground a meaningful and actionable analysis.

Understanding this growing and lasting collaboration phenomenon has become critical for large banks to **remain relevant and sustainable**.

Therefore, the managerial problem we ambition to address in our thesis is to *why collaborations between fintechs and banks though paradoxically rising remain uncertain and often disappointing?*

3. LITERATURE REVIEW

In this section, we will first investigate the concept of **Open Innovation** and more especially we will review the **inbound or outside-in type** of open innovation. This will help us better understand **why knowledge is at the core of innovation and collaboration practices**.

We will position the **absorptive capacity (ACAP) concept regarding open innovation and** describe in detail the **absorptive capacities** components as a key framework to capture and describe the process and activities of inbound OI. **Known factors influencing the ACAP process will be identified**. Consolidating the previous literature, we will suggest an **extended ACAP model** as a framework for our empirical research.

For both OI and ACAP, we will **identify implementation challenges from previous research.**

Finally, we will analyze if all the above notions have been studied when applied to the **specific context of the financial industry** or when they explicitly deal with collaboration with fintechs as a very specific type of external counterpart.

Then, a semi-quantitative literature review we help us confirm and sum up the different **literature gaps** eligible for potential contribution of our thesis.

3.1. OPEN INNOVATION (OI)

Having just described the context where banks have all adopted open innovation to protect or develop their business, we will now review what the literature says about the OI concept. We will define OI and describe what it encompasses. We will focus on the link with knowledge and alliance concepts to point out why **OI are very core to address collaborations between bank and fintechs**. Finally, we will shed light on the fact that implementing OI is a challenge and that analyzing OI at project level within a MNCs provides unique insights.

3.1.1. OI definition

Open innovation (OI) basically states that the assets necessary for creating innovation will not necessarily "be collocated with those for commercializing them, and thus offers a **"new paradigm" to explain why firms should commercialize external sources of innovation** (Chesbrough -2006) (West and Bogers, 2014).

OI is defined as:

"the purposive use of **inflows and outflows of knowledge to accelerate innovation** in one's own market and expand the use of internal knowledge in external markets, respectively"
(Chesbrough, Vanhaverbeke, and West 2006).

We can distinguish between two "halves of the open innovation model: **outside-in practices** to bring external ideas and technologies into a company's own innovation process, and **inside-out practices** to move unused internal ideas and assets to other companies that can use them" (Chesbrough and Brunswicker - 2014).

Open innovation as a term and a **concept emerged almost 20 years ago** with seminal work of Chesbrough's (2003) *Open Innovation. OI* is an emerging body of research defined by Chesbrough's (2003) in his original book, *Open Innovation: The New Imperative for Creating and Profiting From*

Technology. OI is grounded also in previous research that tackled how firms obtained innovation outside the firm, whether from individuals, customers, suppliers, or universities (West and Bogers, 2014). **Open innovation has gained more and more important and widespread attention** over the last 15 years. This topic is quite well mentioned both in the academic and business worlds. In December 2018, an Ebsco search on "open innovation" and limited to scholarly (Peer Reviewed) journals, resulted in 5 178 items from 2003 (date of first publication of this concept registered as such) to 2018.

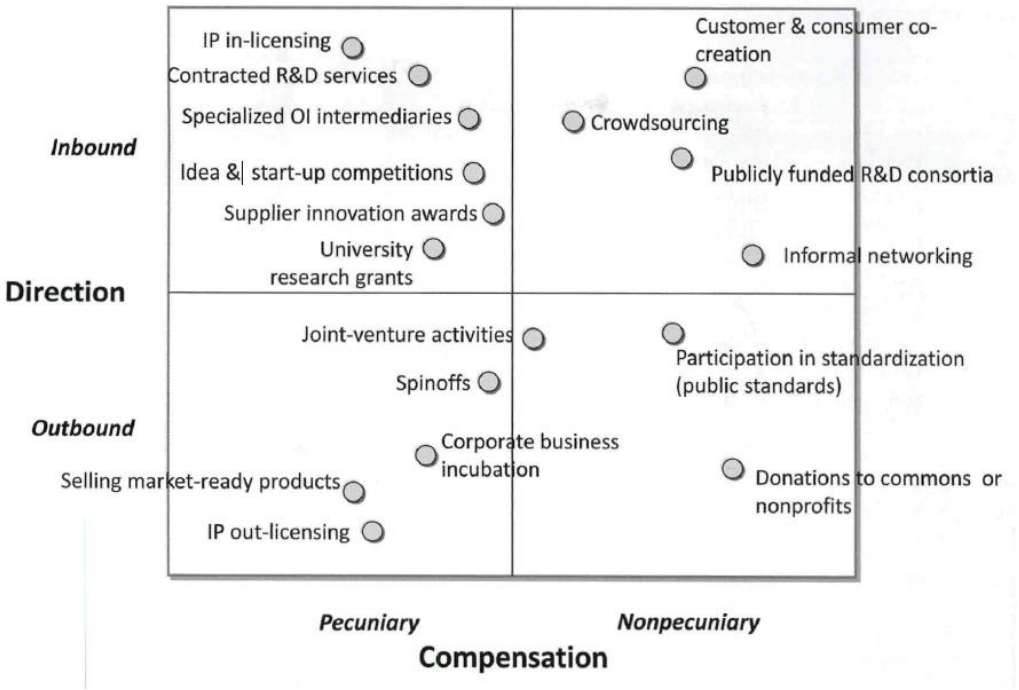
OI is intrinsically linked to knowledge. The process view of the OI definition coined by Chesbrough (Chesbrough, 2003) is about processes in which firms interact extensively with their environment, leading to a significant amount of external knowledge **exploration and exploitation**. "Inbound open innovation is an outside-in process and involves **opening up the innovation process to knowledge exploration**. Here, "*external knowledge exploration* refers to the acquisition of knowledge from external sources […] *External knowledge exploitation* relates to the commercialization of technological knowledge"[…] ***External knowledge retention*** refers to maintaining knowledge outside a firm's organizational boundaries over time using interorganizational relationships as an extension of the internal knowledge bases" (Lichtenhaler- 2011).

OI is intrinsically linked to competences and knowledge bases. Indeed, in their 2017 study on how a supplier can substitute internal R&D, M. Pihlajamaa, R. Kaipia, J. Säilä and Kari Tanskanen recall that it requires "some overlap in competences and knowledge bases (Hung and Chou, 2013; Mowery et al. 1996)" to integrate new knowledge and co-create innovations. "Organizations must have moderate cognitive distance to each other". Companies with weak internal R&D would benefit from external R&D though if the knowledge base is too limited, they would not make the most of it. **Then, there should be a balance between closed and open innovation.**

3.1.2. The different modes of OI

Chesbrough and Brunswicker mapped the different and **various practices for "outside-in" and "inside-out" open innovation** and asked what the leading practices were in 2011 (Chesbrough and Brunswicker - 2014). They used a 2-axis matrix. One axis is based on the direction of the knowledge flow (flow going into the firm - **inbound** or going outside – **outbound**). The other one is based on whether participants are paid or not for their ideas or contributions.

Figure 7. Modes of open innovation



Source: Chesbrough and Brunswicker (2013)

Inbound Innovation is defined as the acquisition of external knowledge to improve internal innovation. Those practices should naturally correspond to bank – fintech collaboration practices. Yet, nor this synthetic view nor studies do not indicate which practices are the most widespread in that particular case. Secondly, of course, collaboration implies more complex and intertwined modes of open innovation. **We may assume the flows of knowledge are bi-directional.** The fintech also can benefit

from ideas or assets from the bank to develop its own business. And we may even investigate if collaborations can be more fruitful if there is a more balanced flow of knowledge between parties. Likewise, there are simultaneously some pecuniary and non-pecuniary relationships between parties. For example, banks provide information regarding regulation or specific banking requirements for IT systems that are of value for fintech and that are not always transferred against money or even under legal framework (e.g.: unformal network or attendance to panel discussion or co-working place etc.…).

Collaboration journeys can imply several OI modes and each of them can be important to build the collaboration. **To our knowledge, there is no study, at least focusing on the banking industries, that points out which practices are the most relevant OI modes when collaboration is concerned**. **In our study, we will focus on north-west quadrant types of OI practices.** Indeed, such modes are frequent and tangible expression of collaboration intent and outcomes. Though firms combine exploration and exploitation of knowledge, in our thesis **we will focus on inbound innovation hence on knowledge acquisition**.

West and Bogers (2014) also identified other research that examined the role of innovation created outside the firm by individuals and notably the ones where the firm **explicitly collaborate** with individuals (through crowdsourcing or co-creation). When firms are explicitly absent, the authors indicated that the largest category of research deals with the creation of innovation by users. In their review of 165 articles about open innovation, they came up with a **large majority or studies on "inbound innovation"** (118) followed by "coupled" type of OI (i.e. involving collaboration between the focal firm and single or multiple actors in a two-way interaction as defined by Enkel et al in 2009).

As stressed by the authors, the **"coupled" type of collaboration** proposed by Enkel includes reverse flows of knowledge that goes beyond what is predicted by the linear model of Chesbrough.

Modalities at stakes in OI are diverse. In their review of research on open innovation, West and Bogers (West and Bogers, 2014) indicate that "firms differ in their degree of organizational integration for acquiring external R&D" (Granstrand and Sjölander, 1990; Vanhaverbeke, Duysters, and Noorderhaven, 2002) which might include **technology sourcing and acquisition** (Arora, Fosfuri, and Gambardella, 2001; Nicholls-Nixon and Woo, 2003; Veugelers, 1997), **strategic alliances with external suppliers of technology** (Lambe and Spekman,1997; Narula and Hagedoorn, 1999), or a **collaborative R&D joint venture** (Peck, 1986).

Open innovation theories address various external stakeholders, yet, in their 2017 article M. Pihlajamaa, R. Kaipia, J. Säilä and Kari Tanskanen indicate that "recently, the innovation potential of **suppliers** has gained a lot of attention (Brem, 2010; Sjoerdsma and van Weele, 2015; Yan et al., 2017), and in fact they have been found the most important open innovation partners (Un et al., 2010)". Authors mention that "tapping of supplier innovation" may provide access to new technologies (Ellis et al., 2012) and to innovative ideas about products and processes (Wagner and Bode, 2014). "Collaboration with suppliers has been found to lead to a shorter time to market, improved product quality, and reduced development costs (Johnsen, 2009), which is why companies are increasingly looking for ways to leverage their suppliers' innovation potential (Smals and Smits, 2012)". **In prior literature, we have very few explicit references to fintechs as specific type of suppliers** (see section 3.5). Fintechs are specific type of suppliers because they are more tech, generally more dependent (need for cash or scale-up opportunity of its business), better at understanding customers and organizing the transfer of knowledge. Finally, they are used to new ways of working (notably by using quasi uniquely agile methodology and widely familiar with technology). This is important knowing "the innovation potential of suppliers is strengthened by their familiarity of their customers' needs and a position where mechanisms for knowledge transfer may already be in place (Un et al.,2010)" (M. Pihlajamaa and Al., 2017). Therefore, it could be of interest to investigate if their specific nature plays a role in the collaboration journey.

3.1.3. Rationales and expected outcomes from OI

We have first to recall that **innovation is recognized as the best way to deliver consistent organic growth** (Chesbrough, 2006). Yet pure internal approach and associated investment are questioned by the rising development costs and the shorter product life cycles (Chesbrough, 2007). Finally, the diffusion of knowledge and the development of a market of knowledge push for looking at opportunities to look outside the boundaries of the firm to innovate.

Today innovation has become "**systemic** and that makes companies increasingly dependent on external partners" (A. Kolk and K. Püümann, 2008).

As recalled by Henry Chesbrough himself, firms have been introducing inputs from external parties for long time yet there has been a steady growing interest in further leveraging these types of inputs and to extend the sources of such inputs. This trend has certainly been catalyzed by the work of Henry Chesbrough since his seminal publication on this subject in 2003 (Henry Chesbrough, 2003). If more and more academics have worked on this subject, Chesbrough himself has also demonstrated that **"Open Innovation is not a passing fad"** (Chesbrough and Brunswicker, 2014) for European and US practitioners. Indeed, he provided more systematic and quantitative evidence on open innovation effective adoption among large firms. And indeed, 78% of the executives who answered consider their firms practice OI.

"The concept of open innovation has recently gained wide academic attention, as it seems to have **significant impact for company performance**" (Kim et Al, 2015).

Increased linkages to external partners, such as suppliers, customers, universities, and competitors, are considered to lead to **better innovation outcomes** (Felin and Zenger, 2014). A M. Pihlajamaa and Al (2017) indicate, "various recent empirical studies have evidenced the positive overall effects of openness on innovation performance (Alexy et al., 2016; Cassiman and Valentini, 2016; Cheng and Huizingh, 2014; Laursen and Salter, 2006) and financial performance (Du et al., 2014; Noh, 2015)".

West and Bogers recall research from previous to the seminal work of Chesbrough indicates that "the drivers of external sourcing emphasize two types of motivations: **improved efficiency through scale economies and access to innovations** (or innovation-producing capabilities) not held by the focal firm" (West and Bogers, 2014).

More precisely, what firms expect to gain from OI is also reflected by the topics covered by the different research on OI mentioned by Lichtenthaler: technology transactions, user innovation, business models, and innovation markets.

A M. Pihlajamaa and Al (2017) add, "Technology-based innovation includes a high level of technological and market uncertainty, which is why **flexibility** in terms of openness is valuable for companies (van de Vrande et al., 2006)".

3.1.4. OI practices and implementation challenge

We will further analyze the **OI process** by describing the integrative model of Lichtenthaler in section 3.2.1. Nevertheless, this section is about highlighting that todays' practices are heterogenous and that deep diving into collaboration project implementation is valuable regarding the difficulties practitioners must overcome in OI initiatives.

The main challenge of OI lays on being implemented i.e. being adopted and delivering results whether they are tangible/direct (e.g. projects deliverables) or intangible/indirect (e.g. organizational learning). As mentioned by Lichtenthaler (February 2011), looking at OI is particularly relevant because firms are required to implement innovation despite the difficulties associated with managing their activities.

Implementation and especially **integration is clearly the difficult part of OI**: "the key is to figure out which necessary missing pieces should be internally supplied and how to integrate both internal and external pieces together into the system and architecture (Chesbrough, 2003)" (A. Kolk and K. Püümann, 2008).

In their quantitative research, Chesbrough and Brunswicker identified the challenges perceived as the most important and persistent to make use of open innovation (Chesbrough and Brunswicker, 2014). The ranking was: firstly, **the organizational challenge, secondly the management of external relationships with innovation partners and thirdly the internal cultural issues and more precisely mainly the "not invented here" syndrome**. They also stressed that people involved in OI were somewhat globally quite satisfied with their OI journey. "The fact that no firm has abandoned open innovation in spite of these lukewarm perceptions suggests that **firms are still learning how to get better results with open innovation**." Finally, the survey results suggest that open innovation vendors of software tools, intermediaries, and other research sources need to work harder to increase the satisfaction of large companies using these resources.

Paradoxically, implementation and especially integration has not been the most studied facet of OI. In their review of research in OI, West, Joel and Bogers stressed some gaps or understudied areas of the OI concept. West and Bogers reviewed 291 open innovation related publications from the top 25 innovation journals plus the by highly cited work beyond those journals. They found out that

there is "a **relative dearth of research related to integrating and commercializing these innovations**" (West and Bogers, 2014). As mentioned in previous section, **integration and commercialization have been less studied** (West and Bogers, 2014). Authors also mentioned a lack in considering **business models**, despite "their central role in distinguishing open innovation from earlier research on interorganizational collaboration in innovation". They recommended future research directions such as "**examining the end-to-end innovation commercialization process and studying the moderators and limits of leveraging external sources of innovation"**.

In their review of the literature on open innovation, Randhawa, Krithika, Wilden, and Hohberger (November 2016), identify clusters of studies and gaps in existing research. The authors mention the main critical acclaims: the "lack of coherence of the body of research surrounding the concept or the lack of sufficient theoretical grounding of the concept". They suggest drawing on theoretical perspectives external to the field to examine multiple facets of OI. They indicate that studies have predominantly investigated the firm-centric aspects of OI, with a focus on the role of knowledge, technology, and R&D from the innovating firm's perspective. They notably point out OI strategy formulation and **implementation as avenues for future research**. They reviewed a first branch of publications "that describes the determinants of successful implementation mechanisms, best practices and tools in general (Hopkins, Tidd, Nightingale & Miller, 2011; Hsieh & Tidd, 2012; Mortara & Minshall, 2011; Remneland-Wikhamn & Wikhamn, 2011; Traitler & Saguy, 2009). **These publications denote the novelty of projects, the nature of existing resources, the timing of implementation and the existing organizational culture as the most important determinants"** (Randhawa and Al., 2016). Another branch of publications presents implementation tools and mechanisms with a focus on "the inbound perspective (Ford, Mortara & Probert, 2012; Jeon, Lee & Park, 2012; Robertson, Casali & Jacobson, 2012; Sjodin, Eriksson & Frishammar, 2011; Schiele, 2010:2012; Wang, 2012) or outbound perspective of open innovation respectively (Bianchi *et. al.*, 2010:2011; Lichtenthaler, 2011).

Succeeding in OI implementation requires to build organizational capabilities and takes time. "To achieve the potential benefits of opening up innovation processes, however, managers have to acknowledge the need to develop organizational capabilities to successfully manage open innovation"…"Managers need to address multiple determinants at distinct levels to facilitate the development of organizational capabilities. This transformation will usually require an initial learning period, and anecdotal evidence suggests that managers should allow at least two to three years before

the positive effects of open innovation practices materialize (Chiaroni, Chiesa, & Frattini, 2010; Huston & Sakkab, 2006; Lichtenthaler & Lichtenthaler, 2009)" (Lichtenthaler, 2011).

Lichtenthaler (2011) recommends that firms "**try to build on a firm's existing organizational processes and structures** rather than implementing entirely new open innovation processes. By adapting a firm's managerial processes for alliances and other forms of collaboration, learning requirements may be reduced, and a more effective and efficient transformation toward open innovation may be enabled".

Expectations should be managed. "However, the development of organizational capabilities often takes several years (Kale & Singh, 2009). It is therefore important to avoid unrealistic expectations concerning the benefits from open innovation. In particular, academics and managers should not oversimplify the implementation of open innovation strategies" (Lichtenthaler - 2011).

Finally, OI implementation requires to **better understand and manage the internal and external processes**: "A firm's internal activities are critical to developing organizational capabilities for managing the collaborations with external partners. Consequently, interdependencies between internal and external processes constitute a major managerial challenge. Most companies have become aware of the relevance of open innovation, although not all of them yet act according to these insights" (Lichtenthaler - 2011). "While the conceptual framework highlights knowledge exploration, retention, and exploitation as critical processes, a better understanding of the activities and tools underlying these processes is needed. For instance, external knowledge exploration is often a complex process that needs to be further systematized. In addition, interactions of these processes deserve particular attention (Lichtenthaler & Lichtenthaler, 2009)".

The few articles dealing with Open Innovation set-ups like corporate accelerators are appearing since 2015 yet mainly treat the design (Mahmoud Jouini S, Duvert C, Esquirol M , 2018; Kohler, 2016). **of such set-ups, the engagement model** (Weiblen and Chesbrough, 2015) **and the portfolio of startup. They do not cover ACAP or fintech.** Mahmoud Jouini S, Duvert C, Esquirol M (2018), depicted two critical factors in building an effective corporate acceleration capacity: designing a differentiated value proposition for startups and developing a specific process to manage the relationships between the

corporation and the startups involved in the accelerator: “a transparent process, accelerated corporate decision processes to align with startup momentum, and dedicated corporate resources”.

3.1.5. Open innovation and close inbound innovation at project level

Most of the studies have been addressing OI at firm’s level. Yet Kim (2015) states that “analyses that concentrate on efforts made in individual projects could provide unique insights into open innovation, and enrich our understanding of its antecedents, which constitute one of the most understudied areas in open innovation research”. “Most empirical investigations about this emerging concept have been case studies of successful early adopters of open innovation, and their **analyses have largely been at the company level**” (Kim and Al., 2015).

Kim (2015) reviewed the **antecedents of open innovation** activity at different levels of analysis, including external environment, firm, business, and personal levels. **At project level, he found relatively few studies** that highlighted two types of antecedents: the presence and/or significance of **core capabilities** and the **promising potential of projects**. Kim came out with 6 types of antecedents that affects OI activities. **Team-specific antecedents** are “team size” and “learning distance”. **Task-specific antecedents** are Strategic importance; Technology uncertainty; market uncertainty; relevance to the main business (market relatedness; production relatedness). Those drivers can be of interest to identify and describe meaningful relationships in our research.

If Kim (2015) pointed out the **necessity to analyze OI at individual project level** (while keeping defining open innovation activities at a firm level in his research). Other authors underlined the interest of looking **at intra units’ knowledge** transfers to assess the extent of OI practices and benefits that an organizational unit can bring to another which refers to **close inbound innovation**.

In their follow-up to a previous study, S. Brunswicker and H. Chesbrough (2018) recently “added new measures to examine open innovation at the project level, we found that firms selectively manage knowledge flows into and out of projects and are formalizing processes as they move from problem definition to execution”

3.2. ABSORPTIVE CAPACITY: THE WAY TO MANAGE THE INFLOWS OF KNOWLEDGE INVOLVED WITH OI

We just reviewed the Open Innovation concept and why OI is very core to collaborations between banks and fintechs. We will now explain why absorptive capacities (ACAP) are a very necessary concept to rely on to describe and manage inbound innovation practices.

3.2.1. Links between OI and ACAP

In this section, we will analyze the contribution of Lichtenhaler (2011). This contribution is important for us to legitimate why we would like to adopt a process view of open innovation (to support the implementation challenges practitioners are facing), why absorptive capacity (ACAP) are intertwined with OI and finally why adopting a project in addition to an organizational point of view is enlightening to analyze OI practices.

We saw in section 3.1.4, that succeeding in OI implementation requires to build organizational capabilities (Lichtenthaler, 2011). In particular, **inbound Innovation relies on ACAP processes to be implemented. ACAP are a specific dynamic capability a firm must implement**

Given the difficulties encountered to implement OI, Lichtenhaler proposed a **process-based understanding of open Innovation** (Lichtenthaler & Lichtenthaler - 2009). Authors provided a definition of OI that is also linked to related literatures, "such as *knowledge management*, *organizational learning*, and *firm boundaries* (Grant & Baden-Fuller, 2004; March, 1991; Santos & Eisenhardt, 2005):

> *Open innovation is defined as " systematically performing **knowledge exploration, retention, and exploitation** inside and outside an organization's boundaries **throughout the innovation process**".*

The authors underline the joint importance of managing both **interorganizational innovation process and internal activities** that are necessary to make the most of knowledge acquisition by developing **absorptive capacity**. To help both practitioners and academics, **Lichtenhaler** (Lichtenhaler, 2011) developed a **multilevel conceptual framework for organizing open innovation** in firms, specifically focusing on the project and individual level in addition to the firm level.

Table 1. Integrative view of managing knowledge in the context of open innovation

		Knowledge exploration	**Knowledge retention**	**Knowledge exploitation**
Internal	Organizational level	*Inventive capacity*	*Transformative capacity*	*Innovative capacity*
	Project level	*Make decision*	*Integrate decision*	*Keep decision*
	Individual level	*Not invented here attitude*	*Not connected here attitude*	*Not sold here attitude*
External	Organizational level	***Absorptive capacity***	*Connective capacity*	*Desorptive capacity*
	Project level	*Buy decision*	*Relate decision*	*Sell decision*
	Individual level	*Buy in attitude*	*Relate out attitude*	*Sell out attitude*

Source: Lichtenthaler, Ulrich. "Open Innovation: Past Research, Current Debates, and Future Directions." Academy of Management Perspectives 25, no. 1 (February 2011): 75–93.

Three processes can be organized within a firm's organizational boundaries or together with external partners (i.e. internally or externally). **Knowledge exploration refers to** the generation of new knowledge (internal knowledge exploration) or to **the sourcing of knowledge from outside**.

Knowledge retention results from the need to store or maintain knowledge over time internally (internal retention) or, in a firm's interorganizational relationships, such as alliances (external retention). Knowledge exploitation is about using the knowledge in a firm's own products or services (internal) or about transferring outward knowledge (external). To successfully manage these activities, companies need to develop relevant organizational capabilities. Among them is **the absorptive capacity defined as an organizational capacity to support knowledge exploration from outside** (section 3.2.2 will deep further in the definition of ACAP). The different relevant organizational capabilities are developed at the firm, at project and at individual level. At project level for instance, there will be make or buy decision we will track in our analysis. In Lichtenthaler's view, absorptive capacity depends on "inventive capacity" (i.e. the ability to generate knowledge) and on "retention capacities" (i.e., the ability to maintain knowledge) because it lays the ground for building up the necessary prior knowledge. According to the author, the connective capacities of an organization firms ensures privileged access to external knowledge without directly acquiring it (e.g.: alliances). In the understanding of the OI practices and OI set-ups of our research field, we will describe the ecosystems or connections the organization (and incidentally the project) could leverage.

Finally, knowledge exploitation meaning the matching of external or external knowledge with a final market. The author mentions that "innovative capacity also represents the realized (i.e., exploitative) component of absorptive capacity".

In his article, Lichtenthaler proposes **a multilevel perspective of OI and recommend adopting an integrative view of processes and organizational levers at stakes to "to become successful in implementing open innovation"**. At project level, he identified some key substitutes decisions reflecting the critical knowledge management process. We will analyze some these decisions by inputting them in our field research (see section 5). The *make-or-buy* decision reflects knowledge exploration at project level. Whereas *integrate-or-relate* reflect knowledge retention meaning the way managers decide or not to integrate knowledge into their internal knowledge base. Finally, exploitation, of knowledge is characterized by the *keep-or-sell* decision.

The author claims that "a successful open innovation program requires **fit among a firm's strategy, organizational capabilities, and their determinants at multiple levels**". He points out the importance of consistency between the innovation strategy of a firm, its organizational capabilities and the decisions made at project level.

OI performances depend on ACAP performances and investments. The discussion on **open innovation** suggests that the ability to absorb external knowledge has become a major driver for competition. A key pre-condition is that firms dispose of "**absorptive capacity**" to internalize external knowledge. As indicate M. Pihlajamaa and Al (2017), "from an organizational perspective, absorptive capacity is considered an important requirement for inbound open innovation". M. Pihlajamaa, R. Kaipia, J. Säilä and Kari Tanskanen (2017) indicate "the level of absorptive capacity has been linked to successful open innovation performance in multiple investigations (Bianchi et al., 2016; Enkel and Gassmann, 2008; Randhawa et al., 2016; Saebi and Foss, 2015; West and Bogers, 2014)". T.H Clausen (2013) demonstrated that "internal R&D, training and an educated workforce, as core aspects of firms' absorptive capacity**,** are positively associated with (the intensity of) innovation cooperation"... An implication is that external knowledge does not enter the firm freely. The costs firms must invoke to be able to source external knowledge in the OI context is considerable. Without investing in **internal R&D, training and recruiting** workers with good educational qualifications, firms may not be able to follow the open approach to innovation". Therefore, to characterize OI and ACAP practices, we need to analyze the OI set-ups the firm has invested in and that projects leverage in performing the collaboration activities.

Finally, using the ACAP lenses can strengthen the theoretical foundation of OI. Indeed, "Although open innovation has developed into a prospering topic in innovation management research, it has also triggered debates pertaining to the coherence of the research endeavors pursued under this umbrella, including its theoretical foundations." (Randhawa, Krithika, Wilden, and Hohberger - November 2016). The authors mention the main critical acclaims: the "lack of coherence of the body of research surrounding the concept or to the lack of sufficient theoretical grounding of the concept". West, Joel, and Marcel Bogers pointed out the opportunities for researchers on OI to integrate with other Theories. In particular, the authors stressed the Absorptive Capacity as a major one to further investigate. They indicate the managerial questions of choosing between R&D spending and relying on external innovations. "Additional R&D spending by firms increases their absorptive capacity and in theory should increase their use of external innovations; however, the use of external innovations could also decrease the need for internal R&D capabilities (West, Joel, and Marcel Bogers - 2017). It is interesting to mention that the concept of ACAP is older than the OI one.

3.2.2. ACAP definition and process

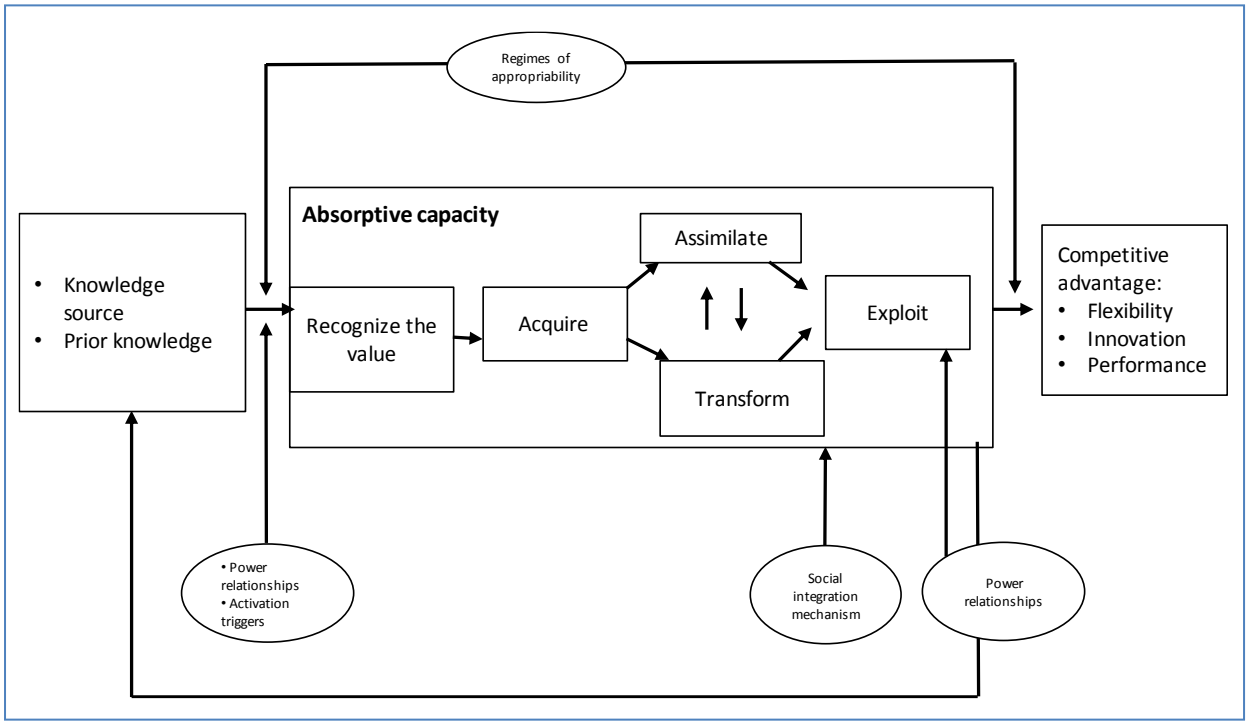
The **ACAP** are defined by the seminal contribution from Cohen and Levinthal (1990) and have been reviewed since (see current bibliography).

> "*Absorptive capacity consists of the capabilities to **recognize** the value of new knowledge, to **assimilate** it, and to **apply it to commercial ends**. Absorptive capacity depends on the **knowledge source and prior knowledge**, it is conditioned on the **appropriability regimes**, and it influences the **innovative performance** of the Firm*".

From an organizational perspective, ACAP are a high-level capability which considers a firm's ability to gain innovation benefits from interactions with external parties. This capacity is necessary to be able to capture and diffuse internally the suppliers' innovativeness. A discussed in the previous section, **ACAP are then necessary to successfully implement open innovatio**n.

The underlying ACAP process and theory has been regularly reconceptualized either to reduce ambiguity (e.g.: by Zahra and George, 2002) or to enrich it (e.g.: Todorova and Durisin, 2007; Lichtenthaler, Ulrich, and Eckhard Lichtenthaler - 2009) to better capture the complexity of the phenomenon at stake. "Various process dimensions have been suggested, ranging from Cohen and Levinthal's well known dimensions of acquisition, assimilation, and exploitation (1990); Zahra and George's (2002) four dimensions [and adding a new one which is Transformation] that constitute potential and realized AC; the three process dimensions of exploratory learning, transformative learning, and exploitative learning from Lane et al. (2006) to **Todorova and Durisin's (2007) recognition, acquisition, assimilation or transformation, and exploitation**" (Volberda, Foss, & Lyles - 2010).

Figure 8. The Todorova and Durisin's (2007) ACAP model



Source: Todorova, Gergana, and Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». Academy of Management Review 32, no 3 (July 2007): 774‑86.

This ACAP model from Todorova and Al is divided in several components and steps that we will describe hereafter.

First, the authors reintroduce **Recognize the value** (formerly proposed by Cohen and Levinthal, 1990) as a first component of ACAP. Based on research on learning and innovation they stress the importance of "recognizing change in the architectural knowledge" which is necessary "for the survival of firms in dynamic environments" (like the changing banking environment we discussed in our instruction). Indeed, this capacity can be "hampered by their embedded knowledge base, rigid capabilities, and path-dependent managerial cognition" but also "from the use of the values of key stakeholders as evaluation criteria". Recognizing the value is then the ability to value the new external knowledge. This exploratory learning "implies external and internal knowledge sharing mechanisms" (Chauvet, 2014).

The second component of ACAP is **Acquire** which refers to “intensity, speed, and effort to gather knowledge”.

Then, as synthetized by Pihlajamaa and Al (2017), **Assimilation** “is about analyzing, processing and interpreting the acquired knowledge (Zahra and George, 2002). Companies with high assimilation capability are able to use their employees’ knowledge, experience, and competency for internalizing new knowledge (Forés and Camisón, 2016)”. Assimilation is about understanding new external information and linking it to the existing knowledge base.

The authors then suggest that “**Transformation** is regarded not as a consequence but as an alternative process to Assimilation”. Transformation capacities “through the process of bisociation help firms to develop new perceptual schema or changes to existing processes” (Zahra & George, 2002: 195)”. “This new capability explains why and how organizations are capable of changing their cognitive schemas to absorb new knowledge that is less compatible with their prior knowledge” (Todorova and Durisin, 2007). Transformation is necessary when “the cognitive structures of the individuals themselves must be transformed to adapt to an idea or a situation that they cannot assimilate”. This may lead to significant insights and recognition of new opportunities (Zahra and George, 2002).

Finally, the fifth last component of ACAP is **Exploit** “stands for the incorporation of the new knowledge into the company's operations (Zahra and George, 2002). Typical outcomes of exploitation are patents (Camisón and Forés, 2010; Forés and Camisón, 2016), new products (Todorova and Durisin, 2007), or the achievement of other organizational goals (Noblet et al., 2011)”. The assimilated knowledge is then used to create new knowledge and commercial outputs through exploitative learning” (Lane et al., 2006, p. 856).

Todorova and Al. reject the ambiguous distinction between potential (acquisition and assimilation) and realized absorptive capacity (transformation and exploitation), the potential absorptive capacity being necessary but insufficient condition for achieving performance benefits (Zahra and George, 2002). Nevertheless, this distinction is interesting to stress that obviously a balance is necessary. Investing in gathering new knowledge without any commercial benefits may be economically questionable.

Conversely, focusing on exploitation may generate fast profits but limit the company's flexibility and ability to introduce major innovations (Pihlajamaa and Al - 2017).

The ACAP model proposed by Todorova is made of several components that intent to **describe the complexity of what impacts the performance of ACAP.**

This model:

- illustrates how **absorptive capacity mediates the effect of external knowledge on innovation outcomes.**
- maintains **the "Knowledge Source" and "Prior Knowledge" as determinants of the efficiency**.
- maintains as key **contingency factors** the concepts of "I**nternal or External Triggers"** as "events that encourage or compel a firm to respond to specific internal or external stimuli" (Zahra and George, 2002) (e.g.: crisis or technological shifts) and "**Appropriability Regimes"** (Cohen and Levinthal, 1990) as another key contingency that moderates (but with no consensus as to its positive or negative effect on ACAP antecedent namely the knowledge source and its outcomes) the relationship between absorptive capacity and its outcome of sustainable competitive advantage (Zahra and George, 2002). "Appropriability conditions refer to the degree to which firms capture the profits associated with their innovative activity and are often considered to reflect the degree to which valuable knowledge spills out into the public domain" (Cohen and Levinthal, 1990).
- introduces **additional contingency factors** impacting the ACAP like the notion of "**Power Relationships"** (which influences both the valuing and the exploitation of new knowledge).
- Updates also the role of the "**Social Integration Mechanisms"** contingency factor that now impacts the entire model. "Social integration contributes to knowledge assimilation, occurring either informally (e.g. social networks) or formally (e.g. use of coordinators)" (Zahra and George, 2002).
- is a **dynamic versus a linear model** which seems to better fit with reality. To that extent, the authors added new feedback links.

We would use this enriched model of Todorova and Durisin as our favorite referential to **describe the different mechanisms and contingency factors at stakes** (e.g.: the impact of political sponsorship on the depth of the collaboration, the importance of adjusting the relationship i.e. adopting a dynamic approach to ACAP). This model should help us understand of how a bank manages to use external knowledge from fintech to learn and deliver innovation and even more.

3.2.3. ACAP practices and implementation challenges

In this section, we:

- detail the ACAP process and associated contingency factors. We look at the dynamics of ACAP.

- acknowledge there is a need for further describing ACAP operational practices to better understand and manage ACAP mechanisms. This understanding of operational practices should help firms better cope with the difficulties of OI implementation. Therefore, we will deep dive into the ACAP process to identify the empirical observations or measurements provided by past research.

- propose also to refine and extend our referential model of Todorova and Durisin (2007) to better consider the contingency factors and determinants we found in the literature. This extended framework will frame our empirical study.

By looking at how companies enforce these ACAP capabilities, it is possible to gain an understanding of how inbound open innovation should be managed. Yet, d**espite of the popularity of the absorptive capacity construct, there have been surprisingly few studies which address how different phases of the process should be managed and what kind of interactions exist between the four capabilities** (Volberda et al., 2010). In their review of the underlying theories and empirical studies of absorptive capacity, Volberda and Al. (2010) point out some research gaps. Similarly to OI (see sections 3.1.4 and 3.1.5), they identified a lack of research studies to address the **multidimensional nature of ACAP** ("Unidimensional Operationalizations") and the **processes** ("Ignorance of Process Dimensions") **that influence the viability of ACAP** (e.g.: how knowledge is stored and retrieved is not addressed; creativity, innovation, improvisation, and chunking of knowledge Constructs. Authors assert "few studies have broken AC down into its components and measured elements of recognition, assimilation, and utilization separately, apart from Lane et al. (2001), Jansen et al. (2005), and Lichtenthaler (2009)".

We described in the previous section the overall conceptual model we choose to analyze ACAP. Yet, to be meaningful for academics and useful for practitioners, we **need to detail further the different steps of the ACAP process. This requires to further operationalize the ACAP concept**. We argue that the power of the conceptual model is hampered by its ambiguity that prevent managers to

use and benefit from it. Operationalizing absorptive capacities has been complex and too often limited by too much focusing on outputs of ACAP or using proxy variables such as R&D intensity. In its article, V. Chauvet reminds that "past research does not to consider prior work" (Chauvet, 2014). It is partly due to the **complexity of operationalizing ACAP** (Lichtenthaler, 2009; Camisón & Forés, 2010). Chauvet points out the limits of relying on proxies like R&D activity because it is inadequate for SMEs. This is the same for the subsidiaries of banks for instance that do not perform explicit R&D activities.

We identified some operationalization intents coming from the literature that aimed at describing and measuring ACAP components yet at organizational vs project's level for most of them (see 12.3 for existing synthesis). We performed in depth analysis of previous research to derive actions and activities to detail the dimensions of the ACAP process to make them more actionable and less ambiguous. **We propose to focus on describing ACAP mechanisms versus measuring the ACAP activities** (like in several academic intents to operationalize the ACAP). Therefore, we may sometimes derive and interpret some proposed measurements to "translate" them into activities and actions or to adapt to our main unit of analysis i.e. the project level. Indeed, consistent with our convection that banks have difficulties to manage the collaboration because we still do not know enough how they look like, **we consider quite premature to measure phenomenon that has not been described enough**. We consolidated former contributions that refer or rely on different ACAP models. We will reallocate them according to the categories used in the model of Todoreva and Durisin.

We propose to further describe ACAP in an operational way by consolidating prior research into the 3 following sets of information:

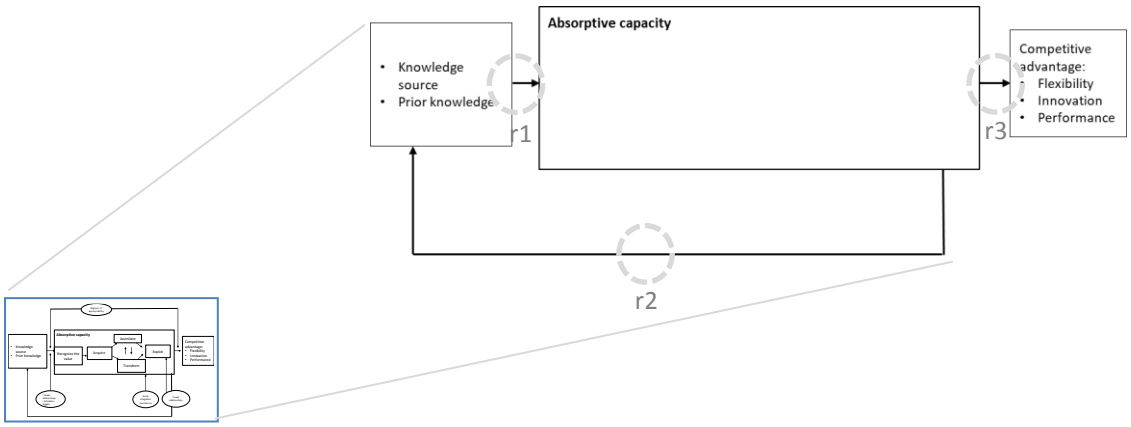
- the first detail **the inputs and outputs of the process**
- the second is about describing the different **activities of the ACAP process** and then the relationships between their components
- the third is about describing its **contingency factors** with the different ACAP process dimensions. Based on the literature, we may enlarge the Todorova and Durisin model for the sake of better embracing the complexity of the collaboration types we ambition to study in the thesis.

For each of the above set of information, we will synthetize the operationalization intent we identified in previous literature and highlight the updated labeling we suggest (in blue). These suggestions are not a priori new categories or assumptions we would like to test during the field research. They are just for clarification or simplification purpose. A contrario, findings on new categories coming from the analysis that will update or complement existing operationalization intent will be highlighted (in red) and discussed in section 6 dedicated to results.

This review of past operationalization intents is summarized in tables 14 and 15 in section 5.4.2 and will be used to frame our coding and data structure. This will help us capture ACAP operational practices.

Input and output of the ACAP process

The first relationship we propose to describe deals with the antecedent / input (**r1**) and outcomes / output (**r2**) of the ACAP process:



Todorova & Durisin (2007)

Prior knowledge

Every ACAP models indicate the prior knowledge and knowledge sources as inputs (**r1**) for ACAP processes and especially for the initial dimensions of knowledge recognition and knowledge

acquisition (Chauvet, 2014; Dubouloz & Bocquet, 2013; Nobet and Al., 2000). The literature provides the following features to describe prior knowledge. Firstly, its **accessibility.** Secondly, **the type of knowledge at stake: either a knowledge transferred from external or a knowledge that is internally born and shared.**

Prior knowledge materializes in the capacity of the firm to use a **common language and to have transferred the knowledge** within the different level of the organization. Some evidence of its accessibility **are knowledge repositories, experience of R&D department or last qualification**.

The type of prior knowledge materializes also in **training, past internal projects, past (R&D) investments** and past **experiences** with external counterparts like for instance past investments but also **past collaborations**.

In their work on ACAP antecedents, Van den Bosch and al. (2005) mention two categories of antecedents: **prior knowledge related to the knowledge to be transferred and internal organizational mechanisms. Prior knowledge is made of knowledge related to the domain but also to problem solving**. Indeed, Cohen and Levinthal (2009) distinguish between learning and problem-solving capabilities: "learning capabilities involve the development of the capacity to assimilate existing knowledge, while problem-solving skills represent a capacity to create new knowledge".

Knowledge source

For Zahra and George (2002), *"external knowledge sources include **acquisitions** (Chaudhuri & Tabrizi, 1999); **purchasing**, through licensing and contractual agreements (Granstrand & Sjolander, 1990); and **interorganizational relationships**, including R&D consortia. alliances, and joint ventures (Vermeulen & Barkema. 2001)"*.

We consider those features are more modalities of the sourcing of knowledge or modalities of the collaboration model with the source of knowledge rather than the type of knowledge source.

In our approach, we focus on a specific profile of knowledge source: the fintechs. Interesting is that fintechs can transfer knowledge through all these above sourcing modalities (acquisition, purchasing, and interorganizational relationships) which make it worth investigating this particular

type of knowledge source. Indeed, we surprisingly note that the external counterpart of the collaboration nor the ecosystems the firm is related to are not mentioned in the different ACAP models.

The authors argue that "*past experience, knowledge **complementarity**, and **diversity** of knowledge sources influence ACAP development*". Lane, Salk & Lyles (2001), highlights the role of **similarity** within the context of International Joint Venture. Cohen and Levinthal (1990) mention also **complexity of knowledge** and "the degree to which the outside knowledge is **targeted to the needs and concerns of the firm**". These features and especially the level of compatibility between prior and new knowledge are relevant to understand the need for Transformation component of ACAP (see section 3.2.2).

Todorova and Durisin (2007) proposed to better capture the complexity and the dynamic aspects of ACAP by adding a **new feedback links (r2) between ACAP components and inputs of ACAP** i.e. the "Prior knowledge" and the "Knowledge source". The more you absorb new knowledge the more your stock of prior knowledge and the better you ACAP in the related field. For instance, Cohen and Levinthal (1990) pointed out that having developed absorptive capacities, a firm may be more able "to predict more accurately the nature and commercial potential of technological advances" hence be better at recognizing the value. Cohen and Levinthal (1990) mention that firms having understood the value of "the import of technological advances" are better incentivized to invest in ACAP. Interestingly the authors mention the potential "lockout" situation where the firm do not invest in ACAP in a certain domain because since it does not have relative expertise within that particular domain (especially fast-moving ones), they cannot realize the value of it.

We can wonder if the virtuous cycle may apply to collaboration: **the more you collaborate the more you know how to collaborate?** We will observe this during the study.

Competitive advantage

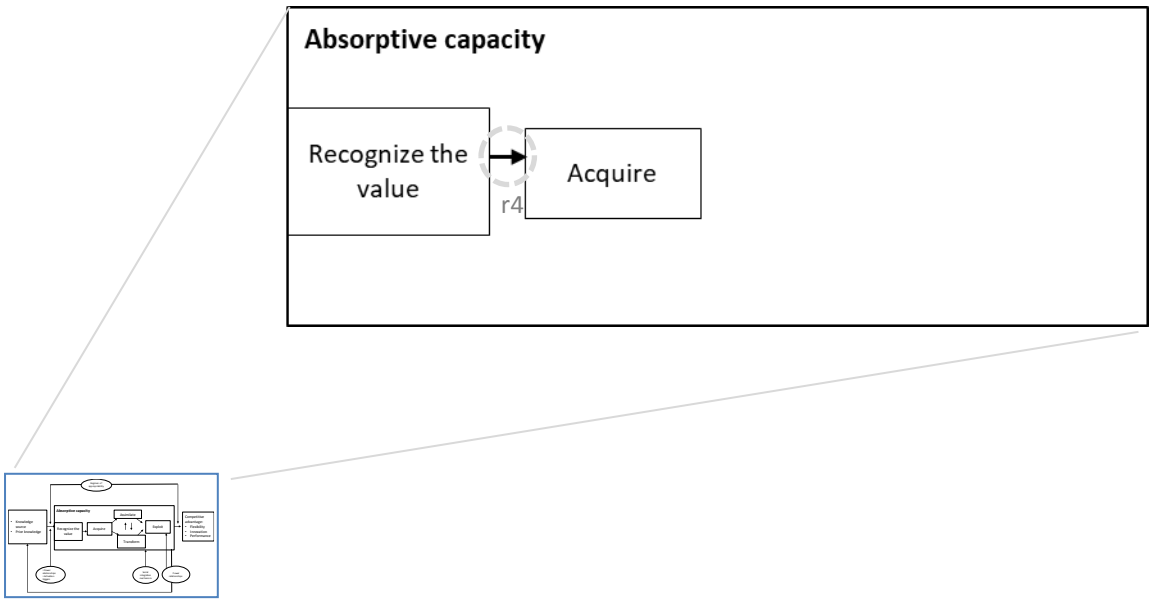
"ACAP moderates important organizational outcomes" (Van den Bosch and al., 2005). We discussed already in section 3.2.1 the link between ACAP and innovation and the fact that ACAP influence the innovative performance of the firm.

Todorova and Durisin (2007) indicated "Competitive Advantage" as the output of ACAP (**r3**) which is composed of an increased **flexibility, innovation and performance**. Obviously, the increased competitive advantage following the ACAP process nurture back (**r2**) the stock of knowledge hence the previous knowledge both regarding content (increased innovation stock) and process (increased ability to reallocate resources thanks to an increased flexibility and financial means). To simplify the model, we consider that this self-nurturing characteristic of ACAP is included in the feedback loops proposed by Todoreva along the ACAP process.

Process operationalization intents from previous literature

We propose first to **look at the different activities of the ACAP process** and synthetize the former operationalization intent from previous literature.

We propose to start by deep diving into the different component of the ACAP process out of the ACAP Todorova and Durisin model (see figure 9).



Todorova & Durisin (2007)

Recognize the value

Recognizing the value is the **ability to value the new external knowledge**. Indeed, this recognition capacity can be "hampered by their embedded knowledge base, rigid capabilities, and path-dependent managerial cognition" but also "from the use of the values of key stakeholders as evaluation criteria" (Todoreva and Al., 2007). This dimension is then about **confronting** external and internal knowledge in the light of existing knowledge (see **r1** relationship). This materializes in "external and internal knowledge **sharing mechanisms**" (Chauvet, 2014) inside and outside the firm. It can be **accessing** formal or informal exchanges where some knowledge is communicated. Chiaroni and Al. (2010) mention the **structure communication between the external environment and the organization** that is used to access and confront knowledge. Under these activities would easily fit the current OI practices when organization develop connections with innovation ecosystems.

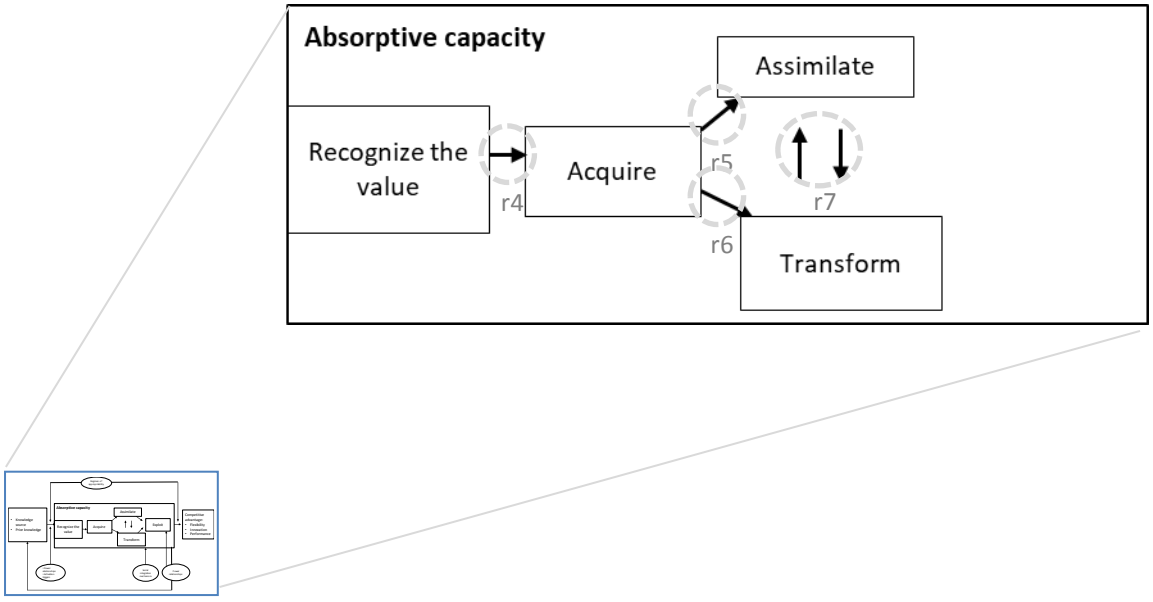
"Acquisition refers to a firm's capability to **identify** and acquire externally generated knowledge that is **critical to its operations**" (Zahra and George, 2002). Information and knowledge flows are relevant (Lane, Salk & Lyles, 2001), when they deal with change, when one understands there is a potential shift or a structural modification of current environment and practices. Therefore, the value of the knowledge is relative to the strategic situation of the organization within its environment. **To recognize the value of knowledge, one needs to understand their potential within the strategic and organizational context of the firm**. So, there is no recognition or acquisition phase without sharing or information sessions. We draw from the words Zahra and George ("knowledge that is critical to its operations"), that there is no recognition phase either also without identifying a business value out of the new knowledge. This business value can be more or less mature: from a positive initial feeling regarding the new idea from the fintech or finally to a real identified business opportunity for the firm. Chauvet mentions ideas to discover and share within his measurement items. Recognize the value is an ability to **detect opportunities** in the environment (Noblet et al, 2011).

This materializes also in valuation (Chauvet, 2014) or **assessment** of the new knowledge.

Authors consider this component as the first building block of the dynamic capability (Todorova and Durisin, 2007): "the valuing is not automatic, it is biased, and it needs to be fostered to allow the absorption to begin at all". Indeed, the challenge is to avoid overlooking the potential of the new knowledge that will engage effort from the organization to acquire the knowledge (**r4**).

Acquire the Knowledge

This dimension is about **committing to acquire and share knowledge**. It can materialize in the **will and actions to access** the knowledge, **gather** it and **spread it** over. "The degree of knowledge access and flow related to changes concerning both internal (products and services, strategic orientation…) and external aspects (providers, suppliers, technology…)" (Chauvet, 2014). Acquiring new external knowledge can be achieved **through firm formal processes and requirements from management** (Flatten et al, 2011). It can imply **contractualizing** and **investing** (Noblet et Al, 2000).



Todorova & Durisin (2007)

Assimilate

Once the knowledge is acquired, it is ready to be assimilated (**r5**).

This dimension "refers to the firm's routines and processes that allow it to **analyze**, **process**, **interpret** and **understand** information obtained from external sources" (Zahra and George, 2002). It materializes in the way one understands the knowledge and **links** it to existing knowledge (Chauvet, 2014). It implies **discovering** new knowledge (new practices, technologies, actors, products and services), **reconsidering** the way of working, **creating new ideas** (Chauvet, 2014). It

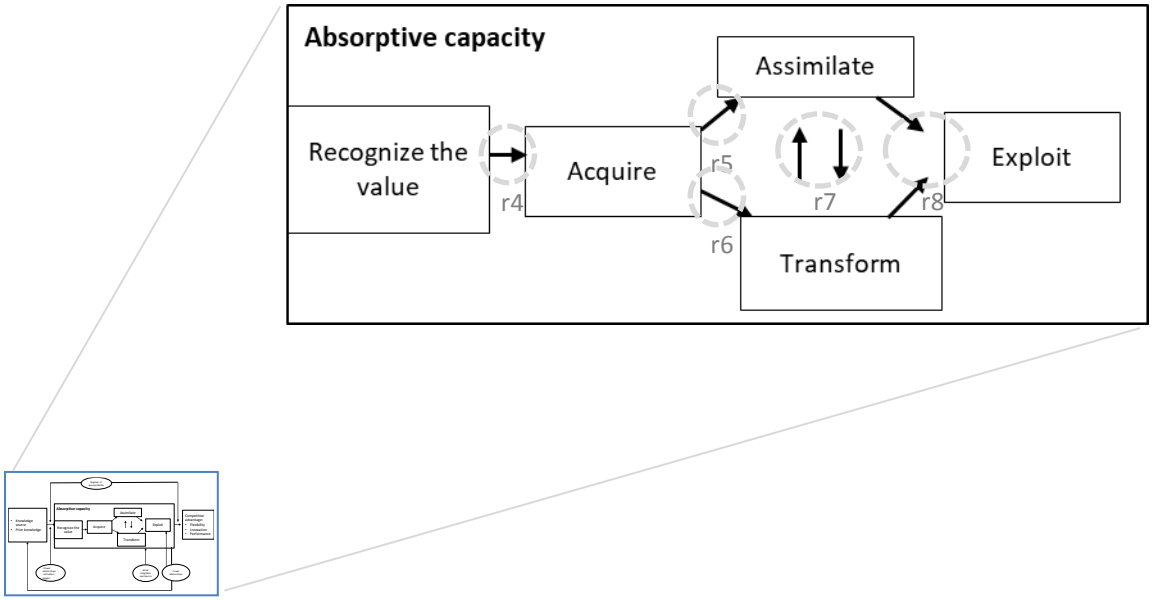
also refers to **routinization**, **patent review**, **coordination** or staff turnover to **share knowledge**, involvement of research **communities** or communities of practices and finally support from management in making effort to assimilate knowledge (Noblet and Al, 2010).

Transform

Once the external knowledge is acquired yet when it is too difficult to absorb as such, Transformation is a necessary alternative process to Assimilation (**r6**).

"Transformation is **a process of knowledge conversion** through internalization of new external knowledge in a firm's existing processes and products" (Chauvet, 2014). This dimension materializes in "**combining** existing knowledge and the newly acquired and assimilated knowledge" (Zahra and George, 2002). It implies both a **change in the existing knowledge** and the **integration** of a new one to **improve** "current methods and practices through new solutions, new ways of doing, the modification of old processes and the use of new tools" (Lichtenthaler, 2009). It is about **adding or deleting** knowledge, **interpret** knowledge differently, assimilate external knowledge, **internalize** and **convert** information (Noblet and Al., 2010). Zahra and George (2002) propose to measure the effect of Transformation by the number of ideas and research projects dealing with new product. This capability explains why and how organizations can transform their cognitive models to ensure new situations or ideas fit with existing knowledge structure and be able to "use" this knowledge, what Noblet mentions also with the term adaptability.

The authors acknowledge the complexity of relationships between Assimilation and Transformation and "propose that pieces of knowledge that an organization tries to absorb may move backward and forward between Assimilation and Transformation processes before they are successfully incorporated into the organizational knowledge structures and ready for exploitation" (**r7**). This transformative learning enables to further assimilate the acquired knowledge by reinterpreting but even also creating additional or complementary knowledge to existing and new acquired ones (**r7**). For Chauvet (2014), there should be a distinction between assimilating the acquired knowledge "in the light of current knowledge" and the knowledge conversion step (i.e. Transformation) that is about extending the firm's knowledge base. This conversion is necessary to exploit it meaning to deliver "high value knowledge and commercials outputs".



Todorova & Durisin (2007)

Exploit

This dimension is about applying new external knowledge to commercial ends. It materializes in **using and implementing** the knowledge in the operations of the firm and **commercializing** it. We can add also **patenting**.

Exploitation is made possible once the knowledge has been either assimilated or transformed for the organization to be used (r8).

Finally, Exploitation steps leads to competitive advantage (r3) while Assimilate and Transform ACAP components will increase the stock of prior resource (r2).

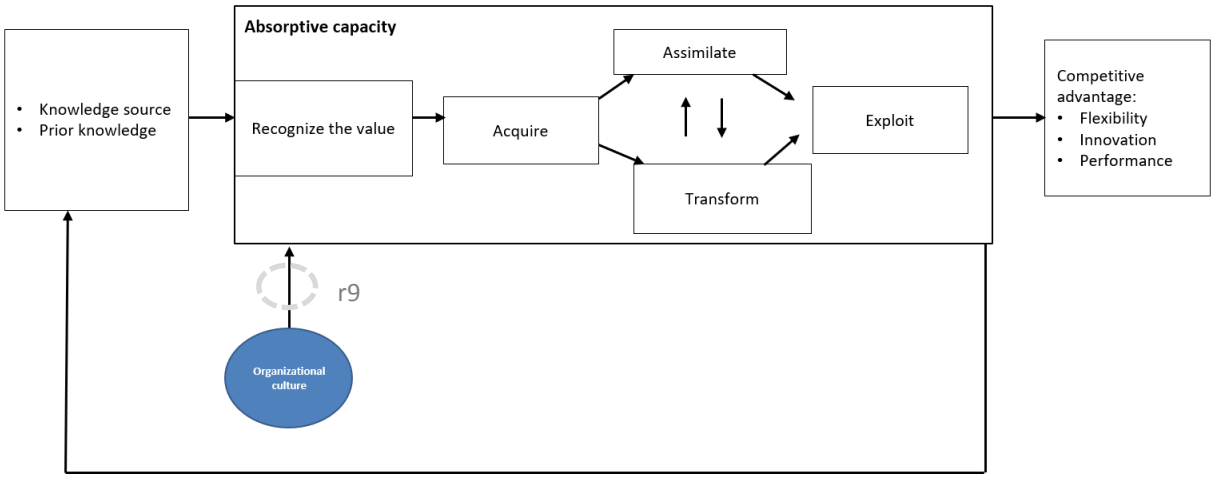
Finally, we propose to look at the way different contingency factors impact the ACAP process.

During our literature research, **we not just analyzed the relationships synthetized in the Todorova and Durisin model, but we also checked if there were no other contingency factors that were mentioned in the literature and that could potentially enlighten our analysis**.

Contingency factors from previous literature

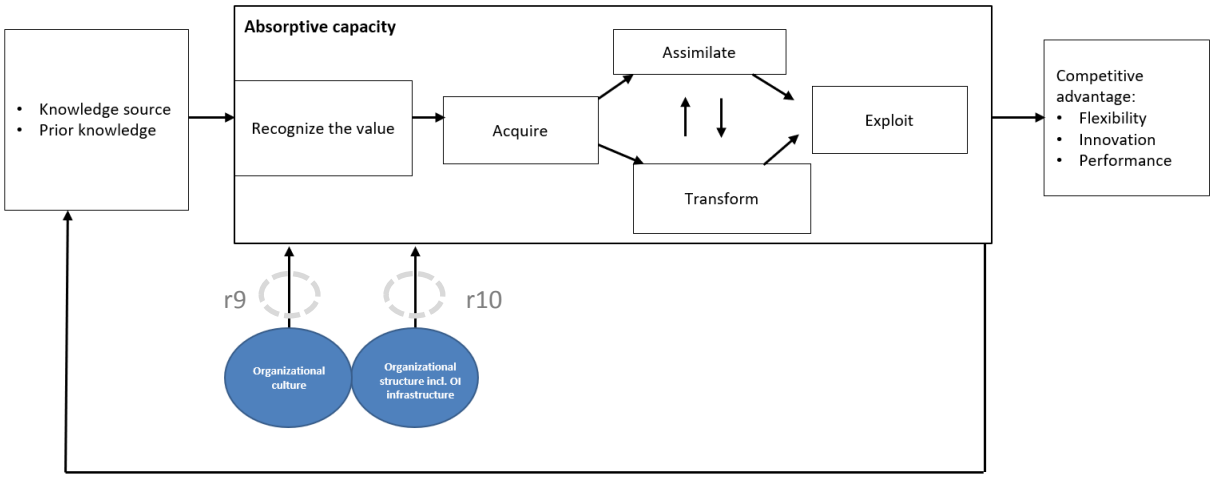
We propose now to further **look at the dynamics of ACAP by describing the relationships between contingency factors and ACAP process dimension. We will try to indicate the components or operational conditions** for one particular contingency factor or ACAP component **to impact** another ACAP component. By investigating the operational conditions to have an impact, we think we can better operationalize the **relationships** between items.

Organizational culture (r9)



Noblet (2010) identified previous works (Kedia and Bhagat, 1988) indicating that Culture is a determinant of knowledge transfer efficiency. Organizational culture can facilitate or hamper organizational learnings and change (Levinson and Asahi, 1995). Adriansyah, and Zakaria (2015) examined in Indonesian Banking Industry how organizational culture affects ACAP, innovation and competitive advantage. They referred to previous research (Harrington and Guimares, 2005; Murovec and Prodan, 2009) and show that organizational culture has a direct impact on ACAP which in turn affects competitive advantage. They point out "**development culture**" ("characterized by flexibility, risk taking, adaptability, growth and resources acquisition") and "**rational culture**" ("characterized by planning and goal setting, efficiency and competence") both affecting ACAP (**r9**). The "rational culture" being better suited to the development of ACAP. "Development culture" being necessary to foster both ACAP and innovation. Companies can then combine both culture types for instance at project and corporate levels. Glabiszewski and al. (2018) described the different organizational absorptive capacities that have an impact on the effectiveness of the whole absorption of process innovations. Yet, they did not explicitly mention the fostering of Open innovation practices nor precise which particular ACAP components were the most impacted**. For our empirical analysis, we will look at the organizational culture and we propose to observe the type of culture at organizational level and to detect how it occurs at project's level.**

Organizational structure (r10)



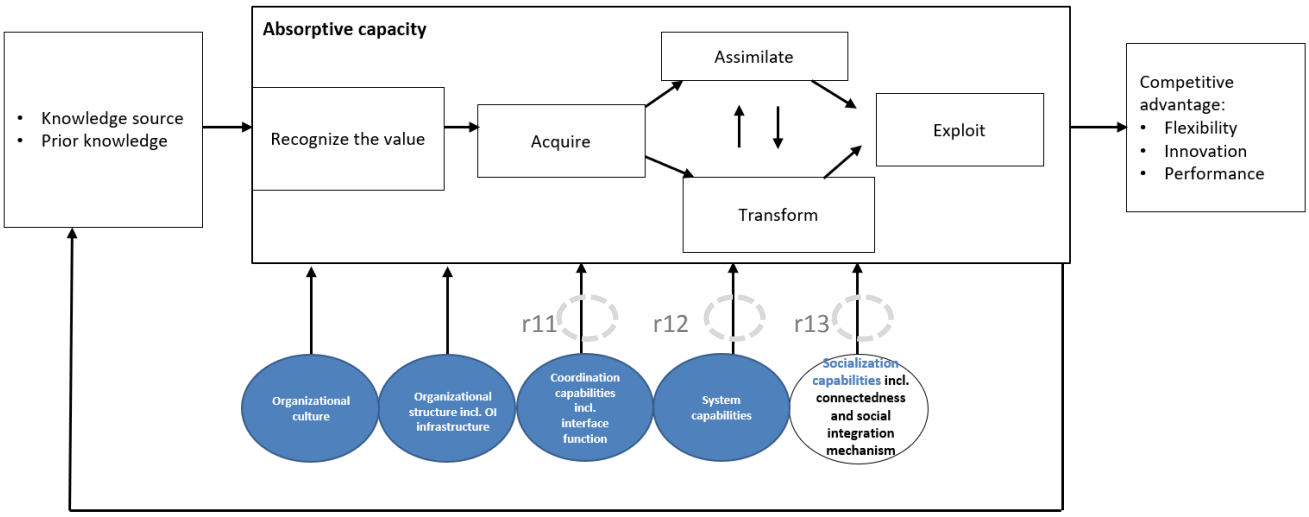
Organizational structure (r10)

ACAP models underline organizational features as key influencers of ACAP process. Being **organizational structure (r10) or combinative capabilities** like **coordination capacity (r11)** or **system capabilities (r12)** and **social mechanisms (r13)** (Van den Bosch and al., 1999; Todorova and al., 2007).

Authors mention different categorization to segment organizational structure: "**Organic vs decentralized**" (Lane et Lubatkin, 1998); "**Diversity and overlaps** in the KM structure (M. Nieto, P. Quevedo - 2005); "**Know-how and technological infrastructure**" (Glabiszewski and al, 2018). Finally, Lane and Lubatkin (1998) showed that "the similarity of a student firm's and teacher's firm organizational structure will be positively associated with organizational learning". Therefore, it would be interesting to observe what happen if organizational structures differ, which may be the case between fintechs' and banks' organizations.

Combinative capabilities

Jansen and al (2005) performed a quantitative research at organizational units' level (based on self-reported assessment of unit managers from a large, European, multi-unit financial services firm) to refine organizational antecedents of ACAP and empirically test their relationships with different dimensions of absorptive capacity. They recall that **combinative capabilities**, though quite idiosyncratic "exhibit common features" that **involve organizational mechanisms that impact differently ACAP components**. The authors propose three types of combinative capabilities: "**coordination capabilities**" (**r.11**), "**systems capabilities**" (**r.12**), and "**socialization capabilities**" (**r.13**). They reveal that "organizational mechanisms associated with combinative capabilities differentially drive a unit's potential and realized absorptive capacity".



Coordination capabilities (r11)

"Coordination capabilities" mechanisms "bring together different sources of expertise and increase lateral interaction between functional or 'component' knowledge. Common features of coordination capabilities are **participation in decision making, job rotation and cross-functional interfaces** "such as liaison personnel, task forces, and teams to enable knowledge exchange". With that respect, it would be interesting in our study to locate where in the organization these

coordination capabilities take place. For instance, is it mainly at project level or at organizational level? Within the OI setups banks have implemented or somewhere else?

Jansen's research concludes that coordination capabilities have positive effects on Acquisition and Assimilation (r11.1). Yet participation to decision making is not positively associated with Assimilation of new external knowledge by unit members yet increases Transformation (r11.2). Participation in decision making, job rotation and cross-functional interfaces have positive effects on Acquisition and Assimilation (r11.2). Cross-functional interfaces have positive impact on all ACAP dimensions (r.11). Cross-functional interfaces and job rotation have positive impact on transformation (r11.3) however, not on exploitation. In terms of relative effects, "Acquisition of new external knowledge is most strongly affected by organizational mechanisms associated with coordination capabilities", Assimilation is most strongly affected by organizational mechanisms associated with coordination and socialization capabilities and finally "the effects of organizational mechanisms associated with socialization capabilities on Transformation and Exploitation are stronger than organizational mechanisms associated with either coordination capabilities or systems capabilities".

> Cohen and Levinthal (1990) indicate the role of specialized actors or **"interface function"** that are instrumental to transfer information from the environment. ACAP study shall involve the study of such set-up. "That interface function may be diffused across individuals or be quite centralized". The authors indicate their specific role we propose to investigate during our research: "gatekeeping" that "both **monitors the environment and translates** the technical information into a form understandable to the research group" or "boundary-spanning" roles especially when there is an **expertise gap** between internal and external actors. Authors indicate the value of such existing internal staff who are both "competent in their fields and are familiar with the firm's idiosyncratic needs, organizational procedures, routines, complementary capabilities, and extramural relationships". Though gatekeepers always provide a value added in terms of monitoring of the environment, a "**centralized gatekeeper** may not provide an effective link to the environment in case of rapid and uncertain technical change". To understand the sources of firm's absorptive capacity, Cohen and Levinthal (1990) recommend concentrating on the "way the communications between the firm and the external environment' are organized". This is what we intent to do during our analysis.

Cohen and Levinthal (1990) "focus on the **structure of communication** between the external environment and the organization, as well as among the subunits of the organization, and also on the **character and distribution of expertise** within the organization". Therefore, in our research

we propose to review both structure of communication and distribution of expertise along the ACAP process and within the combinative capabilities including "Social integration mechanism" contingency factor (involving both coordination and socialization capabilities). **There is an interest in investigating it through different organizational levels within the organization and between the external environment**.

System capabilities (r12)

"**Systems capabilities**" are composed of "**formalization and routinization**, which establish patterns of organizational action" (Jansen and al, 2005). Though formalization does not seem to have a significant impact on Acquisition and Assimilation, routinization has a negative effect on acquisition, assimilation and Transformation. "It impedes the flexible incorporation of newly acquired and existing knowledge". Formalization positively influences a unit's Transformation and Exploitation capacities by making explicit former tacit knowledge.

Socialization capabilities (r13)

"**Socialization capabilities**" are characterized by the density of linkages, or c**onnectedness (r13.1)** and the shared social experience, or **socialization tactics (r13.2)**. We propose to incorporate to that latter type of influencing capabilities what Zahra and George (2002) named as **social integration mechanisms.**

Connectedness or network (r13.1)

Connectedness positively influences assimilation and together with socialization tactics, they do not hamper acquisition nor assimilation. "**A dense network** within units allows two-ways interactions that help the interpretation and understanding of new external knowledge" (Jansen and al, 2005). There should be an obvious interest in analyzing the connectedness at different organizational levels: connections between the project and the other internal

organizational units (BU or OI-set-ups) and with the external counterparts, being fintech or any other networks. Authors themselves suggest performing additional research to incorporate additional antecedents and incorporate multiple levels of analysis.

According to Noblet (2010), “in a more resource-based approach, some authors consider that the company's interactions and **connections with external organizations** would enhance absorptive capacity, and thus improve transfer performance”. He indicates that the position of the firm in the network can play a role in the acquisition of knowledge. Tsai (2001) draws a network perspective, arguing that organizational units can produce more innovation and perform better if they occupy central positions in their network; they thus gain access to the new knowledge developed by other organizations, but depend largely on the absorptive capacity of the units and their ability to successfully replicate the new knowledge.

Todorova and Durisin (2007) mention that “**weak and strong ties** can be beneficial for organizational knowledge processes depending on two contingencies: the type of knowledge process and the degree of knowledge complexity”.

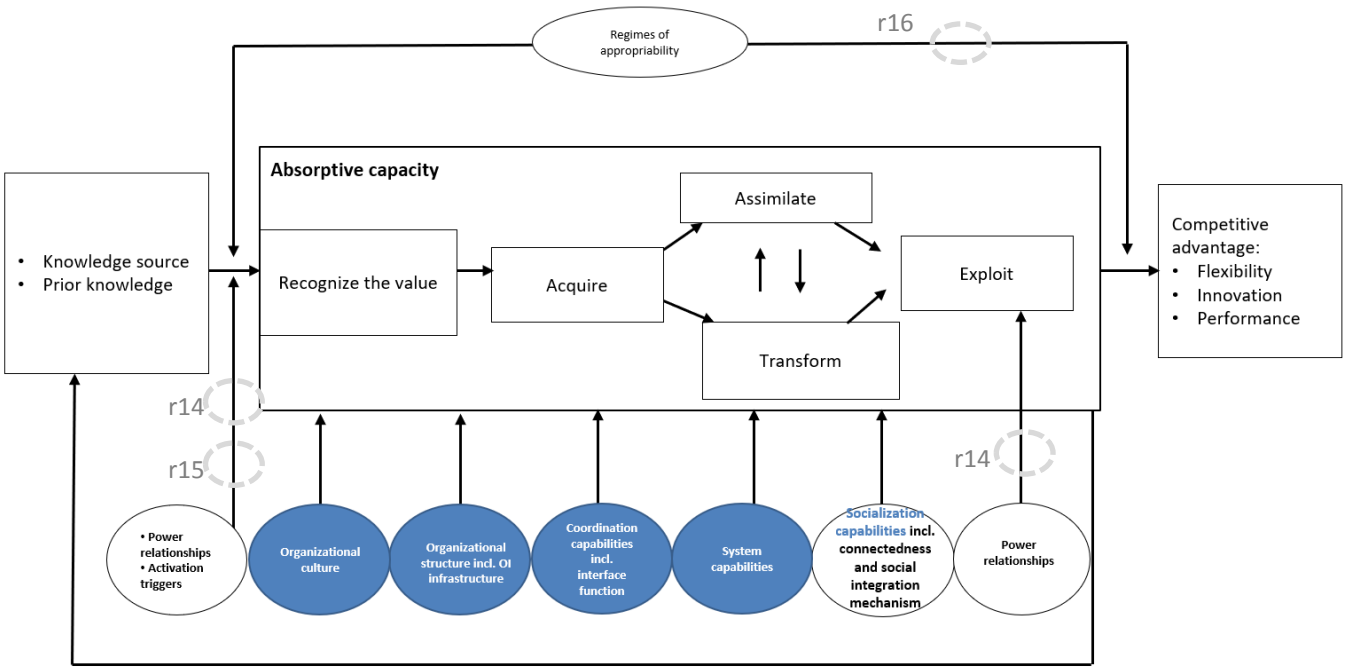
Socialization tactics and social integration mechanism (r13.2)

According to Jansen and Al (2005), “**socialization tactics** offer newcomers specific information and encourage them to interpret and respond to situations in a predictable way (Jones, 1986)”.

Zahra and George (2002) highlighted the **necessity of sharing relevant knowledge among members of the firm to promote mutual understanding and comprehension in order exploit Knowledge**. “Social integration mechanisms can facilitate the sharing and eventual exploitation of knowledge” yet “firms do not always foster the effective sharing or integration of knowledge”. The authors indicate **formal** (e.g.: use of coordinators, we could also consider any steering committees as other examples) **and unformal social integration mechanisms** (e.g.: social networks). Both more or less systematically facilitate the distribution of information, “the gathering of interpretation and identifying trends”. The authors, “Social integration mechanisms lower the barriers to information sharing while increasing the efficiency of assimilation and transformation capabilities”.

Todorova and Durisin (2007) argue that the "moderating influence of social integration is likely to affect all components of absorptive capacity and to have either a positive or a negative effect, depending on specific contingencies ["according to the type of new knowledge and the type of knowledge processes"]. "Social integration mechanisms, which build connectedness and shared meanings, influence all processes of knowledge absorption".

By default, r9,r10,r11, r12 and r13 relationships are impacting the overall absorptive capacity. Our empirical analysis ambitions to refine these relationships.



Power relationships (r14)

Todorova and Durisin (2007) propose to cover an important gap compared to previous ACAP models by adding the concept of power relationships: "powerful actors within and outside the organization may influence knowledge absorption processes to achieve their goals". Besides this **internal power relationships factor**, the authors suggest an **external type of power relationships**: "the power of the current customer base can lead firms to fail to exploit new knowledge". In addition to commitments to current customers, the authors mention commitments to current suppliers, alliance partners, and other external stakeholders that hinder the correct valuing and exploitation of new knowledge. **Power relationships influence both the valuing (r14-1) and the exploitation of new knowledge (r14-2)**.

Activation triggers (r15)

Activation triggers have been proposed by Zahra and George and as "events that encourage or compel a firm to respond to specific internal or external stimuli", they "activate" ACAP. They are "important events that redefine a firm's strategy" (e.g.: crisis, merger) or "that may influence the future of the industry in which the firm operates (technical innovation, emergence of a dominant design, change in government policy...)". **These triggers push for seeking external knowledge**. For the authors, "the source of an activation trigger **influences the locus of search for external sources of knowledge** while the **intensity of the trigger will influence the investments** in developing the requisite acquisition and assimilation capabilities". Like Zahra and George, we consider there are **internal and external activation triggers**.

Regime of appropriability (r16)

The ACAP are conditioned on the appropriability regimes. "Appropriability conditions refer to the **degree to which firms capture the profits** associated with their innovative activity and are often considered to reflect the degree to which valuable knowledge spills out into the public domain" (Cohen and Levinthal, 1990). It refers to "the institutional and industry dynamics that affect the

firm's ability to protect the advantages of (and benefit from) new products or processes" (Zahra and George - 2002). Cohen and Levinthal (1990) consider suggest that appropriability regimes **determine the incentives to invest in absorptive capacity**. When appropriability is low there is a high level of knowledge spillovers. For Zahra and George (2002), appropriability regime **affects ACAP outcomes**. Therefore, Todorova and Durisin (2007) suggest considering both effects but also pinpoint a **need for a clearer understanding of the influence of appropriability regimes on absorptive capacity**.

This section synthetized existing ACAP categories and contingency factors. We performed a consolidation of previous operationalization intents of the ACAP process and associated contingency factors.

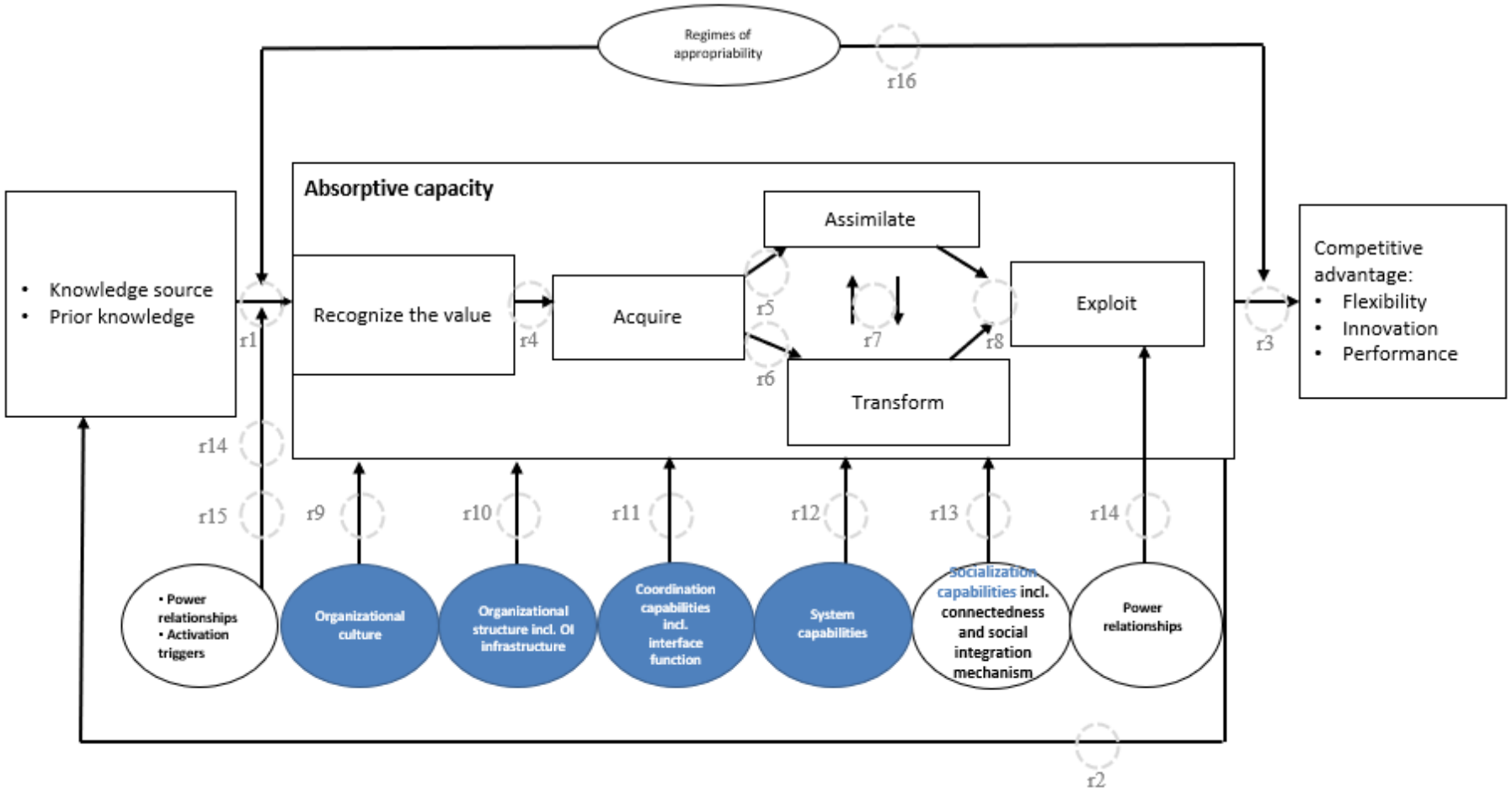
Current works on operationalization, though mixing organizational, project's and individual levels that aimed mainly at measuring ACAP competencies will nurture our focus interviews and underlying coding to identify operational practices. We ambition to leverage this list to better understand collaborations and, potentially, to come up with new observation that may complete the description of ACAP practices.

3.2.4. Proposed ACAP framework to investigate collaboration

To perform our analysis, we propose to slightly extend the Todoreva and Durisin ACAP model and apply **an "extended" theoretical model to frame our research**.

We will rely on this framework to observe how ACAP mechanisms materialize in a grounded situation like a collaboration between a fintech and a bank. We wonder if these extensions will enhance the understanding of the functioning of absorptive capacity in the specific context of a collaboration with a fintech**.** During the empirical analysis (see section 6) we will observe the effective relationships between these factors and the ACAP activities and finally confirm, infirm, or refine the model.

Figure 9. ACAP model proposed to investigate collaborations



Source: Adapted from Todorova, Gergana, and Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». Academy of Management Review 32, no 3 (July 2007): 774‑86. In blue are the complements or simplifications to the Todorova and Durisin model we identified in the Literature Review. By default, r9,r10,r11, r12 and r13 relationships are impacting the overall absorptive capacity. This model will be challenged and refined during the empirical analysis.

3.3. OPEN INNOVATION IN FINANCIAL SERVICES

In this section, we will highlight some banking specificities to be considered when dealing with OI. Then we will synthesize what has been said on OI within the financial sector.

The linkage between absorptive capacity and internal R&D is established. **Yet, R&D function and expenditures are hard to identify, scope and measure in the bank.** So, to assess the prior knowledge necessary to ACAP performance we can investigate both the knowledge that has been made available to the project team by the organization and we can also investigate to which knowledge provider (like universities) the project / the entity is connected to. Spithoven et al. (2011) investigate similar traditional industries in Belgium. They conclude that while the absorptive capacities of the investigated companies remained low due to the lack of R&D investments, collaboration with collective research centers allowed them to build collective absorptive capacity. While the roots of absorptive capacity originated from research in large R&D intensive firms (Spithoven, Clarysse, & Knockaert, 2011), **research on banks that happen to have no structured R&D arms (even if banks heavily invest in IT and mathematical models) is relatively scarce.**

In their 2017 article M. Pihlajamaa, R. Kaipia, J. Säilä and Kari Tanskanen recall that "the majority of the open innovation studies have focused on a context where the focal firm has significant internal R&D resources". Similarly, studies on absorptive capacity have emphasized how the ability to assimilate and exploit new knowledge is a result of internal R&D investments (Cohen and Levinthal, 1990)". For instance, firm allocate personnel into R & D activities, to be able to understand and use external technological knowledge for introducing new products (Cohen and Levinthal, 1990). **But in the bank, there is no clear R&D function and there is more and more OI set-up involved**. This function is either implicitly distributed in traditional functions (mainly in marketing or in business development / strategy) or assigned to innovation functions. The situation is even more complex that banks more and more rely on various open innovation set-ups, partially located outside the organization. Then, there is unclear vision on how the stock of knowledge is built up, diffused and developed. **So far, the question of whether and how companies and especially banks with low or distributed R&D substitute or complement internal R&D with external knowledge from open innovation practices remained poorly addressed and understood.** The thesis aims at better understanding also if/how and by whom the stock of knowledge is managed not just at organizational but at project level. In particular, the specific role and associated resources of the different OI set-up in the potential

acquisition and management (especially knowledge building and knowledge sharing) of knowledge will be worth analyzing.

In its article, Chesbrough provides insights regarding dominant practices of OI and regarding the associated benefits and challenges expressed by interviewed managers (Chesbrough and Brunswicker - 2014). In their survey, Chesbrough and Brunswicker observed that even though OI is not at all restricted to high tech firms, the degree of adoption varies across sector with manufacturing and **financial services somehow lagging behind at the time being (2011) which may have evolved quite dramatically since**. The median population claimed to have been practicing OI for 5 years. Results show that "**inbound open innovation practices are far more commonly used than outbound practices**". Results showed that large firms, on average, consider inbound open innovation practices to be of modest importance yet with a wide variance in importance among the different inbound practices.

Martovoy, Mention and Torkkeli (2015) are the first to explicitly study inbound innovation in financial services. They recall the **importance of technology knowledge in the banking sector**: "In the existing literature on innovation, financial services firms have been traditionally attributed with a dependence on external technologies and other types of knowledge (e.g., Barras, 1986; 1990)". They provide a review of literature: "Open innovation in financial services has been conceptually and empirically tackled in several publications (e.g., Fasnacht, 2009; Mention and Torkkeli, 2012; Oliveira and von Hippel, 2011). Importance of external knowledge inflow for financial innovation can be traced in earlier studies on new service development (NSD) (Edgett and Jones, 1991; Cooper and Edgett, 1996; Vermeulen, 2004) and organisational behavior (e.g., Thwaites, 1992; Thwaites and Edgett, 1991)."

We observe OI and large banks have been recently studied: "current literature investigating open innovation practices between financial service firms and ICT providers, as a key component of the KIBS, is scarce" (Andrey, Kutvonen, Mention, Torkkeli - June 2012). The authors investigate the advantages and disadvantages of co-operation mechanisms stressing the importance **complementarity** between financial service firms and ICT providers. They refine the rationales of implementing OI (see 1.1.2.h) in the case of such collaborations: "achieving cost reduction, gaining stronger credibility and accessing new resources and networks".

Gianiodis, Ettlie, and Urbina (2014) conducted a comparative case study of two global banks pursuing mainly two different OI strategies: inside-out (BBVA) and outside-in (Santander) open innovation strategies. They showed that both came up with strong results in "including greater top-line growth and bottom-line efficiency gains". In their paper, the authors indicate that "unlike Santander, BBVA leveraged the dynamic capabilities refined through many years of mergers and acquisitions to exploit an inside-out innovation model (Teece, 2009)". Which means first that of course **inside-out and outside-in strategy can coexist within a single firm but nevertheless that the natural path is to start by inside-out strategy.**

We can argue that the authors are a little bit restricting inside-out practices to merger and acquisitions practices and then overlook the ever-growing experiments with fintech, universities and customers.

Gianiodis, Ettlie, and Urbina (2014) refer to **active management of resources** to be able to exploit OI and they stress the **impact in terms of organizational changes**.

First empirical findings addressing outside in innovation in the financial sectors were f**ocusing on collaboration with customers or big technology suppliers rather than with fintechs** (egg: Auh, Bell, McLeod and Shih 2007 or von Hippel, 2011). The existing studies are not describing the detailed mechanisms at stake to implement inbound innovation and the unit of analysis remain the firm which make it **difficult to get actionable managerial insights**. They rank sources of knowledge, they rank cooperation partners and how to engage with them but they **do not explicitly consider and isolate as such the fintech and the new engagement models** (labs, hackathons…). They mention the advantages of open innovation not the condition to ensure they become real. They indicate OI triggers organizational changes but do not describe them and how. They indicate to develop capabilities to manage resources and exploit knowledge but without describing how.

All the elements just discussed in this section give the reasons why we chose to focus our thesis on "Outside – In" innovation and in flow of knowledge coming from fintech. Indeed, we focus on the inflows of knowledge called inbound Open Innovation or "outside-in" open innovation where the firm is actually sourcing outside its boundaries knowledge to nurture its innovation strategy and get competitive advantage.

3.4. FINTECHS AS VERY SPECIFIC EXTERNAL COUNTERPART TO ENGAGE WITH

In this section, we will share a common understanding of what is a fintech and what is specific to this particular type of supplier and external counterpart. We will also stress some opportunities to address literature gaps we identified.

A fintech is a new object to collaborate with. The term appeared quite recently and has lately been defined as such. Patrick Schueffel (2016) proposes a first scientific definition and states" there is currently no consensus about what the term fintech means". Based on a review of 200 scholarly articles, the author proposes the following broad definition:

"**Fintech is a new financial industry that applies technology to improve financial activities**".

This definition lays the emphasis on the importance of technology and the intent to improve (and not necessarily to disrupt) the current status of financial activity. Yet, being built on the commonalities of peer-reviewed definitions of the term, the definition could be enriched to better grasp the specificities of this particular type of external counterpart. Therefore, we propose to add that this industry is made of various stakeholders: regulators (e.g.: FCA), incumbent banks or financial organizations (e.g.: Swift), large tech providers (e.g.: Steria), investors (e.g.: BPI or VCs) and **small, technology-enabled, fast growing and innovative new entrants that are commonly named either "fintechs" or "startups" but that both addresses the financial sector or needs.** Those needs are for instance listed in the definition of the European Banking Authority (see appendix 12.1). Empirically we can enlarge the field of application to collateral needs of the individual and business activities where the bank would be legitimate to promote, distribute or sale.

As just defined, the term fintech encompasses different levels of development's maturity. Fintechs can have different maturity level: startups, scale up and established[35]. The focus of the thesis

[35] We will adopt the Capgemini's segmentation we contribute to. A "Scale-up" Fintech is a startup with already more than 1 million raised, with a full-time management team and with effective turnover.

is to examine the collaboration between incumbent banks and fintechs whatever their maturity level. Yet we will contrast the cases we will study upon this parameter.

A well-known **start-up definition** is from Blank & Dorf (2012, p.xvii) and describes a start-up as "a temporary organization in search of a scalable, repeatable, profitable business model". While Ries (2011b, p.27) defines a start-up as a: "human institution designed to create a new product or service under conditions of extreme uncertainty". For the sake of clarity, we will use the following definition, which combines the insights of Ries and Blank & Dorf: 'A start-up is a human institution designed to create a new product or service while it is in search of a scalable, repeatable and profitable business model under conditions of extreme uncertainty'.

Scale up and established fintechs are more mature players that have a more proven solution, a bigger customer base, better financial results and bigger staff. Current empirically segmentation used by practitioners (see illustration in appendix 12.3) lays on these criterions.

Yet, mature fintech and Startups addressing the financial sector largely share the same features: a paramount role of the technology and innovation strategy, a rapid pace of development, an entrepreneurial mindset and still a significant level of uncertainty.

Then, when you consider small, technology-enabled, fast growing and innovative new entrants, you should consider the traditional characteristics from the academic literature on "startups" and "high tech firms".

Defining fintechs and monitoring them is an increasing concern for regulators of the Financial industry. The European Banking Authority is to establish a fintech Knowledge Hub as part of its Roadmap for getting to grips with new tech-led developments in financial services. The Roadmap sketches out the EBA's priorities for monitoring emerging trends and analyzing the impact on incumbent institutions' business models. Key to this will be a thoroughgoing assessment of current authorization and licensing approaches to fintech firms. EBA uses a broad definition of "fintech firm" to cover incumbent institutions, new entrants and so-called "BigTech": "fintech firm' means a firm using fintech for the purposes of the provision of one or more financial services listed in Table 1 of the

EBA's Fintech Discussion Paper. Credit institutions, payment institutions, electronic money institutions, and other types of firm fall within the scope of this term where they apply fintech for this purpose"[36].

On its side, the Financial Stability Board (FSB), defines fintechs as « technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services »[37].

More than regulators, firms should pay attention to fintech. Indeed, we just saw that **fintechs are intrinsically linked to innovation**. Fintech stimulate innovation in different ways: by innovating by itself, by working with/for incumbents, by collaborating with governments or regulators or even supra-organization (P. Schueffel - 2016). Fintech can address any area of the financial sector. "While the attention received in academia is nowhere close to the attention which is paid by practitioners, some scholars do perceive the phenomenon of despite the consensus on the major impact that fintech will have on the financial services industry, little academic literature has explored this area (Shim and Shin, 2016)" (P. Schueffel - 2016).

The OI and the ACAP research fields should benefit from additional studies involving fintech. Indeed, it is striking that H. Chesbrough even in its recent articles did not deep dive into this specific case of "supplier" within his OI framework. Furthermore, the ACAP concept has been developed in a context of dyadic relationships. Therefore, it is particularly interesting to look if it matches OI context where relationships are more complex and may involve other stakeholders from the ecosystem. Finally, collaboration with low or asymmetric R&D have not been highly studies. Like Spithoven, André, Bart Clarysse, and Mirjam Knockaert (2010) indicate "for R&D intensive large firms, the concept of open innovation in relation to absorptive capacity is relatively well understood. Little attention has however, been paid to how both small firms and firms, which operate in traditional sectors, engage in open

[36] The EBA's fintech roadmap conclusions from the consultation on the EBAs approach to financial technology (Fintech)15 March 2018. file:///C:/Users/A305164/Downloads/EBA_fintech_roadmap-15mar2018%20(1).pdf

[37] Regis Bouyala. « La révolution FinTech : acte 2 ». Revue Banque. 2018.

innovation activities. the latter two categories of firms often dispose of no, or at most a relatively low level of, absorptive capacity."

Most of the studies deal with M&A issues or analyze the role of some set-ups like corporate venture, corporate incubators or innovation challenge (e.g., hackathon) to boost corporate innovation but without mentioning the ACAP theory.

3.5. SEMI-QUANTITATIVE LITERATURE REVIEW TO CONFIRM IDENTIFIED RESEARCH GAPS

We performed a study of the number of academical articles for each concept on the precise following fields related to:

- The practices of…
    - "Collaboration" or "Alliance" at first
    - and secondly of "Open Innovation"

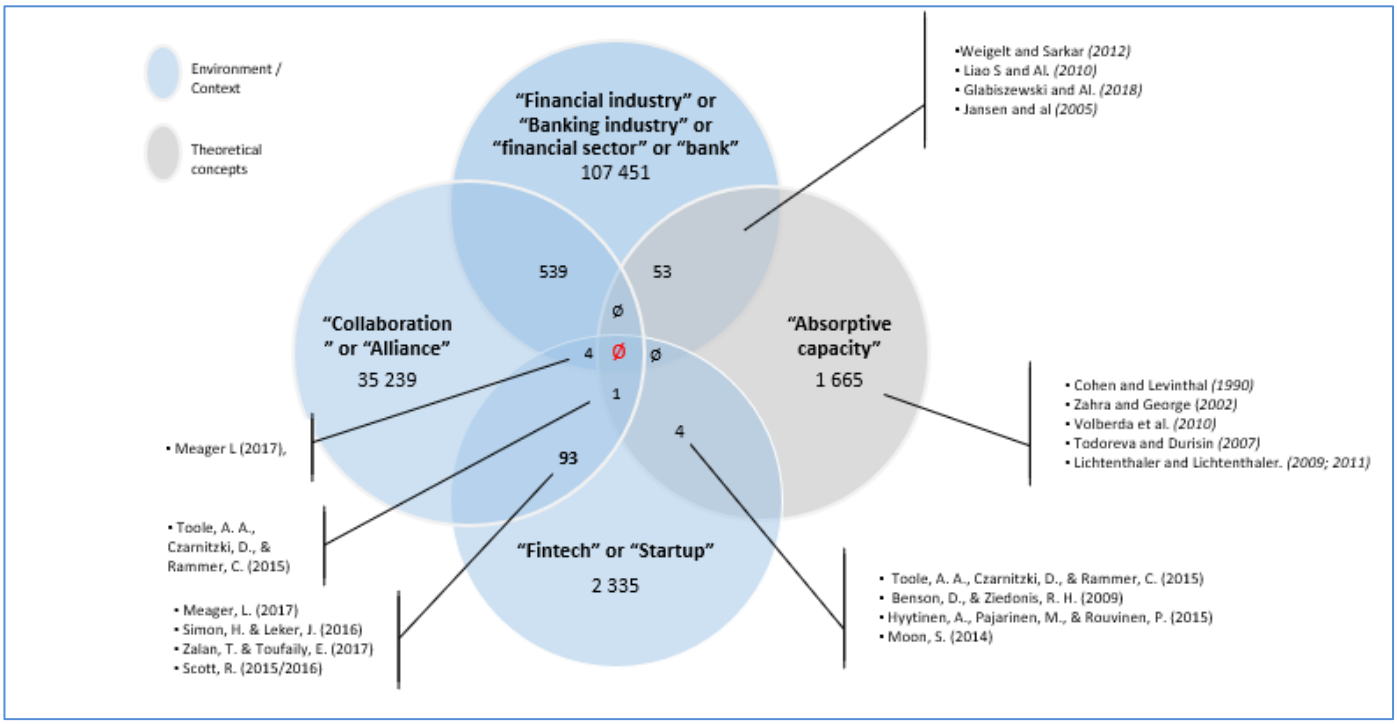
  … involving "Startup" or "fintech"

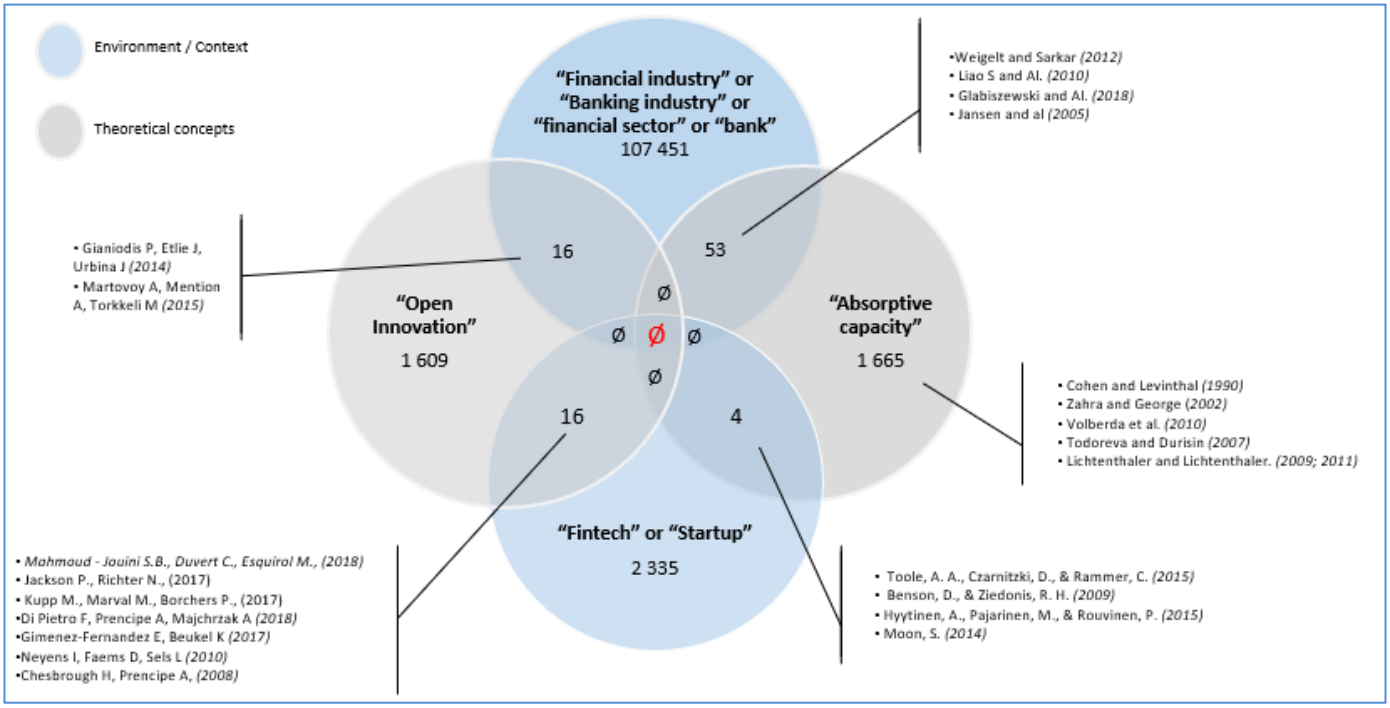
  … in the context of "Financial industry" or "Banking industry" or "Financial sector" or "bank"
- and mobilizing the theoretical concept of "Absorptive capacity".

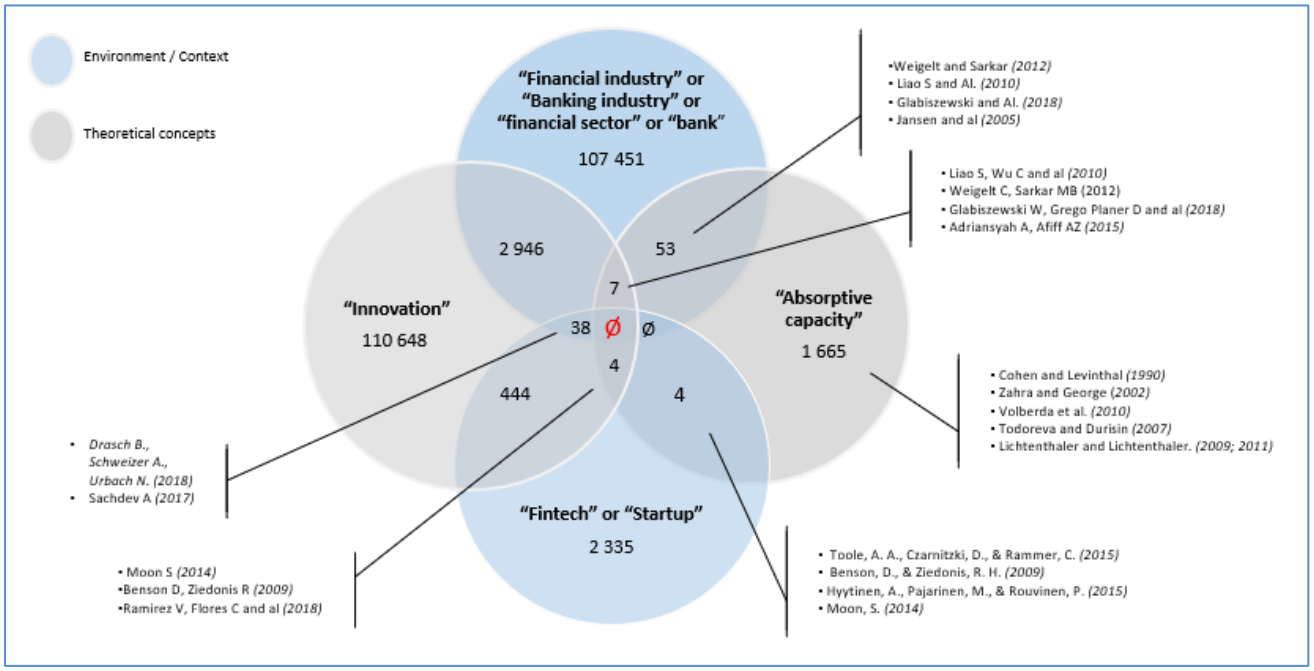
The latest research was made in February 2019 on EBSCO Business Source Complete database and focus on academical articles ("peer reviewed"), as it is the most interesting and serious type of references for studying the literature.

The semi-quantitative literature review leads to the conclusion that **our thesis can address important gaps in the literature:**

Figures 10. Research Gaps from Ebsco analysis







NB: This third analysis extends practices from open innovation to innovation is a sanity check to ensure we were not overlooking a relevant article.

We note that there is no research dealing with collaboration between banks and fintechs that involves ACAP.

Zooming into this finding regarding the potential research gaps, we further confirm there is room for academic contribution. Indeed, past research that seem to be close to our managerial problem do not adopt the same angles that we intent to.

To complement this high-level analysis, we will drill down into literature that seems close to our research focus and we will look at the research design applied: qualitative/quantitative study; process/content focus, and unit of analysis (individual/project/organization).

Table 2. Detailed analysis of close past research

Past research	Managerial focus	Main level of analysis	Content / process approach	Research method
Search "Open Innovation" X "Fintechs" or "startups" = 16				
Neyens I, Faems D, Sels L (2010), "The impact of continuous and discontinuous alliance strategies on startup innovation performance", International Journal of Technology Management. 2010, Vol. 52 Issue 3/4, p392-410. 19p.	Analysis of the impact of different time frames of alliance strategies on innovation performance	Cross organizational level	Content approach	Quantitative
Gimenez-Fernandez E, Beukel K, (2017), "Open innovation and the comparison between startups and incumbent firms in Spain", inversia Business Review, 3rd Quarter, Issue 55, p18-33. 16p	Comparison of the Open Innovation strategy between startups and incumbent firms over a 10 years period	Cross organizational level	Process approach	Quantitative
Kohler T (2016), "Corporate accelerators: Building bridges between corporations and startups", Business Horizons. May2016, Vol. 59 Issue 3, p347-357. 11p.	Identification of the design of a corporate accelerator	Cross organizational level	Process approach	Quantitative
Waguespack D (2009), "Scanning the Commons? Evidence on the Benefits to Startups Participating in Open Standards Development", Management Science. Feb2009, Vol. 55 Issue 2, p210-223.	Understanding why a startup should participate in an open standards community	Cross organizational level	Process approach	Quantitative

Past research	Managerial focus	Main level of analysis	Content / process approach	Research method
Chesbrough H, Prencipe A, (2008), "Networks of innovation and modularity: a dynamic perspective", International Journal of Technology Management. 2008, Vol. 42 Issue 4, p414-425.	Providing a comprehensive perspective for understanding the dynamics of modularity and the implications of those dynamics for innovation networks.	Cross organizational level	Process approach	Quantitative
Fernandez M (2015), "Business incubation: innovative entrepreneurship ecosystem", Service industries journal, Vol 35 Issue 14, p 713-800.	This article studies the process of business services provision by business incubators. It considers this provision as an innovative and dynamic process, carried out in an open innovation context, where many elements from the entrepreneurship ecosystem (EE) interact.	Cross organizational level	Process approach	Quantitative
Kupp M, Marval M, Borchers P (2017), "Corporate accelerators: fostering innovation while bringing together startups and large firms", Journal of Business Strategy. 2017, Vol. 38 Issue 6, p47-53. 7p.	Analysis of the experience of the accelerator program	Cross organizational level	Process approach	Qualitative
Richter N, Jackson P, Schildhauer T, (2018), "Outsourcing creativity: An abductive study of open innovation using corporate accelerators", Creativity & Innovation Management. Mar2018, Vol. 27 Issue 1, p69-78. 10p.	Analysis of the key features of corporate accelerator programs and presents empirical data on their characteristics.	Cross organizational level	Process approach	Qualitative

Past research	Managerial focus	Main level of analysis	Content / process approach	Research method
Richter N, Jackson P (2017), "situational logic: an analysis of open innovation using corporate accelerators", International Journal of Innovation Management, Vol. 21 Issue 7, p-1. 21p.	Identification of the inhibitors to the collaboration between established firms and startups in these accelerator programs.	Cross organizational level	Process approach	Qualitative
Clausen T, Rasmussen E (2011), "Open innovation policy through intermediaries: the industry incubator programme in Norway", Technology Analysis & Strategic Management, Vol. 23 Issue 1, p75-85	The analysis is structured around the authors' evaluation of a publicly co-sponsored industry incubator programme that focuses on theoretical ideas from the open innovation model.	Cross organizational level	Process approach	Quantitative
Mahmoud Jouini S, Duvert C, Esquirol M, (2018), "Key Factors in Building a Corporate Accelerator Capability", Research Technology Management. Jul/Aug2018, Vol. 61 Issue 4, p26-33. 8p.	Analysis of the successful drivers for successful accelerators.	Cross organizational level	Process approach	Qualitative
Chesbrough H, (2012), "GE's ecomagination Challenge: an experiment in open innovation", California Management Review, Spring 2012, Vol. 54 Issue 3, p140-154	Measurement the performances of an Open Innovation process	Cross organizational level	Process approach	Qualitative
The 4 remaining articles we consider out of scope were about crowd equity investors, digital disruption, the lean smart city, the power of startup to unleash social media, regional innovation system…				

“Open Innovation” X “Financial industry” or “Banking industry” or “financial sector” or “bank” = 16				
Martovoy A, Mention A, Torkkeli M (2015), “Inbound Open Innovation in Financial Services”, Journal of Technology Management & Innovation. 2015, Vol. 10 Issue 1, p117-131	Identification of the inbound open innovation sources.	Cross organizational level	Content approach	Quantitative
Gianiodis P, Etlie J, Urbina J (2014), “Open service innovation in the global banking industry: inside-out versus outside-in strategies”, Academy of Management Perspectives. Feb2014, Vol. 28 Issue 1, p76-91	This study contributes to this burgeoning literature by providing new theoretical and practical underpinnings of the open innovation framework.	Cross organizational level	Content approach	Qualitative
The 14 other remaining articles out of scope were about the impact of customer in the development of banking products, the patterns of new service development processes in banking, the performance of independent financial advisors, the usefulness of sectoral pattern in open innovation licensing, the most significant invention…				
"Financial industry" or "banking industry" or "financial sector" or "bank" X "Absorptive capacity” = 53				
Glabiszewski W, Grego Planer D and al (2018), “Key elements of the protechnological absorptive capacity of financial companies in poland”, Central European Business Review, Vol. 7 Issue 2, p45-59. 15p.	Identification of the key absorptive capacities that are endogenous determinants of the effectiveness of the process of the absorption of process innovations in the activity of Poland’s financial companies	Cross organizational level	Content approach	Quantitative
Ramirez V, Flores C an al, (2018), “Absorptive Capacities and Innovation in Graduated Companies from a Business Incubator in the North of Mexico”, International Journal of Advanced Corporate Learning. 2018, Vol. 11 Issue 2, p11-15.	Identification of the relationship between absorptive capacities and the generation of innovation, as well as their level of influence in companies graduated from an incubator	Cross organizational level	Content approach	Quantitative

Weigelt C, Sarkar MB (2012), "Performance implications of outsourcing for technological innovations: managing the efficiency and adaptability trade-off", Strategic Management Journal. Feb2012, Vol. 33 Issue 2, p189-216	Analysis on how increasing efficiency compromises adaptability when a firm outsources during the emergent stages of a technological innovation	Cross organizational level	Content approach	Quantitative
Liao S, Wu C and al (2010), "Relationships between knowledge acquisition, absorptive capacity and innovation capability: an empirical study on Taiwan's financial and manufacturing industries", Journal of Information Science. Vol. 36 Issue 1, p19-35.	This study investigates the relationships between knowledge acquisition, absorptive capability, and innovation capability on Taiwan's knowledge-intensive industries using a structural equation model	Cross organizational level	Content approach	Quantitative
Adriansyah A, Afiff AZ (2015), "Organizational culture, absorptive capacity, innovation performance and competitive advantage: an integrated assessment in Indonesia Banking Industry", South East Asian Journal of Management, Vol. 9 Issue 1, p70-86	Analysis of the impact on how organizational culture affects ACAP, innovation and competitive advantage	Cross organizational level	Process approach	Quantitative
The 49 remaining articles out of scope are about the credit limit constraints, the correlation between foreign direct investment and growth in India, the CSR knowledge on corporate financial performance, the public investment scaling up and absorptive capacity, the technology spillover...				

"Absorptive capacity" X "Fintech" or "Startup" = 4				
Toole A, Czarnitzki D, Rammer C, "University research alliances, absorptive capacity, and the contribution of startups to employment growth", Economics of Innovation & New Technology. Jul2015, Vol. 24 Issue 5, p532-549	Analysis of how university research alliances and other cooperative links with universities contribute to startup employment growth	Cross organizational level	Content approach	Quantitative
Moon S, (2014), "How Does the Use of External Knowledge Influence Innovative Performance of Service Firm? An Introductory Study of Openness and Service Innovation", Seoul Journal of Business. Jun2014, Vol. 20 Issue 1, p35-61	Analysis of how the use of external knowledge influences innovative performance of Korean service firms	Cross organizational level	Process approach	Quantitative
The remaining article out of scope was about the survival rate of startup according to the innovativeness.				
"Absorptive capacity" X "Fintech" or "startup" X "Collaboration" or "alliance" = 1				
Toole A, Czarnitzki D, Rammer C, University research alliances, absorptive capacity, and the contribution of startups to employment growth, Economics of Innovation & New Technology. Jul2015, Vol. 24 Issue 5, p532-549	Analysis of how university research alliances and other cooperative links with universities contribute to startup employment growth	Cross organizational level	Content approach	Quantitative

"Financial industry" or "banking industry" or "financial sector" or "bank" X "Fintech" or "startup" X **"Collaboration" or "alliance" = 4**				
Meager L (2017), “Cyber and regulation key obstacles to fintech innovation”, International Financial Law Review, p1-1.	Analysis of why cybersecurity is a risk arising from collaborations with fintech firms	Cross organizational level	Content approach	Quantitative
Toole A, Czarnitzki D, Rammer C, University research alliances, absorptive capacity, and the contribution of startups to employment growth, Economics of Innovation & New Technology. Jul2015, Vol. 24 Issue 5, p532-549	Analysis of how university research alliances and other cooperative links with universities contribute to startup employment growth	Cross organizational level	Content approach	Quantitative
The 2 remaining articles were out of scope because they were about the emergence of fintech in the market, the increase of trust in the financial sector with artificial intelligence.				

"Financial industry" or "banking industry" or "financial sector" or "bank" X "Innovation" **X "Absorptive capacity" = 7**				
Glabiszewski W, Grego Planer D and al (2018), "Key elements of the protechnological absorptive capacity of financial companies in poland", Central European Business Review, Vol. 7 Issue 2, p45-59. 15p.	Identification of the key absorptive capacities that are endogenous determinants of the effectiveness of the process of the absorption of process innovations in the activity of Poland's financial companies	Cross organizational level	Content approach	Quantitative
Adriansyah A, Afiff AZ (2015), "Organizational culture, absorptive capacity, innovation performance and competitive advantage: an integrated assessment in Indonesia Banking Industry", South East Asian Journal of Management, Vol. 9 Issue 1, p70-86	Analysis of the impact on how organizational culture affects ACAP, innovation and competitive advantage	Cross organizational level	Process approach	Quantitative
Weigelt C, Sarkar MB (2012), "Performance implications of outsourcing for technological innovations: managing the efficiency and adaptability trade-off", Strategic Management Journal. Feb2012, Vol. 33 Issue 2, p189-216	Analysis on how increasing efficiency compromises adaptability when a firm outsources during the emergent stages of a technological innovation	Cross organizational level	Process content	Quantitative
Liao S, Wu C and al (2010), "Relationships between knowledge acquisition, absorptive capacity and innovation capability: an empirical study on Taiwan's financial and manufacturing industries", Journal of Information Science. Vol. 36 Issue 1, p19-35.	This study investigates the relationships between knowledge acquisition, absorptive capability, and innovation capability on Taiwan's knowledge-intensive industries using a structural equation model	Cross organizational level	Process approach	Quantitative

The 4 other articles were out of scope because they were about the effect of the regulation on the innovativeness performance relationship, the factors influencing usage intention toward mobile financial services.				
"Absorptive capacity" X "Innovation" X "Fintech" or "startup" = 4				
Ramirez V, Flores C an al, (2018), "Absorptive Capacities and Innovation in Graduated Companies from a Business Incubator in the North of Mexico", International Journal of Advanced Corporate Learning. 2018, Vol. 11 Issue 2, p11-15.	Identification of the relationship between absorptive capacities and the generation of innovation, as well as their level of influence in companies graduated from an incubator	Cross organizational level	Content approach	Quantitative
Benson D, Ziedonis R, (2009), "Corporate Venture Capital as a Window on New Technologies: Implications for the Performance of Corporate Investors When Acquiring **Startups**", Organization Science. Mar/Apr2009, Vol. 20 Issue 2, p329-351	This study investigates an alternative means by which information gained through CVC investing could improve firm performance--by increasing the returns to corporate investors when acquiring startups.	Cross organizational level	Content approach	Quantitative
Moon S, (2014), "How Does the Use of External Knowledge Influence Innovative Performance of Service Firm? An Introductory Study of Openness and Service Innovation", Seoul Journal of Business. Jun2014, Vol. 20 Issue 1, p35-61	Analysis of how the use of external knowledge influences innovative performance of Korean service firms.	Cross organizational level	Process approach	Quantitative
Toole A, Czarnitzki D, Rammer C, University research alliances, absorptive capacity, and the contribution of startups to employment growth, Economics of Innovation & New Technology, Vol. 24 Issue 5, p532-549	Analysis of how university research alliances and other cooperative links with universities contribute to startup employment growth	Cross organizational level	Content approach	Quantitative

“Innovation” X “Financial industry” or “banking industry” or financial sector” or “bank” **X “Fintech” or “startup” = 38**				
Drasch B, Schweizer A, Urbach N, Integrating the 'Troublemakers': A taxonomy for cooperation between banks and fintechs., Journal of Economics & Business. Nov2018, Vol. 100, p26-42. 17p.	Development, proposition, and evaluation of a taxonomy for the cooperation between banks and fintechs	Cross organizational level	Content approach	Taxonomy
The 37 other articles, mostly non academic ones, were out of scope with topics dealing with the innovation in the financial sector (payments, crowdfunding…), the emergence of fintechs, the impact of the regulation on the market, the fintech ecosystem, the impact of fintech on the market and finally .				

The above analysis confirms the relevancy of further investigating collaboration with fintechs or startups in the financial sector by leveraging the ACAP theory. There has been relatively a lot of research on ACAP within the financial industry (53) but when we analyze it further, we found that only 4 of them are linked with our subject. Those studies were mostly quantitative (e.g. Liao S and al. - 2010) and aiming at analyzing the impact of culture on ACAP (Adriansyah and Afiff - 2015), of outsourcing on performance (Weigelt and Sarkar - 2012) or the impact of ACAP on value (Cepeda-Carrion et Al - 2016). Some previous works have studied ACAP and Startups yet adopting a startup' perspective more than the large firms one (e.g. Toole and Al, 2015; Moon, 2014; Waguespack D - 2009). Glabiszewski and Al. (2018) identify the key absorptive capacities that are endogenous determinants of the effectiveness of the process of the absorption of process innovations in the activity of financial companies operating in Poland. Yet, in their quantitative analysis, they adopt a personal and organizational perspective overlooking the project level's one. Jansen and al (2005) performed a quantitative research at organizational units' level on ACAP organizational antecedents and that was based on self-reported assessment of unit managers within branches from a large financial services firm. Yet it lacks a longitudinal aspect "to empirically establish the causal claim to their model" and did not consider the external knowledge source nor acquisition modalities. Studies about the performance of Open Innovation are also predominant (Chesbrough H, 2012; Neyens I, Faems D, Sels L, 2010; Weigelt and Sarkar - 2012).

Mark Easterby-Smith and Al. (2008) postulates that the **limitations of the ACAP concept** are related to the **dominance of quantitative studies**. By focusing on the most recent qualitative studies, the author argues that a **processual perspective of absorptive capacity would make it possible to integrate the role of power in organizations**, and thus promote a better understanding of the nature of boundaries within organization, but also in its environment.

Therefore, to the best of our knowledge, there is no study that is dealing with collaboration between a fintech and a bank from an ACAP implementation perspective and that, in addition, adopt a research design where analysis is qualitative, process and focused on the project as a core unit of analysis.

Synthesis of the Literature Review section

In the previous sections we reviewed the literature to ground our research.

The key takeaways from the literature review are the fact that **Open Innovation** (OI) is **about knowledge flow** to be exploited by the firm in interaction with the outside. Implementing such initiatives is challenging and particularly requires a specific type of capacity which determines its performance: the **Absorptive Capacity** (ACAP). As a as a high-level organizational capability which considers a firm's ability to gain innovation benefits from interactions with external parties, ACAP as a complex capacity needs further operation description through process analysis at different level and especially at project level.

We identified some **further research gaps** we propose to recall hereafter.

Firstly, the detailed analysis of the literature pinpoints main needs for additional academic contributions. Among them is **the implementation of OI** and studies on end-to-end innovation commercialization process. Therefore, a process view of dealing with OI is of interest.

Secondly, most of the studies have been performed at organizational level **overlooking the project level and the interdependencies / need for consistency between the different levels**.

Third, there is a **lack of studies detailing the ACAP processes and complex underlying mechanisms**. Furthermore, the description of operational practices of ACAP are rare and still not detailed, exhaustive nor actionable enough.

Finally, though startups and fintech are an ever-growing type of supplier of knowledge for OI initiatives by large firms, there is very **few studies addressing outbound collaboration between financial institutions** (that have unstructured R&D activities) **and fintechs**. Studies addressing the collaboration with startups are focusing on this phenomenon within corporate accelerators.

Finally, we saw that there are a **very few studies addressing ACAP from a project's perspective** and nevertheless trying to observe mechanisms at different level (individual, project, organizational).

To sum up, there is no study that is dealing with collaboration between a fintech and a bank from an ACAP implementation perspective and that, in addition, adopt a research design where analysis is qualitative, process and focused on the project as a core unit of analysis.

4. RESEARCH QUESTIONS

In section 2, we defined the **business problem** (*why collaborations between fintech and banks, though rising remain uncertain and often disappointing*?) **and the associated managerial question** (*how do banks collaborate with fintechs to innovate?).* In this section we will propose the relevant research questions to address the business problem.

Our main conviction is that current disappointments regarding collaboration with fintechs (the business problem) is due to an underestimation by the managers of the knowledge mechanisms at stake and of the absorptive capacities to invest in, to implement and to manage. In addition, we would like to investigate if **managers and decision makers may overlook the outcomes related to knowledge acquisition and impact on the transformation of their organizations**.

Therefore, the bank may not optimize its open innovation set-ups to make the most of collaboration. The bank may also unfairly undervalue the outcomes of collaboration by only focusing on pure project management performance indicators.

Therefore, we intend to solve the managerial question of the lack of understanding of how banks collaborate with fintech by **relying on the Absorptive Capacity (ACAP) theory** previously described in the literature review. Indeed, we have identified the ACAP theory (detailed in section 3.2) to analyze how to manage the inflow of knowledge along such partnerships. **ACAP are a specific dynamic capability and serves as a good lens to describe the organizational capabilities a firm must implement to manage open innovation**. Open innovation and absorptive capacity are two concepts based on the idea that companies can leverage the knowledge generated externally to improve their innovation performance. Being process based, the ACAP theory is particularly appropriate to describe and understand the mechanisms at stakes. We propose to rely on the ACAP framework to better understand how collaboration works and what can facilitate or hinder them. This will help us to describe effective collaboration practices within the OI strategy of a bank.

Conversely to the grey literature, we consider the level of knowledge regarding collaboration with fintech is not mature enough to jump into a prescriptive research question aiming at confirming or challenging best practices. **We prefer to propose a descriptive and process standpoint to contribute to the understanding of collaboration's mechanisms**.

Furthermore, based on the literature gaps we highlighted, we identified some angles to unpack our research question. Therefore, we propose the following sub-research questions:

RQ: ***How do banks collaborate with fintechs?***

- RQ1 - Does this specific type of outside-in flow of knowledge involving a large banking firm and a fintech follow the traditional **ACAP process to innovate**?

- RQ2 - What **role do the dedicated OI** set-ups implemented by an MNC banks (i.e. within their network of international subsidiaries) play in this knowledge absorption process?

- RQ3 - What are the **difficulties and enablers** to implement an ACAP process when collaborating with a fintech?

- RQ4 - What type of **learnings and outcomes** at project and at organizational level (especially within an MNC) do we observe and incidentally, do banks misestimate (under or overestimate) the potential role of such collaboration in their innovation and transformation journeys?

By addressing this research question, we believe it will lay a better ground for understanding the potential mismatch of perception or expectations from top managers. We also think it will lay a better ground to identify potential obstacles / enablers and outcomes for future research on best practices.

5. RESEARCH METHOD

In this methodology section, we will present our philosophy of research and associated research design. We will describe the methods for the data collection and analyses. Finally, we will present our selection of cases in our multiple case study.

5.1. POSITIONING AND RESEARCH DESIGN

5.1.1. Positioning and Philosophy of research

Given my professional position at Société Générale Group, it is necessary to clarify my positioning regarding the research field and cases studied.

I had no direct impact on the projects we propose to analyze and as such did not influence the cases nor the organizations they belong to. Yet I was attending to major status review and presentation meetings dealing with the innovation strategy of the different entities and dealing with the innovation project they were working on. Given I was external to the projects, we did not perform an action research. Yet, this was a great opportunity to discuss about the cases and collect valuable data from the field when projects were conducted. Cases have been studied without any role played.

The only impact I had that may be worth mentioning was my broadcasting of one fintech and project to across the BU pushing to see opportunity for replication.

We should keep in mind that there is a tension between the ethical critics related of **"covert research"** (David Calvey-2008) and the deepness and complementary material we get from such approaches. Indeed, thanks to covert research, we can have more open discussions and perform additional triangulation. In my research, covert research was happening when I attended working meetings or unformal discussions related to the cases I studied.

In an interpretive approach, we will carefully consider the social links and carefully listen to what interviewees will express, convey and mean to understand in-depth phenomenon. Moreover, we will consider the intention and motivation of our interviews and data providers to better embrace the social reality. Finally, the knowledge we ambition to come up with will be valid if shared by the stakeholders we will interview and if sufficiently actionable.

5.1.2. Research design

In introduction (section 2) we identified the **Business Problem**: *why collaborations between fintech and banks though rising remain uncertain and often disappointing*? The object of our research are the collaborations between fintechs and banks. We propose to explore empirically this phenomenon that we consider needs further investigations. The **Research Question** associated to our business problem is *how do banks collaborate with fintechs*?

We split the research question into different sub questions:

RQ: ***How do banks collaborate with fintechs to innovate?***

- RQ1 - Does this specific type of outside-in flow of knowledge involving a large banking firm and a fintech follow the traditional **ACAP process to innovate**?
- RQ2 - What **role do the dedicated OI** set-ups implemented by an MNC banks (i.e. within their network of international subsidiaries) play in this knowledge absorption process?
- RQ3 – What are the **difficulties and enablers** to implement an ACAP process when collaborating with a fintech?
- RQ4 - What type of **learnings and outcomes** at project and at organizational level (especially within an MNC) do we observe and incidentally, do banks misestimate (under or overestimate) the potential role of such collaboration in their innovation and transformation journeys?

To address this Research Question**,** we **ambition to perform a qualitative analysis grounded in the Retail activities of the Société Générale Group**.

Société Générale is one of the leading European financial services groups. “Based on a diversified and integrated banking model, the Group combines financial strength and proven expertise in innovation with a strategy of sustainable growth, aiming to be the trusted partner for its clients, committed to the positive transformations of society and the economy. Active in the real economy for over 150 years, with a solid position in Europe and connected to the rest of the world, Société Générale has over 147,000 members of staff in 67 countries and supports on a daily basis 31 million individual clients, businesses and institutional investors around the world by offering a wide range of advisory services and tailored financial solutions”[38]. It generated EUR 25,062m revenues in 2017.

We will perform a multi-case study that is grounded in different entities of the European Business Unit (EURO). The Business Unit EURO combines the expertise of the Universal Bank and the Consumer Credit business line, **with a large diversity in terms of geographies and situations**. The geographical footprint is indeed well balanced between Western Europe (mainly Consumer Credit oriented) and countries from Central and Eastern Europe. It accounts for 26 000 employees, 9 million customers and with some leading market positions in eastern Europe (see appendix 12.5). EURO accounts for a ~ EUR 3bn and for a significant amount of the GOI of SG Group (~20%).

We will **cumulate observations and compare cases** which is the reason why we will not be focusing on a single case. These cases (see table hereafter) are diverse with a **mix of two successful (Fakturoid and Collect AI) and two disappointing cases** regarding their perceived outcomes. Two cases took place within the same entity and country. Two of them are “extreme” cases. One (Fakturoid) is dealing with Open Banking where collaboration with third party is at the core of the business model. The second was relatively conflictual (Personetics).

[38] Source: SG public web site.

Table 3. List of the embedded cases of the EURO Business Unit

#	Project/Fintech name	Pilot country
1	AUKA	Czech Rep.
2	FAKTUROID	
3	COLLECT AI	Germany
4	PERSONETICS	Romania

NB: the cases are introduced in more detail in section 5.3

Our **unit of analysis is the collaboration project** as the locus for the collaboration between the bank and the fintechs. Nevertheless, we will consider the interaction of the project with the other organizational layers (BU/Group; Entity; and Project levels). We will also investigate how the knowledge is transferred beyond the project. The role of individuals will not be studied except via the analysis of the impact of the team's profile.

To tackle our Research Question, we adopt a knowledge and learning perspective relying on the absorptive capacity theory. We choose to **adopt an ACAP perspective** that we think best captures the challenge of collaborating with a fintech. We leverage the ACAP theory as a theoretical framework. More especially we will rely on **the extended model based on the Todorova and Durisin model (2007) that we came up with thanks to the literature review.** We will use it as theoretical framework to carry out observations to confirm existing ACAP conceptual framework but also to potentially propose some adjustments to produce knowledge. we want to enrich based on a qualitative field research. Hence, we propose **a hybrid exploration** based on an **abductive reasoning.** Being an innovation practitioner, I will leverage my position[39] to refine my understanding and analyses and, based on the findings of the

[39] I have been appointed head of Innovation for the International Banking and Financial Services Division (IBFS[39]) of the Société Générale Group in 2015. In this position, I was asked to foster innovation within 3 business lines (Insurance - Sogecap, Car Fleet financing – ALD, International and Equipment finance - SGEF) and 3 retail banking region (Russia, Europe and Africa). At this position, I had the great opportunity to observe and work for different types of organizations, cultures and businesses. I have been actively involved in the African, European and Russian innovation ecosystems. Since 2018, I am focusing on Europe BU as Head of Innovation, Fintech and new business models.

empirical study, we will potentially allow us to adjust the ACAP model. Moreover, to allow additional testing of the knowledge produced, we will clearly describe the context of the research field.

To answer the Research Question, we need to reach the following objectives that will drive the structure of the analysis:

- describe the activities that deal with knowledge absorption to:
    - understand the activities, mechanisms and relationships at stake (component of the ACAP model),
    - understand what significantly impacts the collaboration (contingency factors of the ACAP model),
    - get more actionable and operational insights (managerial consequences) regarding compared to former research (see section 3.2.3)
- integrate time and multi-level analysis to improve our understanding of the collaboration process (flow chart analysis) and see how the project interact with other organizational levels (like for instance with the OI set-ups or the BU).

Therefore, we propose to perform a **process research** which is consistent with the ambition to understand collaboration mechanisms overtime and to consider its importance when it comes to OI project implementation (Randhawa and Al., 2016). Indeed, as A. Langley explains, process research is concerned with understanding how things evolve over time and why they evolve in this way (see Van de Ven & Huber, 1990), and process data therefore consist largely of stories about what happened and who did what when—that is, events, activities, and choices ordered over time" (Langley, 1999). Running a multi-case study and especially performing a **cumulative case study** with descriptive intention is relevant to perform a process research and get an "holistic understanding of a phenomenon" (Lionel Garreau, 2020).

This process research is a **longitudinal study** that relies on an analysis of the ACAP model that will be completed by a flow chart analysis to grasp the temporal aspect of the collaboration and thus enrich the process analysis. **An important challenge of this thesis and our process analysis will be to complement the static ACAP analysis that will shed light on the relationships between components**

with a dynamic process analysis of these relationships. We hope this will help readers get a better description of the processes and mechanisms at stake.

Completing the project view as core unit of analysis, the process map analysis will also enable us to perform a multi-level analysis. We will look at what the ACAP of a large bank means in a context of OI. All in all, it will observe how knowledge from the periphery is valued not just at the level of the project that relies on the fintech but also at the level of the Organization, at the level of the whole bank. It is not just about ensuring the project delivers on time and on quality but it is about ensuring that the next innovative projects will be more appropriate and better performed for all parties.

Finally, we will adopt a bank perspective and we will focus our data collection on banks. We will perform some triangulation with data coming from some fintechs but not systematically. Nevertheless, we involved. The unit of analysis is not the fintech nor the collaboration per se. It is the collaboration project from the bank perspective to investigate how a bank absorb knowledge to innovate. Nevertheless, we will look at the knowledge transfer and collaboration model from a fintech perspective also to see how banks get organized or not to be attractive and propose win-win deals.

5.1.3. Challenges of the research design and associated proposed mitigation.

As a practitioner working in the research field, there were six potential pitfalls regarding my field of research: being unclear regarding my situation towards management, being unfair regarding explicit obtrusive or unobtrusive observations, being unawareness about story telling from stakeholders, being overwhelmed by the profusion of data being fully immersed in the research field, facing personal conflict of interest given my position aimed at fostering successful collaboration and finally being tempted to move from a case study analysis to an action research intent.

As an interpretivist, I should step back also to ensure my construct of reality and my interpretation of the data is not biased by my position. Conversely, **being part of the field eases the immersion in the phenomenon we want to study and eases the understanding of the social reality and the motivation and intentions of the different stakeholders**.

At the time of data collection, we choose to implement the following mitigation plan:

Table 4. Research pitfalls and associated mitigation plan

Pitfalls	Mitigation plan	Proof of evidence
Unclear situation towards management	- Get explicit sponsorship from the management - Align the purpose of the thesis with my mission statement which is to understand and improve collaboration practices	- The EDBA is part of my personal objective yet without any specific mandate or guidelines and, as such, is stated in my performance review
Unfairness regarding explicit obtrusive or unobtrusive observations	- Assume the value of mixing the two approaches for the sake of the richness and quality of the analysis. - Explicit mention of my analysis purpose during interviews - No communication of results to the management of the interviewees without their consent (trust building)	- Focus interview guide with systematic presentation of the research purpose of the interview and explicit request for recording - Loopback communication with interviewees about findings and data collected - Log of notes regarding key observations made in an unobtrusive way
Profusion of data	- Assign clear use of data to prioritize the meaningful data out of the crowd	- Systematic log of the data we will collect and analyze
Personal conflict of interest	- Align the purpose of the thesis with my mission statement - Distinguish communication and improvement initiatives - Promote “test and learn” / “learn from failure” initiatives	- mission statement - judgement capacity

Pitfalls	Mitigation plan	Proof of evidence
Story telling from stakeholders	- Use of obtrusive or non-obtrusive observations to triangulate and challenge data - Triangulate with: o several stakeholders having different perspective (operational vs management position) o the fintechs involved in the cases o secondary data - Loopback communication with interviewees about data collected - Set separate meetings with interviewees that are dedicated to market and communicate positively on the collaboration initiatives to be able to focus the research focus interviews on real data and real assessment on the collaboration journey - Leverage the social pressure of the community of innovation of the BU to push for trustful and transparent exchanges	- List of interviewees and associated profiles per case - Official internal and external communications to market collaborations - Animation and formalization of returns of experience sharing within the innovation community I animate

Pitfalls	Mitigation plan	Proof of evidence
Move from case study analysis to Action research	- Reject action research method to o be more independent from the research field in terms of assessment and pace of analysis o focus on understanding phenomenon rather than on implementing things - Yet benefit from insider-outsider perspective as an active participant in some of the events studied to perform in-depth analysis	Focus on one side my “researcher hat” on understanding the phenomenon through a multi case analysis and on the other separate side my “practitioners hat” on improving phenomenon through implementation of improvements

5.2. DATA COLLECTION

5.2.1. Type of data collected

The data collection will be based on primary data completed by secondary data. Primary data will consist of semi structured focus interviews completed with topical interviews.

Secondary data will be composed of **data directly related to the different cases** (see section 5.2.3) **or related to specific topics** we want to dig into (e.g.: assessment of fintech during recognizing the value step).

Indeed, thanks to my position, we had **access to a very rich and exhaustive set of data**. This complemented and enlightened the data directly coming from the interviews. Relevant info related to the cases were gathered and logged to nurture and make more robust the analysis. This helped us to improve our knowledge regarding the effective context and difficulties of collaborations. This information helped us identify some assumptions we will challenge thanks to the cases. In the different cases, we indicate the use if each of the data we collected and reviewed (see section 5.3).

On top of this, we also collected more transversal or case independent data to strengthen our understanding and analysis. Those different **data sources and associated use** purpose are described hereafter.

Table 5. Transversal primary research data

Source and nature of data	Date	Use in the analysis
Interview and presentation with management team of "early metrics"	07/2018	Deep dive in "recognize the value step" by looking at: - the segmentation of fintech and at the selection criterion of fintech performed by external specialized notation agency: "*early metrics*"
Capgemini certification survey workshops	03/2018	- the segmentation and at the assessment criterion of fintech performed by Capgemini to grant certification to potential partners for banks. Focus on "scale up" ones as the most promising and difficult to identify. I participated to the workshop to co-construct this certification implemented by Capgemini.
Interview and presentation with the sourcing team of the Group Innovation team and review of their selection templates and Group relationship management tool	12/2017	- the selection criterion of fintech performed by the Group dedicated cell. Analysis of the internal tool to manage the relationship with fintechs: "*start-up flow*" set-up in May 2017.

Source and nature of data	Date	Use in the analysis
Informal feedbacks on the assessment tool developed for the EURO BU. Meeting with a dedicated transversal task force set-up in Q1 2018	Bi-monthly pipeline review	Observation of HQ: experts' involvement and acculturation / knowledge sharing / decision on broadcasting and scaling up strategy within the entity network.
Observation during the Fintech task force I set-up and aimed at assessing and sharing Fintech within the BU and its network of entities	01- to date /2018	Observation of the difficulties to : - prioritize, source, select, assess and broadcast Fintech at HQ BU level. - prioritize effort on key business challenge from the BU and from entities' perspectives
Meeting with Group Strategy Division, KB and French retail network on SG direct investment strategy	06/2018	Understanding rational for investing and direct investment strategy and discussion on possible organizational set-ups

5.2.2. Design and administration of the focus interviews

This section is to explain how the focus interview was designed and administrated.

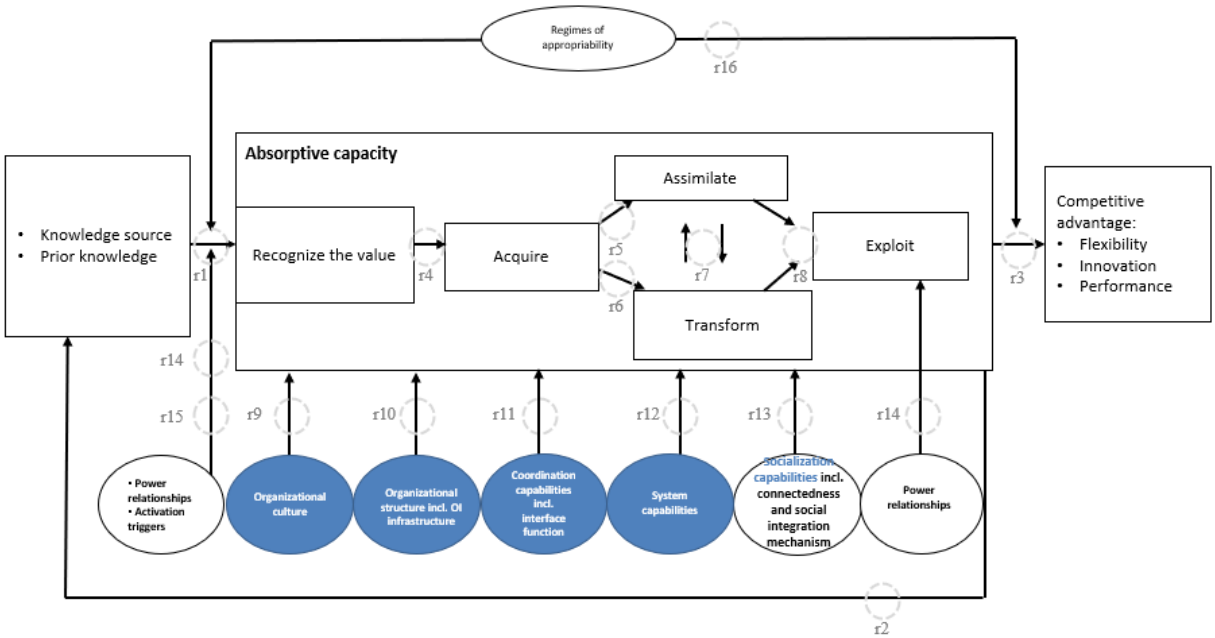
Design of the interview

Structure of the interview

The design of the focus interviews was iterative. It required some preliminary interviews to come up with the appropriate theoretical framework and format.

We performed discovery interviews to empirically identify the topics that were considered important to drive the collaboration and refine the Research Problem. In parallel, we performed the literature review to study the ACAP concept. All this helped us define the following conceptual framework that shaped the design of the focus interviews (see section 5.2.2 and just underneath).

Figure 11. ACAP model proposed to investigate collaborations.



Source: Adapted from Todorova, Gergana, and Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». Academy of Management Review 32, no 3 (July 2007): 774‑86.
In blue are the complements or simplifications to the Todorova and Durisin model we identified in the Literature Review. By default, r9,r10,r11, r12 and r13 relationships are impacting the overall absorptive capacity. This model will be challenged and refined during the empirical analysis.

Gathering data on operational ACAP practices had been difficult. Indeed, as discussed in the literature section, there were very few existing frameworks to rely on to capture ACAP activities. It was then necessary to perform several interviews to come up with operational items that would characterize ACAP operational activities that meant something for the interviewees. Fueling discussion with simple and operational reference to ACAP practices was quite challenging yet necessary to ensure interviewees had the chance to share their points of view or testimony on them. Iteratively building the referential of inputs/outputs, activities and decisions that affected or contributed to the different phases of ACAP was a good way to highlight some items that projects' stakeholders were not aware of. To us, it means either that there were so obvious that they had not to be mentioned explicitly or that there is room for improvement in the management of collaboration based on our findings. In both cases, performing additional interviews was key to understand the meaning of the data.

Furthermore, almost all the cases adopted agile methodology to manage their projects. Working with fintech is almost always an opportunity for the bank or a requirement from the fintech to work in a more agile way. Agile projects often deal with less project management formalization and more day-to-day cooperation of the team. Agile methodology minimizes the production of formal exchanges and reporting data. Therefore, retrieving the major events and decisions was quite difficult and highly dependent of the interviews. Nevertheless, when available, we complemented this source of data with workshops support presentations and horodated mails.

As a result, we had to refine iteratively the topics and questions according to what we progressively discovered along the different interviews and even secondary data we collected along the way. Consistent with our philosophy of research (abductive reasoning), we also wanted to perform preliminary interviews that were quite opened in order to be able to collect and identify emerging concepts.

Therefore, the focus interview guide evolved slightly overtime. Hence, there were a need to perform additional interviews to capture missing data from early interviews.

To ease discussions and gather the information we needed, the focus interview's guide has been divided in the following seamless sections: description of the context surrounding the collaboration, description of the fintech, deep dive in the collaboration journey, reflexive discussion on the collaboration and next steps. The final version of the focus interview is described in appendix 12.9.

We **gathered data related to the organizational context and influencers of ACAP.** The focus of our research is not to validate the determinants on the performances of the ACAP but to see if they are some items that impact the collaboration journey and potentially segment the type of ACAP process we will observe. In particular, we ask to describe the **OI set-ups and existing processes leveraged at organizational and project's levels[40].**

We asked people to **"tell the story"** of the collaboration to gather major events and decisions we dated.

To operationalize organizational capacities, we asked how the project and the bank got organized to perform the **different ACAP activities**. In particular, when available, we **investigated knowledge management decisions** at project level (cf. Lichtenthaler, 2011): for instance, the *make-or-buy; integrate-or-relate; keep-or-sell decisions.* What would be interesting in our field research would be to understand the reasons for choosing one or another option at project level (given that at organizational level, the internal and external organization of the processes are often complementary and do not substitute but often strengthen or compensate themselves).

The review of the project's governance and methodology provided us with the appropriate lenses to analyses combinative capabilities at project levels.

We investigated acquired **knowledge transfers at project level but also the potential transfer of this knowledge to other project entities**. We asked for the knowledge that the bank would have also transferred to the fintech (given flows of knowledge are bi-directional, we investigated for instance if the more bi-directional the knowledge transfers, the more effective the collaboration).

Moreover, we discussed about the **enablers and obstacles / difficulties** the project faced and positioned them on the different ACAP's steps.

Finally, we will have looked at the **outcomes** of the collaboration. The focus of the thesis is not the performance of the ACAP, but we will need these items to capture the challenge of implementing OI and especially ACAP and to loopback with prior expectations from sponsors. Todorova (2007) and Zahra and George (2002) models define outcomes and an increased competitive advantage in terms of flexibility, innovation and performance. We looked at outcomes from **learning perspective and**

[40] This will help us see how existing internal processes are leveraged in synergy with IO processes. "Then managers can address the effectiveness and efficiency gains that may be captured by integrating the internal and external processes as well as the knowledge exploration, retention, and exploitation processes". (Lichtenhaler, 2011).

knowledge acquisition perspective (related to knowledge exploration), from a **connection point of view** (related to knowledge retention) and from **an industrial/commercial point of view** (related to knowledge exploitation). The latter point of view will be expressed in terms of status of implementation and in terms of lead-time.

We also looked if the knowledge has transferred to another entities or projects to better embrace the **close inbound potential benefits**.

Finally, to embrace any potential impact on the Transformation of the bank, we wondered what impact the collaboration had on the organization in terms of evolution or adaption or even acceptation regarding process, IT or new way of working.

Interviewees' profile

The main target was for the head of project to be consistent with our focus on the project as the unit of analysis. We also interviewed key "operational" stakeholders of the collaboration that were involved in the project (e.g.: head of lab or business contributors).

Hereafter is the list of interviewees:

Table 6. Profiles of interviewees per case

		Bank		**Fintech**	
#	**Project/Fintech name**	**# people interviewed**	**Profiles of interviewees**	**Fintech interviewed**	**Profiles of interviewees**
1	AUKA	4	- Head of AUKA Project - Head of Open Banking - Head of Channel - Head of the KB Lab	/	CEO
2	FAKTUROID	2	- Head of Project and Open Banking - Head of Channel	1	X
4	COLLECT AI	3	- Head of Collection - Head of COLLECT AI Project	1	Head of project
5	PERSONETICS	1	- Head of the Lab and of the PERSONETICS Project	1	Head of sales
∑		**10**		**3**	

Administration of the interview

We went through the following methodology to design, administrate and complete the focus interviews:

1. Secondary data analysis on collaborations to understand overall context (2015-2018).
2. Discovery interviews to refine the managerial question (2016-2017).
3. Preliminary interviews to design and test the focus interview (2017-2018).
4. Main interviews with local head of project or innovation managers (H2 2017-Q1 2018)
5. Secondary data analysis per cases to triangulate and complete interview raw data.
6. Collaboration process flow chart to synthetize data and lay the ground for process and organizational analysis (Q2-2018).
7. Complementary interviews (Q2-Q3 2018) to better understand data and complete the missing data we identified (notably thanks to the collaboration process flow chart).
8. Selected triangulation interviews with additional project stakeholders or Fintech representatives based formalization of the collaboration process flow chart.
9. Coding in Nvivo (Q3 2018).

In addition, throughout the thesis period (2015-2018) we:

- attended to some meetings related to the cases as a practitioner which helped us complete our data sets and understanding
- performed selected interviews with additional project stakeholders or Fintech representatives to triangulate and complete the information

The Focus interview have been conducted in an open and general way to assess if knowledge naturally comes up and to openly gather large amount of data to test and enrich the existing ACAP framework.

Nevertheless, we will ensure we capture the data we will go through hereafter and coming from the theory.

When possible, for a particular case, we **performed different interviews with people having different position and perspectives**. For instance, we interviewed the project leader having more operational insight and the sponsor or the business manager having a more strategic view and a better vision of the organizational mechanisms beyond the project's level. This helped us not just to triangulate data but also to complement them. The list of interviewees and associated profiles per case are described in each case (see section 5.3).

We performed different interviews per case to complement missing information but also to triangulate information when we felt there were a risk of "story telling" due to my position. To mitigate this risk, we also proposed our interviewees to separate our discussions into two different exercises with two different goals. On the one hand, interviewees had a moment to voice any information that would value the experience (internal and communication goal). On the other hand, we have a moment to objectively describe facts and personal convictions to improve the way we collaborate.

Focus interviews have been administrated face to face or via skype. **We recorded them with interviewees' consent**. Sometimes, we had several interviews with the same people finalize or deep dive into the interview. For the AUKA case, we had 2 group interviews completing two with the head of project.

Finally, we meet 10 people and performed 16 focus interviews that have been transcribed:

Table 7. Number of interviews and interviewees per case

#	Project/Fintech name	# focus interviews	# people interviewed	Fintech unformal discussions	Fintech interviewed
1	AUKA	5	4	X	/*
2	FAKTUROID	5	2	X	1
3	COLLECT AI	3	3	X	1
4	PERSONETICS	3	1	X	1
	TOTAL	**16**	**10**	**6**	**3**

* I had several unformal discussions with the CEO

For 3 cases, we had the **opportunity to meet the fintech counterparts to triangulate** and enrich the data collected with by the bank.

The focus interviews and the additional interviews to complete and challenge the data collected were obtrusive. In addition, given my position, in my day to day work I had the opportunity to attend meetings related to the cases. They enabled me to complete my understanding and data collection. In this case, the data collection was unobtrusive.

5.2.3. List of embedded Cases

With the aim to show the diversity of our sample of cases, we propose to **classify the different cases according to**:

- the OI appetite i.e. the **maturity and prior knowledge of the entity in terms of OI culture and practices.** As a proxy we look if there have been significant contacts with the Fintech in terms of:
    - collaboration experiences track record at project level and at entity level
    - CEO's sponsorship to support OI initiatives with fintech
- the **maturity of the OI tangible features** i.e. the existence of "tangible enablers or assets for OI implementation" in terms of:
    - OI set-up (i.e. existing dedicated internal functions and routines to collaborate) or open IT infrastructure,
    - ecosystems width (variety and number of connections to external knowledge sources) and depth (animation).
- the **maturity of the Fintech** (or profile). As discussed in section 4.5, we consider there is three major types of fintechs: startups, scale-up and established firms that differ according to their maturity levels in terms of market reach, organizational and financial structures. Moreover, we consider that even if a Fintech which has reached a significant market share in a particular market we cannot necessarily treat it as an established traditional supplier nor as a "startup".
- **the a priori magnitude of the innovation** at the beginning of the collaboration. This magnitude is either in terms of disruptiveness for the market or in terms of distance with the internal existing stock of knowledge (incl. the types of technology used or targeted market insights).

All cases address the same context in terms of business and business unit: the retail banking or consumer finance business in Europe. **Yet we study four different embedded cases** not a single embedded case study. "Multiple cases are discrete experiments that serve as replications, contrasts, and extensions to the emerging theory" (Yin, 1994). In this sample, we lay the ground for generalization by having studied various type of situation in these embedded cases.

Among others, these projects were also selected because data and information were available with a high level of reliability, transparency and details.

Though our primary focus is not about working on the determinant of the successful collaboration, this list stresses also some parts of the outcomes: the collaboration model chosen for the project or the depth of collaboration (e.g., co-creation vs supplier relation) and the status of the collaboration at end of data collection (the length of the collaboration). In our approach, these data indicate less a performance than a type of collaboration path we propose to deep dive into in the section 6.

Consequently, we selected the following sample:

Table 8. List of the embedded cases

#	Project/Fintech name	Pilot country	Maturity of the			Magnitude of the innovation	Collaboration model	Collaboration status at end of data collection
			OI tangible features	Entity	Fintech			
1	AUKA	Czech Rep.	High	High	Scale up	High	Local supplier	Pilot launched by employees, yet project abandoned
2	FAKTUROID		High	Medium	Startup	High	Local supplier	Deployed
3	COLLECT AI	Germany	High	High	Scale up	High	Local supplier	1st Pilot deployed
4	PERSONETICS	Romania	Low	Low	Established	Medium	Local supplier	Proof of Concept tested and abandoned

NB: the cases are introduced in more detail in section 5.3

5.3. DETAILED DESCRIPTION OF THE CASES

All cases are embedded in the EURO business Unit. The major priorities of EURO[41] is to:

- be among the top banking players in selected CEE markets
- be an innovative actor in Consumer Finance in France, Germany and Italy;
- continue to roll-out the Group's banking model.

Fintech should then be a way to execute this strategy.

5.3.1. Auka

Case description

Organizational context of the project

The collaboration was born in Komercni Banka (KB) the biggest entity of the EURO business unit (~8 000 employees) and which was founded in 1990. Being third on the market, KB is in a "cash cow" situation while being more and more challenged by traditional banks catching up by progressively rejuvenating their services and by newcomers (neobanks).

The entity has started its innovation journey in 2005. Yet open innovation initiatives started effectively from 2014 on with first cooperation with startups and by developing connections with external innovation ecosystems (see appendix.12.6)

The Innovation function has been staffed in 2005 yet with a focus on internal and participative innovation. The innovation function and its sponsorship by the management has grown gradually. On one side, an IT lab has been established under the IT division supervision. On the other side, the innovation function has been supervised by the marketing department that decided to set-up an innovation labs (in 2015). This lab was aimed at infusing new ways of working (mainly design thinking and test and learn mindset via experimentations) and at connecting to external world. This lab has no significant delivery capacity yet has established partnerships with the main innovation players of the

[41] Source: intranet EURO

Czech ecosystem. They partnered with a design thinking company (*Ideasense*), an accelerator (*Startup-yard*), and a startup studio (*Creative Dock*). In 2017, this lab has accompanied over 200 workshops and tens of design sprints. A large majority of ideas being implemented comes are internally born. Innovation is not governed at CEO level, but the innovation lab has a specific budget managed by the marketing Division. Under the regulatory pressure to grant access to account to third parties (DSP2), the management is getting more and more concerned by the need to collaborate and remain the customer preferred interface. KB had two experience working with a Fintech since 2014. KB deemed to have gained useful experience out of it.

At the time of our observations, we consider **the maturity of the entity and of the OI setup was high** compared to other entities. Nevertheless, the number of collaborations with third parties was still low (less than 5), some works remains to be done to easily manage openness of IT systems (cost of integration and organization of the maintenance and monitoring of partners), fast track processes to facilitate the collaboration with small partners are not fully implemented and there is no direct investment strategy nor dedicated vehicle.

<u>The business opportunity and the knowledge at stakes</u>

Payments are core banking business (as the basic services to build up additional commercial relationships on) and real time is the heart of the digital transformation. There is a strong need to simplify and speed up payments, KB must modernize the core to stay competitive. KB had several former trials since 2010 in that fields but finally decided to cooperate with a player specialized in that field. The collaboration was about cooperation and pilot with Fintech company in the area of **Peer to Peer instant payment solution, for both individuals** (reduction of payment friction) **and merchants** (cheaper than card alternative payments means). The solution is new in the market and there is no such experiment in that field by KB employee. For KB, moving forward in this field is an opportunity to strengthen position in the Small and Medium Enterprise (mainly merchants) and in the individual segments.

Therefore, we consider that **the potential magnitude of innovation at stakes is high** even if KB already launched former unsuccessful initiatives related to this topic.

The Fintech

KB cooperated with Auka, the Norwegian number one in mobile payments, to launch a pilot version of Auka's payment application tailored for the Czech subsidiary's clients. Created in 2010, Auka technology delivered to 106 banks and had an annual turnover of 4.3M€ and a profit of around 1M€ for 2016. It created successfully national mobile payments scheme in Norway. They were the first in Europe to obtain a payments institution license under PSD1. First company to run a licensed payments platform 100% in the cloud. Member of Google Cloud Customer Advisory Board. The total funding amount is 4.4M€ and VC backed. So, this partner is "a strong partner" according to KB head of digital. They are well established in the European Fintech landscape and quite literate into the field they specialize in and that they lobby for with regulator.

Therefore, in terms of maturity, **the partner is a scale up.**

The project and the temporal context

KB started thinking on P2P payments 2 years before (2016) the effective launch of the Auka project. At the time being, a product manager was very motivated and visionary on this topic. Moreover, some solutions were already launched on the market (P2P platforms and other solutions) with no proven success. KB wanted to develop such solution in-house and started to build their own prototypes and several related actions. Unfortunately, those prototypes never attracted management's attention and never triggered any further implementation project. Part of the reason why such former initiatives failed is the remaining important uncertainties and risks regarding such projects: how to succeed in on-boarding non-clients in this new payment ecosystems, what would be the impact of card payments (cannibalization), what would be the costs of a new brand introduction and promotion etc.…

KB had analyzed around ten other solutions including Auka. But KB kept on preferably developing a similar project by its own.

In October 2017, the head of digital channel participated in a conference and met Auka CEO, an iconic Fintech leader in the field showing the collaboration success he went through. He realized the opportunity to collaborate with Auka and the collaboration started 10/2017.

Data collection and sources:

Table 9. Data source and use for the Auka case

Data source	Type of data	Use in the analysis
Archival data	*Company-related documents*: Auka presentation, website, Social networks (Twitter and Linked in) Auka account. *Project-related documents*: Project charter, implementation Plan, Detailed planning, Backlog, Transaction Flow (Auka deliverable), Auka PoC, Ipsos Quantitative and Qualitative research, Business case, list of targeted merchants for launching, NDA, Procurement letter, Software as a service agreement for the Pilot, internal communications on the Group intranet on the project, Review of mails between Auka and the Bank to discuss opportunities for additional partnerships.	Further familiarize with the KB context. Gather general info on the Fintech and its positioning. Understand the solution value added. Review a concrete example of formalized knowledge transfer. Understand the planning and explicit milestones. Review implementation: planning and scope of Pilot and expected deployment. Review of the backlog of tasks used during the project that leveraged collaborative tools. Review of a transfer of knowledge from the Fintech through its contribution to quantitative and qualitative research. Understand ambition (business plan) and how it is shared. Understand contractual framework. Understand KB IT requirements constraints. Observe the how the entity diffuses the project and the collaboration within the BU. Understand feedbacks from the BU for replication.

Data source	Type of data	Use in the analysis
Observations	*Field notes from meeting attendance*: Presentation of the return of experience by the head of lab & Innovation at an external innovation events, Round table on payment with the CEO of Auka in front of the heads of marketing and innovation functions of the entities of the Region, Auka presentation of its new payment scheme. *Informal conversations*: Unformal discussions with Auka CEO, Unformal discussions with the headquarter marketing function on Auka collaboration.	Get the main learnings and difficulties out of the case and contrasting it with other experience of KB. Observe the way the partner can share knowledge with the different entities of the banks and express needs to scale up. Get the Fintech's point of view on roles and difficulties of collaborations, sharing about the di-directional flow of knowledge. Identify opportunities and difficulties at HQ level to support the collaboration and the scaling up of the Fintech. Observe how the Fintech transfers knowledge while selling its products.
Interviews (5h15mn)	*Focus interviews* with the Bank Project leader (business team leader), with Project leader and a business analyst of the project, with head of lab & innovation and head of digital channel. *Group interview* in KB with Head of Marketing, Head of Digital channel, Head of Open Banking and Head of Innovation lab.	Understand the case and capture of data at project level. Understand how the organization supported the project. Focus on joint team detailed functioning and planning. Understand the case and capture of data at organizational level notably regarding learnings and outcomes. Understand power and organizational dynamics. Understand historical background to the project. Complement data and share process project flow chart.

Data source	Type of data	Use in the analysis
	Complementary focus interview with the Bank Project leader (business team leader)	

Table structure inspired by Stigliani and Ravasi (2012). All the data are detailed in Appendix 12.10.

5.3.2. Fakturoid

Case description

Organizational context of the project

The collaboration takes place in Komercni Banka (KB), the entity formerly described in the Auka case (see section 5.3) where we assessed **the maturity of the entity and of the OI setup as high** compared to other entities.

To get a better insight of the organizational context at that time, we need to **bear in mind that for one year before the collaboration KB has been opening its systems and failed at partnering with strategic established Fintechs to support it**. Indeed, to comply with DSP2 regulation KB invested in opening of its IT systems. Some mandatory APIs (functions/services opened to external counterpart) like "access to account" and a developer portal have been ramping up. A project on other banks account aggregations had been launched. Finally, to get prepared to the open banking challenge, **KB had appointed an open innovation manager** who would take in charge the collaboration with the Fintech we are going to study.

In addition, in a more offensive way, KB went through an important process to select a partner to strengthen its offering so as to remain the "preferred customer's interface" and avoid being disintermediated. Unfortunately, the very intensive selection process (two established Fintechs were competing via sprints organized by the KB lab) took around one year and had been facing the burden of **heavy procedures** (compliance, it security and procurement procedures not yet adapted to Fintech features) and organizational complexity (the HQ was supporting one Fintech whereas the local entity was supporting the other one). Finally, the project was postponed for resources constraints reasons.

Consequently, when KB considered working with this new Fintech, the **KB team was aware of the risks of overcomplexifying collaboration projects and was more aware about the challenge of integrating with external counterparts**.

The business opportunity and the knowledge at stakes

The collaboration is part of the open banking strategy of the Bank. Basically, in an open banking area, the customer can access banking services through any customer facing platform and not any longer the proprietary ones of the Bank. Conversely, the bank can sell its banking services more easily to any type of players that would embed it in its offer or just distribute it. All this is facilitated by the API technology that standardizes or at least ease the connection of function between IT systems. In that environment, the bank role paradigm must change "from finance services to value provider" and leveraging customer data in order to remain relevant to the customer and avoid being disintermediated. More than ever, banks and any players can imagine and implement new business model everyone should position on: for example, selling its APIs or aggregating services for customers. KB open banking strategy is to test and **aggregate services from Fintechs**. Therefore**, collaboration with Fintechs is becoming strategic for the entity and how to manage collaboration is a key knowledge to acquire**.

KB wanted to deploy its open banking strategy to the Small Business (SB) and Small and Medium Enterprises (SMEs) segments that bear a good potential for improvements and revenues. **Better knowing these segments and how to serve them** (in terms of customer experience and in terms of adoption of non-pure financial products) was the second type of knowledge to acquire.

Therefore, we consider that **the potential magnitude of innovation at stakes is high** even if KB already launched former unsuccessful initiatives related to this topic.

The Fintech

Fakturoid started as a startup in 2008 with commercial launch of application in 2009. The business was established by two persons, currently, core team consists of nine people. Fakturoid is a cloud-based application that simplifies invoicing and cost accounting for small business and freelancers. Based on these type data creates statistics for business analysis. It provides information that are important for owners and support to meet legal requirements. Fakturoid is a Software as a Service where customers pay regular fees for its usage. They provide standard web based services support. Paid version is used by over 4 500 customers, more than 15 000 users log into their accounts at least once per month. It operates only in Czech republic with 35 000 opened accounts. Also, large companies (kiwi.com) are using Fakturoid application. Total invoices volume in 2017 reached around 430M€. They are profitable. The size of equity is approx. 5,6€ as private investment of the founders.

Therefore, in terms of maturity, **the partner is a startup.**

The project and the temporal context

The project started with first discussion with the Fintech in January 2017 after the Bank made the strategic decision to start working with external counterparts as part if its Open Banking strategy and to test this approach on Small Business segment.

Data collection and sources:

Table 10. Data source and use for the Fakturoid case

Data source	Type of data	Use in the analysis
Archival data	*Company-related documents*: KB Open banking strategy, KB lab activity report, Project submission files for BU and Group awards. *Project-related documents*: Project presentations, Performance report after innovation commercial launch, Innovation external innovation watch Intranet and LinkedIn communication	Understand the Open banking strategy of the entity. Understand lab services range and effective support to KB innovation projects. Observe how an entity promotes its initiatives internally (Group Innovation awards) and externally. Observe how the collaboration is perceived by the market. Understand the project planning, deliverables and business case indication. Observe how innovation performances are monitored.
Observations	*Field notes from meeting attendance*: Presentation of the return of experience by the head of lab & Innovation at an external innovation event.	Getting the main learnings and difficulties out of the case and contrasting it with other experience of KB
Interviews (3h10mn)	*Focus interviews*: with head of Open Banking in KB (3) *Group interview* : with head of lab & innovation and head of digital channel, with CEO of Fakturoid and Head of SME segment	Understand project journey and associated business opportunity within the Open Banking development strategy. Understand the case and capture of data at organizational level notably regarding learnings and outcomes. Understand power and organizational dynamics. Understand historical background to the project. Triangulate info regarding the feedbacks on the collaboration journey and outcomes

Table structure inspired by Stigliani and Ravasi (2012). All the data are detailed in Appendix 12.10.

5.3.3. Collect AI

Case description

Organizational context of the project

Hanseatic Bank (HB), headquartered in Hamburg, is a German subsidiary of Société Générale and Otto Group (25%). It belongs to the consumer finance part of the EURO business Unit and specializes in deposit-taking, credit cards, personal loans and receivables management (factoring). The company's products are distributed by partners as well as directly in one of the ten branches, online or through its own service center. Additionally, within the framework of factoring collaborations, Hanseatic Bank acquires receivables from companies within and outside of the Otto Group. The bank has more than 470 employees and as a such is relatively small compared to other Retail banking subsidiaries of the BU. It is relatively close to commerce and e-commerce through strong partnerships, innovation and IT capabilities. It has gained expertise in personal loans through many years of cooperation with banks and financial service providers.

The German bank has good and growing results outperforming market growing rates (NBI ~155Mio€; Operating profit ~ 100M€). Consumer finance business is traditionally more innovative than the traditional retail banking activities. In that particular case, Hanseatic Bank is also stimulated by its shareholder Otto Group, currently one of the world's biggest e-commerce companies, the "German Amazon" that is transforming itself.

The management has been fully supporting open innovation activities for a couple of years and Hanseatic has set-up good relationships with renowned innovation ecosystems in Hamburg and in Berlin, a leading Fintech European cluster where the Société Générale Group has set-up a "Lab". Yet this lab is just composed of 2 people hosted in a co-working place. HB has adopted a structured approach to source partners in alignment with their explicit business challenges and priorities (see Appendix 12.7). Moreover, the CEO pushes for opportunistic approaches from all its managers to contact and learn from fintechs. The bank has multiplied contacts and experimentations (~10) with external counterparts during the past 3 years. They are also laying the ground for their IT systems to more easily integrate with partners (use of application program interface APIs).

Therefore, we consider this **entity and its OI set-up as highly mature** compared to other entities.

The business opportunity and the knowledge at stakes

The collection is a core process in the economics of consumer finance. Practitioners are eager to find any solution that help them balance between collection rates, costs and customer retention/ customer relationship. Mid 2017, Hanseatic decided to launch a project with Collect AI that proposed proprietary AI based technology and on-line payment solutions. Hanseatic has expertise in personal loans through many years of cooperation with banks and financial service providers yet has no specific knowledge regarding **AI**. Conversely, the fintech has no experience regarding how to use its technology for collection process in the banking environment. The collaboration was also a pragmatic use case for **PSD2** (the revised Payment Services Directive 2) regulation. Indeed, it included a direct debit facility accessing the customer's current account (access to account being at the crux of to DSP2 regulation).

Therefore, we think the magnitude of the innovation was potentially **high**.

The Fintech

Collect AI was originally taken under the umbrella of the incubator (the "liquid lab") of Otto Group which fully own it. Founded in 2016, Collect AI has a team of around 35 employees in Hamburg, the Company manages a volume of more than EUR 15m in receivables. Collect AI provides a white labeled and AI-based services (mainly automation combined with supposedly self-learning algorithm) to manage account receivables, covering the end-to-end process from e-invoice, dunning to debt collection. Combining high automation and deep learning algorithms Collect AI improves the effectiveness and efficiency of collection process leveraging all channels of interaction.

In that case, we consider the Fintech is **a startup** because it is quite young and without any recurrent flow of income though having already processed to date 55M€ receivables and having a first UK customer.

The project and temporal context

The collaboration project started in February 2017, involving a joint team composed of HB and Collect AI members. On HB side, a head of project was appointed with the sponsorship of the Head of Collection Management. Identified people from marketing, operations, compliance, legal, data and IT were also clearly assigned to the project. The Fintech got organized similarly to mirror the HB team with someone expert in design and configuration. Monitoring of expected performance (in that case comparison of collection rate or recovery rates between control group and a sample) and joint project governance was agreed during kick-off.

Data collection and sources:

Table 11. Data source and use for the Collect AI case

Data source	Type of data	Use in the analysis
Archival data	*Company-related documents*: Presentations of the strategy of the entity. Presentation document from the Fintech. *Project-related documents*: Project workshops' and project reporting materials from steering Committee, Business reviews, Mails on preparation of project broadcasting within the BU, Mails and discussions on HQ collection experts assessing the solution, Discussion and submission form regarding the BU and Group innovation awards, Unformal discussions during CEO seminar, Contracts with the Fintech, Press release, Mail on the willing from HB CEO to involve the BU and the Group in getting support, Minutes of HQ analysis on the project effective status and Fintech's effective value proposition.	Understand the link between business strategy and open innovation strategy. Observe how the entity broadcasts its project within the BU and the difficulties the entity faces. Observe how the Fintech present its knowledge and collaboration options. Understand project organization incl. joint project team and governance, planning and project assessment. Review KPIs for project's performance. Investigate how the HQ and experts assess and challenge the Fintech's solution and try to support the scaling up of the Fintech. Observe internal and external communication strategy to market the collaboration. Analyze the legal frameworks. Observe the communication strategy from the entity to push for visibility and Group support incl. equity financing.

Data source	Type of data	Use in the analysis
Observations	*Field notes from meeting attendance*: Workshop with HB and the Fintech to in depth assess the solution and the project for potential replication. *Informal conversations*: Unformal discussion with Collect AI startup sales representatives at external event, Informal discussion between an internal collection tool providers and the project team, Informal discussion during presentation of Collect AI during a Data community seminar.	Observe the assimilation process at BU level. Cross check deployment information. Get insights regarding collaboration feeling and required next steps. Observe adoption / understanding by a community of experts, how knowledge diffuse at Group level between experts.
Interviews (2h45mn)	*Focus interviews*: with head of Marketing and innovation, Interview with head of collection, with head of project, with Collect AI management and head of project on Collect AI side. *Group interview*: Interview with collection managers from the project and a collection expert from HQ.	Understand HB innovation strategy and ecosystem. Understand Collect AI project. Know the Fintech and its development strategy. Get some feedbacks from Fintech's perspective (triangulation) on collaboration and expected next steps. Understand / challenge the true performance and project's deliverables of the project. Observe how the HQ assesses a pilot-based initiative and how HQ gets organized to replicate initiatives.

Table structure inspired by Stigliani and Ravasi (2012). All the data are detailed in Appendix 12.10.

5.3.4. Personetics

Case description

Organizational context of the project

The collaboration took place in BRD, a Société Générale's subsidiary in Romania and second largest entity of the EURO Business Unit. Being one of the leaders for individuals in Romania, BRD is well positioned in the market. The banks went through some recovery to face the financial crisis and restrict risk policy. Like most of the incumbent Rumanian banks, **the managerial culture of the bank is quite hierarchical with difficulties to work transversally** and with people who are not that used to be involved in large technological changes.

The innovation function in BRD was set-up one or two years before this collaboration, at the personal initiative of the Deputy CEO for financial market. The animation of innovation was assigned to a lab composed of two persons mainly with data background and recently recruited. The innovation team reports directly to the Deputy CEO, yet the governance to involve other Businesses, IT and marketing departments was perceived as not effective enough. The Lab hence faces difficulties to harness its activities to the business challenges of the bank and especially those from the retail business. Moreover, the lab faces difficulties to get IT resources easily. The lab started on its own to liaise with the external ecosystem establishing connections with startups, universities and the existing incubators. The collaboration we will study was one of its first realization.

Compared to their peer in the market and to other SG entities, we consider **the maturity of the entity and of the OI setup as low**.

The business opportunity and the knowledge at stakes

Chatbots are an automated way to interact with customers. It can provide a new customer experience proposing a new way to interact in **new digital channel**. Furthermore, it can reduce the **cost to serve customers**. Therefore, there is a potential value in proposing such service to people looking for such new channel and to mass market customers. The underlying technology and knowledge deals with **natural language processing** and, for the most advanced ones, **AI and machine learning**. It deals also with how to interface with social networks. The head of Innovation Lab at BRD has some knowledge related to it and quickly identified chatbot implementation as promising though not specifically requested by the business. He was interested in how to perform and accelerate the implementation of a **chatbot on a new social network channel**. Yet, event at the time being, the potential and the value perceived by the customers were already controversial.

Therefore, we consider that **the potential magnitude of innovation at stakes is medium.**

The Fintech

BRD chose to collaborate with Personetics, a company founded in 2010, based in White Plains, New York. With a total funding of $18M, the company has been VC backed and more recently banks (Santander) recently joined. Personetics is an Israeli Fintech that offers cognitive financial services applications. The Fintech has offices in Tel Aviv, London, New York and Singapore, the most important financial places of the world and it already serves more than 50 million customers worldwide. Personetics works with the biggest banks in each geographies or regions. They changed their positioning 18 months ago, and now present themselves as an “AI powered engagement company, or predictive analytics”.

The Fintech was identified by BRD as “strong” in terms of funding, meaning that they have strong and recognized investors at their back. Therefore, in terms of maturity, **the partner is a scale up.**

The project and the temporal context

On one side, BRD wanted to develop a chatbot but was facing some difficulties regarding language and security. On the other side, BRD discovered Personetics, a Fintech that seemed to have an already established solution and whose value proposition were in adequacy with BRD's expectations. Collaboration between BRD and Personetics was then necessary and promising for both players: BRD could test the customer experience of Personetics' chatbot and if such a solution is capable to handle Romanian language; Personetics had an opportunity to start business in Romania. Moreover, the head of Innovation Lab in BRD got support from the board to engage this project and a POC was finally sponsored by the IT thanks to a budget dedicated to "IT consulting".

In November 2016, BRD and Personetics signed a contract for a POC with the Lab employee as project team members.

Data collection and sources:

Table 12. Data source and use for the Personetics case

Data source	Type of data	Use in the analysis
Archival data	*Project-related documents*: Docs describing the fintech, materials, Agreements for POC's launch, First Proposal and Statement of Work, script description, Email conversation between BRD and Personetics on issues and problems to solve on the Bot, BRD Facebook Messenger Chatbot Pilot Results ,mail on project's next steps.	Understand the fintech and its positioning. Understand the Fintech's solution. Understand the project governance, responsibilities split and planning. Understand conflict on delivery quality. Understand the pilot results. Analyze how a HQ (central marketing team) broadcasts and market the Fintech to entities
Interviews (3h15mn)	*Focus interviews*: with head of lab and collaboration (2), with the Fintech head of Sales.	Review the collaboration project, the timeline and the fintech. Further reflexive discussions one year after 1st interview. Triangulate with initial interview. Triangulate information and discuss change of positioning of the Fintech.

Table structure inspired by Stigliani and Ravasi (2012). All the data are detailed in Appendix 12.10.

5.4. DATA ANALYSIS

5.4.1.1. Performing a longitudinal process analysis

This section is about presenting the way in which **we analyzed data and performed a longitudinal analysis to strengthen our process approach for our qualitative study**.

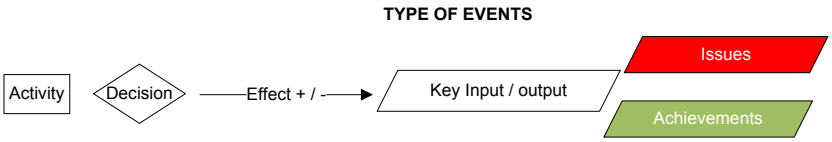
Collaboration process flow chart

Among the alternative strategies for the analysis of and theorizing from process data that the author examined, we selected the "**Visual Mapping Strategy**". We consider this strategy as particularly relevant to go through the cases we selected because "it deals well with time and relationships". As discussed in the introduction **timing is a key data for collaborations and relationships are core to make sense in a process**. This strategy is also particularly appealing because "the mapping strategy may be most fruitful as a theory development tool for the analysis of multiple holistic or embedded cases" (Langley, 1999).

In our research, we will apply and adopt this method as follows. Firstly, we will analyze the mechanisms and relationships **over time** and across **4 organizational levels** to identify the role each of them plays. We will **review the main activities, decisions, interactions, key outputs/outputs** expressed or confirmed out of the secondary data by the interviews. We will position these data at project's level, at entity's level (mainly items that involved management), at Open Innovation set-ups' level (e.g.: internal labs or external accelerator) and finally at BU/Group level (involving HQ). Then, we will put high emphasis on time by aligning all the data on a time scale. Finally, to understand the dynamics between all these data we will indicate the **main relationships between items** (positive or negative impact) that will be mentioned or that will come out of our interviews and analysis.

The label of the flow charts we will use are as follows:

Figure 12. Label of the collaboration process flow chart per case



Source: Adapted from A. Langley (1999)

Adopting a visual mapping strategy and drawing a collaboration process flowchart will help show "what" truly happened, "when" and "where" it happened. Potentially, it will shed lights on some sequencing or **phasing of tasks** that would be interesting to compare with the ACAP components and process. The analysis of the collaboration process flow chart enables us to have a dynamic view on ACAP over time that completes the more static one from pure ACAP model analysis.

Flow charts have been built by consolidating primary and secondary data and by performing ad 'hoc interviews via calls and via mails to validate the charts with team members of the collaboration teams.

Introducing the ACAP model

We want to **complete this process research by integrating the ACAP model** to potentially refine our understanding of patterns and mechanisms involved in collaboration implementation. Indeed, to better understand **how** internal R&D and innovation may be substituted or complemented with open innovation during collaboration projects, we will **date the main activities and also classify them according to the ACAP** categories. Some activities may be tagged as "recognize the value", "acquire", "assimilate", "transform" or "exploit" ones. By doing so, we will identify hints to further operationalize ACAP activities and in the same time ensure we **capture the dynamic aspect of the ACAP process.**

These to complementary approaches (process flow chart and ACAP theoretical framework) will further underline the dynamic nature of the ACAP.

5.4.2. Coding and data structure

Coding according to the proposed extended ACAP model

We will code the data according to former research and existing categories that we articulated within an "**extended ACAP model**" (see section. 3.2.4) based on the one proposed by Todorova and Durisin (2007). To build the detailed data structure we adjusted some existing categories by using verbs for activities to get as much operational practices description as possible.

We will use **NVivo** to conduct our **qualitative research** that is appropriate to get deep understanding of complex mechanisms.

The NVivo nodes and relationships structures we used are illustrated in Appendix 12.11.

To code the multi-level analysis, we introduce the "**Locus of action**" node (BU/Group; Entity; and Project levels).

To code events or actions on time, we introduce the "**Chronology**" node.

We use dedicated nodes to code the "**ACAP components"** of the ACAP process and its "**Contingency factors**". Hereafters are the initial data structures we developed based on relevant prior literature (see section 3.2.3 and appendix 12.3). We will use it to code the primary and secondary data and investigate ACAP dimensions and main relationships between ACAP components. We will observe if the empirical studies validate prior categories and relationships, potentially refine them and hopefully discover new ones during our observations.

Table 13. Composition of ACAP dimensions in past research

Synthesis and categorization of our understanding of current operationalization of ACAP based on previous studies (see Appendix 12.4)

ACAP Dimensions (theoretical construct)	**Components** (theoretical observation)	**Activities** (empirical observations)	***Some associated evidences / outcomes / measurements***	**Mentioned in the academic literature**
Recognize the value	Access to external knowledge via formal and unformal exchanges	Structure communication between the external environment and the organization		Chiaroni *et al*., 2010
	Confront external and in-house Knowledge	External and internal knowledge sharing mechanisms	*Information / sharing sessions* *Information circulation* *Ideas identification*	Chauvet (2014) Noblet and Al. (2010)
		Assess ("valuation")	*Ability to detect opportunities*	Chauvet (2014)

ACAP Dimensions (theoretical construct)	**Components** (theoretical observation)	**Activities** (empirical observations)	***Some associated evidences / outcomes / measurements***	**Mentioned in the academic literature**
Acquire	Commit to acquiring, sharing knowledge	*Gather knowledge and spread it over* *Knowledge in terms of change regarding the context: strategic orientation, organization, business partners, technology,*	*Intensity, speed and effort to gather knowledge* *Firm formal processes and requirements from management to gather knowledge or work on new ideas / solve problem (Chauvet)* *Participation to decision making process* *Employee turnover*	Cohen & Levinthal (1990); Zahra & George (2002); Jansen and al. (2005); Lane and al. (2006); Liao and al. (2007); Todorova & Durisin (2007); Lichtenthaler (2009); Flatten and al. (2011) *Noblet and al. (2010)*
	Invest[42]	Invest (e.g.: license or equity)	*Risk tolerance, CEO support, R&D investments*	Cohen & Levinthal (1990); Mowery and al. (1996); Kim (1998); Lahti & Beyerlein (2000);

[42] Alike Noblet and Al (2000), we classified the « Investments » component both in the "Acquisition" and "Knowledge sources" dimension of ACAP.

ACAP Dimensions (theoretical construct)	**Components** (theoretical observation)	**<u>Activities</u>** (empirical observations)	***<u>Some associated evidences / outcomes / measurements</u>***	**Mentioned in the academic literature**
				Zahra & George (2002) Noblet and Al (2010)
	Contractualise	Contractual agreement and alliance		Noblet and Al (2010)
Assimilate	Understand Knowledge	Interpret, formalize, comprehend through: - link with existing knowledge - discovery - reconsideration	*"<u>discovering</u> of new practices,* *technologies, actors, products and <u>reconsideration</u> of* *way of working* *" (Chauvet, 2014)* *Patent review* *Routinisation*	Cohen & Levinthal (1990); Dodgson (1993); Szulanski (1996); Lane & Lubatkin (1998); Bontis and al. (2002); Jansen and al. (2005); Matusik & Heeley (2005); Todorova & Durisin (2007); Lichtenthaler (2009) Noblet et Al (2010)

ACAP **Dimensions** (theoretical construct)	**Components** (theoretical observation)	**<u>Activities</u>** (empirical observations)	***<u>Some associated evidences / outcomes / measurements</u>***	**Mentioned in the academic literature**
			Coordination capacity *Staff turn-over* *Involvement of research communities / communities of practice* *Sponsorship from management*	

ACAP **Dimensions** (theoretical construct)	**Components** (theoretical observation)	**<u>Activities</u>** (empirical observations)	***<u>Some associated evidences / outcomes / measurements</u>***	**Mentioned in the academic literature**
Transform	Convert Knowledge	Recodify Question Create new knowledge / extend the current knowledge base	*Capacity to adapt technology from other sources*	Szulanski (1996); Kim (1998); Gruenfeld and al. (2000); Collins & Smith (2006); Liao and al. (2007); Lichtenthaler (2009); Flatten and al. (2011); Noblet et Al (2010); M. Nieto, P. Quevedo (2005) Develop new ideas or research project on new product (Zahra and George - 2002) Chauvet (2014)
	Internalize / improve Knowledge	Integrate	*<u>Improvement</u>* of current methods and practices through new solutions, new ways of doing, the modification of old processes and the use of new tools (Lichtenthaler, 2009)	Szulanski (1996); Bontis and al. (2002); Jansen and al. (2005); Lichtenthaler (2009); Flatten and al. (2011)

ACAP **Dimensions** (theoretical construct)	**Components** (theoretical observation)	**<u>Activities</u>** (empirical observations)	***<u>Some associated evidences / outcomes / measurements</u>***	**Mentioned in the academic literature**
	Combine Knowledge			Zahra and George (2002).
Exploit	Knowledge use & implementation	Implement Sale Patent	*Knowledge intensity, harvesting resources, core competencies*	Cohen & Levinthal (1990); Dodgson (1993); Lane & Lubatkin (1998); Autio and al. (2000); Lane and al. (2006)

Table 14. ACAP Antecedents and outcomes

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
Prior knowledge related to the knowledge to be transferred	**Accessibility** (e.g.: formalization; common language) **Type of Knowledge transferred**	*Knowledge repositories, experience of R&D department, last qualification* *Common language* *Prior investments* *Prior experience with external counterparts (licensing, market, technological and customer watch, subcontracted research teams, the firm to have supplied its technology)* *Training*	**Full ACAP process (r1)**	Szulanski (1996); Autio and al. (2000); Van Wijk and al. (2001); Zahra & George (2002) Van den Bosch and al. (2005) M. Nieto, P. Quevedo (2005)

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
	Type of knowledge: internally trained or produced	*Internal innovative experiments and projects* *Learning or problem-solving experience, experience of the team*		Cohen and Levinthal (1990)
Knowledge source	**Type of acquisition modalities**	*Acquisitions; purchasing (licensing or contractual agreements) and interorganizational relationships (incl. R&D consortia. Alliances, and JV)*	**Full ACAP process (r1)**	Zahra and George (2002)
	Type of knowledge regarding the firm' situation	*Knowledge complementarity/similarity /diversity/complexity*	**Full ACAP process (r1)**	Cohen and Levinthal (1990) Lane, Salk & Lyles (2001)
Recognize the value	*See Table 15. Composition of ACAP dimensions in past research*		**Acquire** (r4)	*See Table 15. Composition of ACAP dimensions in past research*

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
Acquire			**Assimilate (r5)** **Transform (r6)**	
Assimilate **Transform**			**Assimilate and Transform (r7)**	
Assimilate and Transform			**Exploit (r8)**	
Exploit			**Competitive advantage (r3)**	

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
All ACAP components			**Knowledge source and Prior knowledge (r2)**	

Table 15. ACAP contingency factors

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
Organizational culture	**Pro-innovation motivational system**	*Incentives to undertake innovative activity*	**Organizational culture has a direct impact on ACAP (r9)**	Noblet et Al (2010) Glabiszewski and AL (2018)
	Pro-innovative recruitment system	*Promoting employee's qualifications in the field of innovative activity*		
	Pro-innovative organizational culture	*Focus on inspiring and making innovative changes*		

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
	Pro-innovative training system **Pro-innovative employee evaluation system** **Effort and sponsorship at developing new products/services** **Effort aimed at reducing costs**	*Raising qualification in the field of innovative activity* *Providing assessment of innovative activity*		M. Nieto, P. Quevedo (2005)

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
	Development culture / Rational culture	*Flexibility, risk taking, adaptability, growth and resources acquisition /* *Planning and goal setting, efficiency and competence*		Adriansyah, and Zakaria (2015)
Organizational structure	**Organic / decentralized structure**	*Number of sections within each management levels*	Organic structure favors ACAP (r10)	Lane et Lubatkin, (1998)
	Diversity and overlaps in the KM structure	*Level of coordination between the various activities carried out in the firm*	To be refined	M. Nieto, P. Quevedo (2005)
	Know-how and technological infrastructure		To be refined	Glabiszewski and AL (2018)
	All items have positive effects on Acquisition and Assimilation (r.11.1).			Jansen and al (2005)

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
Combinative capabilities **a- Coordination capabilities**	**Structure of communication and distribution of expertise**	*Efficient flow of intra-organizational communication* *Infrastructure of information and communication* *Participation in decision making* *Job rotation* *Cross-functional interfaces*	**Recognize the value / Assimilate** **not positively associated with Assimilation yet increases Transformation** **Positive impact on Transformation. (r.11.3)** **Positively impact all ACAP dimensions (r.11.2) except on Exploitation**	Lin and al. (2002) Cohen and Levinthal (1990) Chiaroni and al., (2010) Jansen and al (2005) Jansen and al (2005) Jansen and al (2005)
	Expertise gap with external actors…A	*…requiring cross-functional interfaces to* ***translate***	**Assimilate (r.11.2.1)**	Cohen et Levinthal, (1990)

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
	decentralized gatekeeper to…	***…monitor the environment***		
b- Systems capabilities	**Formalization** **Routinization**		No significant impact on Acquisition and Assimilation. Positively influences a unit's Transformation and Exploitation Negative effect on Acquisition, Assimilation and Transformation	Jansen and al (2005)
c- Socialization capabilities	**Internal and external connectedness**		**Positively influences Assimilation. (r12.1)**	Jansen and al (2005)

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
		Multiple and positive relations with entities from the sector environment *Frequent market research so as to be aware of customer needs* *Market watch for the technology developed by competitors* *Weak or strong ties.*	**Affect all components of ACAP either positively or negatively**	Glabiszewski and AL (2018); M. Nieto, P. Quevedo (2005). Todorova and Durisin (2007)
c- Socialization capabilities	**Socialization tactics and social integration mechanisms**	*Formal (e.g.: use of coordinators or Community of practices and research,*	**Socialization tactics do not hamper acquisition nor assimilation**	Jansen and al (2005)

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
		committees) and informal (e.g.: social networks) communications	**Positive impact on Assimilation and Transformation**	Zahra and George (2002)
Internal and external Power relationships	**A goal pursued by powerful actors**	*Internal power relationships* *External power relationships:* *Commitments to current customers / suppliers / alliance partners*	**Influence both the valuing and the exploitation of new knowledge** **(r-14)**	Todorova and Durisin (2007)
Internal and external Activation triggers	**Wideness of their scope and potential impact or** **persistency**	*Important events that redefine a firm's strategy (e.g.: crisis, merger) or* *that may influence the future* *of the industry (technical innovation, emergence of a dominant design, change in government policy...)*	Moderate the impact of **knowledge sources** and experience on **ACAP development**	Zahra and George (2002)

ACAP Dimensions and contingency factors (theoretical construct)	**Components or operational conditions required to have an impact** (theoretical observation)	***Some associated evidences / outcomes / measurements*** (empirical observations)	**Impacted ACAP Dimensions**	**Mentioned in the academic literature**
	Requirements of Knowledge that is not available **within the firm or not easily acquired on the market**		**Locus of search for seeking external knowledge**	Zahra and George (2002)
Regime of appropriability	**Ability to protect innovation and capture profit**	*Contract and profit capture mechanism* *Patents* *Isolating mechanisms and secrecy*	Determine the incentives to invest in ACAP and affect ACAP outcomes	Cohen and Levinthal (1990) Zahra and George (2004) Todorova and Durisin (2007)

The above synthetic tables demonstrate that the description of ACAP operational activities are not saturated and some relationships between ACAP components and contingency factors lack a description of the conditions required to have an impact.

Coding strategy

We have systematically coded the interviews and the secondary data according to the above data coding structure.

We coded on a “attention flottante” basis additional data regarding the context of the cases (Hervé Dumez, 2011).

Synthesis of the research method section

As an interpretivist and my favorite philosophy of research being abductive reasoning, I propose a hybrid exploration based on an abductive reasoning relying on **ACAP theoretical framework and leveraging my position** as innovation practitioner, yet **with no direct impact nor participation in the cases studied,** to refine my understanding and analyses. In addition, to ensure my external positioning regarding the research field, a mitigation plan has been chosen and implemented for the data collection.

To address our Research Question, we propose to perform a **qualitative analysis based on a multiple and cumulative cases analysis within a single BU**, the European retail activities of the Société Générale Group.

Our unit of analysis is the collaboration project as the locus for the collaboration between the bank and the fintechs.

We adopt a bank perspective and focus our analysis and our data collection on banks. Nevertheless, we will perform some triangulation with data coming from some fintechs involved.

To strengthen our process view of collaboration, we will adopt a "Visual Mapping Strategy" (Langley, 1999) **to perform a longitudinal and multilevel process analysis** that is appropriate to get a deep understanding of complex mechanisms, to consider the organizational context and to look at the transfer of knowledge beyond the project.

In terms of data collection, we will perform a multiple case studies of four diverse embedded cases **corresponding to 10 people met and 16 focus interviews performed**. The extended ACAP model we propose frames our focus interview guide. The different profiles of the cases will enable valuable comparison.

In terms of coding strategy, we used **NVivo** to support our qualitative analysis. All the relationships between ACAP components that were depicted in past literature are synthetized together with the extended ACAP model we propose, this shapes the a priori NVivo coding structure.

6. RESULTS

In this section, we will present the findings from each case and then wrap-up on the major learnings thanks to a cross cases analyses.

To ensure permanent link between academic and practitioners stand points, we will mention some significant managerial consequences we draw from our findings out of our cases studies analysis. Managerial hints will be explicitly indicated with an arrow symbol (⇨) along the multi case study.

6.1. CASES ANALYSIS

In this section, we propose to describe and analyze each case of our sample. To ease understanding and comparison we will use **the same structure to describe and analyze all cases**. This structure is described hereafter.

Consistent with section 5.4, we will start reviewing the collaboration journey by "**telling the objective story of the collaboration**" **using the ACAP framework and concepts.** We will walk the reader through the collaboration project journey by reviewing the periods it went through. By doing so, we will show what we empirically observed regarding the ACAP components and relationships. The process analysis will be further enriched by a complementary study of the different events and tasks over time and across organizational levels that are synthetized in a **in a project flow chart.** This will provide a longitudinal perspective of the collaboration.

Then, the main findings of these two complementary analyses will be further elaborated and summarized to highlight the specific mechanisms and practices we observed and that confirm, refine, complement, or challenge the ones that would have naturally derived from our theoretical ACAP model. **Managerial consequences would be suggested**.

Then, we will **synthesize the contribution of our findings to solve the Research Question and provide** synthetic tables that will summarize the main specific ACAP practices and relationships revealed by the case.

Finally, consistent with my philosophy of research, I will sometimes also indicate some **reflexive comments** on the difficulties I faced and learnings I went through during my research work.

6.1.1. Auka

Longitudinal analysis of the collaboration

Overview and periods

The collaboration started in October 2017.

The collaboration lasted around 10 months to decide to deploy a solution from first meeting to decision to stop.

Looking at the different events, we split the collaboration journey into 4 different periods:

1. **"Acknowledge the need to collaborate"** with the Fintech. This period started 2 years before meeting the Fintech and progressively laid the ground for collaboration.
2. **"Connect and secure foundations for collaboration"**. In October 2017, the Bank attended to a conference catering the CEO of the Fintech and decided to collaborate and start to ensure pre-requisites for collaboration were met. This lasted till January 2018 (4months).
3. **"Build a Proof of Concept and a simple pilot to recruit supporters for the project"**. The project started in November 1017 to rapidly build two technical PoCs in 3 months. Then a simple pilot in another month in June while working out a more impactful solution to commercialize.
4. **"Fail to agree on a business case to contract on for MVP phase"**. Finally, some tension and doubt grew and led to the decision in summer not to pursue to work on this business opportunity with this type of technology and approach.

- Acknowledge the need to collaborate -

The bank to develop its own prior knowledge.

Initially, **KB was not willing to rely on a Fintech** but wanted to develop its own PtoP payment technology.

> "W*e made analyses, we knew about Auka as well because they were on the market already, but we tried to build our own prototypes and our own solution. So, there were like 2 years of prototyping and defining solution. Then, we met Auka*" (project leader).

Business opportunity was clear and matured for 2 years. The **trigger was external**, a move in customers' usage and in competition.

> "*We started thinking about P2P payment like, I think, 2 years ago when these P2P platforms and solutions have been launched in the whole market*" (project leader).

The fit with the business strategy was strong. The business opportunity was to use the Auka solution within a bundle of services to help small and medium size merchants start and develop their business. This component would have provided merchants with **an innovative payment acceptance tool**.

> "*So, if you have just on your mind that we have one third of SME market in CZ, it is very rational way how to still be in the monetic position*" (head of digital channels).

KB had a long process to finally connect and assess the Fintech.

> "*We started with analysis, we analyzed a lot of solutions, we know Auka long time ago, we heard about it and we know that they are a very experienced company which is very famous and popular in Scandinavian world*" (project leader).

This prior knowledge that KB created by its own dealt with better understanding of the business potential and implementation's key success factors and underlying technical issues. **KB created its prior knowledge through benchmarking and prototyping activities**.

At the beginning, there was an employee who acted as a visionary and an expert in the field of new types of payments. He was advocating actively to move forward on that field. **He was individually absorbing external knowledge** by reading and scrutinizing the ecosystem. He catalyzed a group of people to share knowledge about the market and compared some players. By doing so he started to diffuse knowledge and further assimilated the underlying knowledge.

> "*We were a small team of 3 people and he involved us to analyze these solutions P2P because he heard about it and he read about it a lot. So, we started analyzing and we analyzed a lot of platforms*" (project leader).

At entity level, the Bank had already developed a significant knowledge that was close to the knowledge the Bank was looking for from Auka.

Firstly, they had intensively **benchmarked** other solutions.

> "W*hat we did were a lot of analyses. I have like ten solutions on list already and they are various in the world market? but I think that we have Auka here thanks to the conference where our top managers spoke to its CEO and he convinced them to start cooperation between us and we started the PoC*" (project leader).

In its benchmark, the Bank applied **traditional criteria used to assess suppliers**: ability to manage volumes, track record and credentials, functional coverage and velocity to enter and expand on a market.

> "*We were discussing, the capacity to serve customers, how many users are using this solution, what the solution is providing, which capabilities is covering whether it is just P2P or it held something more than this case because here is then also some marketplace within that and other features which are eligible for users. And we were comparing these things together as well as we were comparing the velocity how they went to the market, how many banks are connected and their customers within that solution, and so on. And this is why at the end we selected this.*" (head of digital channels).

Secondly, the Bank had even built **4 touchable prototypes it tested** with customers to demonstrate the customer interest and the relevancy to work on this type of solution. They went through different types of prototypes and identified the opportunity of being more attractive among youngsters but also

with merchants by providing an alternative way of paying. Prototypes validated the market's needs. This not just made the bank better at recognizing and assimilating the Auka technology, but **it helped "sell" the project internally** and even helped prepared the minds to move forward on this field.

> "*We get some users from the street which were young people and they said it is very easy to use the application, they see it very innovative and they said that they wanted to download it at the moment, you know, they were very excited about the application. So, we tested it and we knew that the P2P payment will work, you know*" (project leader).

Identify the missing knowledge.

Thanks to these experiments, KB became clear on the **key knowledge that they were missing : how to enroll individuals and in priority how to enroll network of merchants.** Indeed, as opposed to Peer to Peer transactions, People to Merchants was the only source of monetization because merchants would pay a commission.

> "*The business is just to merchant payments. So, we have to think how we can get critical mass within the ecosystem or the app itself to be able to do the business with them*" (head of digital channels).

Identify the Fintech as a way to unlock organizational rigidity.

In fact, though the Bank has successfully proven the relevancy of PtoP payment for customers, **the Bank was not capable to move forward on this opportunity by its own**.

> "*We had qualitative testing also here and also here. Everywhere was proved that clients want it. It was proved since the beginning, we only had 4 prototypes and we still did not start the project. […] It was like we have so many prototypes and paid so many, even quantitative researches via our testings, and we did not start the project*" (Head of Lab).

The reason for stopping in-house development was organizational rigidity. Thus, the fintech was perceived as a way to unlock organizational rigidity and clarify people's mind on how to tackle the PtoP and PtoM solutions.

"*They did not start the project because there were internal discussions: who is responsible for what. If it is digital channel who is responsible for UX in general of the mobile application, or if it is a payment team who are actually responsible for payments and, you know, creating innovations in the payment area. Because it was about: should we have a separate application, just for P2P payment? Would it cannibalize on our mobile banking or not? Those internal discussions took us 3 years, almost 3 years to actually get to Auka and then said: "no time to test something real".[…] finally, they found out that it is time to put all those crazy negotiations behind them*" (head of Lab).

- <u>Connect and secure foundations for collaboration</u> -

<u>Access missing knowledge (Recognize the value).</u>

In the past, initial connection via meetings were made with Auka and enabled KB to better know the Fintech but **KB had no real intent to collaborate until business sponsors met them at a conference.** In September 2017, the head of digital channel, the head of payments services and the marketing directional manager participated in a conference and finally met Auka's CEO, an iconic Fintech leader in the field. Those attendees were the business sponsors of the former prototypes and of the collaboration project to come. **The fact those key people met Auka at the conference was the decisive trigger to start concrete collaboration**.

"It was right time, right place, right people together" (head of digital channel).

They clearly realized the opportunity to collaborate with Auka that had implemented this solution in numerous banks – yet not in eastern Europe so far.

They understood that Auka has much larger know-how and necessary knowledge than the Bank – notably regarding **how to ease on-boarding of individuals and merchants** which was a key success factor to monetize the technology, than what KB has gathered so far.

"*So, Auka is the whole ecosystem, not only P2P application but they have got solutions for merchants, they have got solutions for e-commerce, they have solutions for banks. The bank can configurate some merchants implement. XX and YY came to KB and said, "let's get Auka here to KB, let's have it here". So, we started discussing it*" (project leader).

Indeed, Auka had developed a nice way to make individuals pay each other just by using phone contact (vs bank account) and a nice way to enroll merchants. By doing so, it would have been possible to acquire new clients (especially youngsters or digital native people) and to make merchant pay a commission for this new means of payment.

> *"The business challenge at the beginning was how to retrieve friction in payment between P2P and making it attractive both for end customers because it would be another channel of payment and for merchants because it would be a cheaper alternative to cards"* (project leader).

Several testimonies stress the charism of the CEO of the Fintech. People meeting the CEO of the Fintech **were appealed by its character and storytelling**. Indeed, the CEO had a proven pitch on how its venture started: addressing the need of parents' communities willing to organize donation for sport activities.

> "*I have personally met the guy who owns this company, we were just discussing innovations and things around that and I have to say what I really appreciated was not the app or the story behind that but just the point of view of him about the innovation, about how to do things. […] What I liked on that story was really the strong focus, the concentration of the customers. It was just about the really human need how to do something"* (head of digital channels).

We observe that **the power of business representatives** – the head of digital channel direction, **triggered the switch** from one internal exploration project to a collaboration project with a clear intent to implement a solution.

KB had **progressively developed and structured an open innovation strategy for the last 3 years** before this collaboration. Business representatives and innovation managers were keen on meeting Fintechs and attending innovation events. Innovation manager were explicitly given the task to be an interface with Fintech **yet in that case, this function did not play a role in the connection with Auka**.

Assess Fintech solution.

The assessment of the startup (i.e. the Recognition of its value) was based on a deep analysis that was enabled by a useful prior knowledge (r1).

The Bank chose Auka as the supplier because it was the most experienced and the cheapest option. They had also the strategic **knowledge that KB was looking for:** how to enroll of in priority merchants but also individuals.

> "*We asked Creative Dock to do it for us and it was too expensive, Auka was cheaper"* (Head of Lab).
>
> "*It is not only about money because we know that Auka is experienced, Auka is a whole ecosystem. […] if we will compare it, Auka knows how to do things. They will help us even with this onboarding users*" (project leader).

The Fintech claimed to be up to propose its solution to competition if KB did not want to collaborate while subtly proposing **exclusivity** on the market. By mentioning its opportunistic go to market strategy, Auka raised the threat of competition which smartly increased the interest from the bank (r15).

> "*If you want this exclusivity, we will not do it with anyone else". So, we can be the one bank in the Czech market who will have this solution, this very famous solution*" (Head of Lab).

Secure that risks are manageable before authorizing effective collaboration.

The head of digital and head of marketing got the approval from the management to work with the Fintech on a pilot yet under certain conditions. Indeed, **the bank adopted a "step by step" approach to reduce/manage risk to collaborate.**

Business sponsors and regalian departments (IT Security and infrastructure; Compliance) wanted to check some **pre-requisites to allow effective start of the project.**

Set collaboration objectives and modalities.

Business sponsors and the project team **aligned on project goals and implementation strategy.** The objective of the collaboration project was to validate the concept by building a **Proof of Concept and launching a first pilot. Then, next steps should be another wider pilot** whose contract was to be negotiated**.**

The Assimilation and Exploitation strategy was split into three steps. Firstly, KB was willing to perform a **Proof of Concept** to make a technical feasibility test of the solution. Secondly, **a pilot** would propose the solution to a limited scope of customers (KB employees and 4 merchants with KB accounts). Thirdly, they would test the market traction via another pilot they would commercialize on a larger limited functional scope for a larger target including the non-customers of the Bank.

Resources for the pilot were minimal. KB decided to benefit from the **know-how and resources of the KB Lab** that has already built prototypes.

> "*The issue was: how we will show our managers this application, and we decided to open the pilot, you know, really integrate the system of Auka into KB core system and we asked Monika to get some money from innovation lab and to be sponsored by them. So, they gave us the amount of money what we exactly needed and we started to work on Auka solution"* (project leader).
>
> *"Budget for cash out from the lab but the internal manpower, I would say, was given by the different departments"* (business analyst).

The lab provided some **visibility** to the project, some **financing** and was supposed to accelerate the project.

> "*So, that is why, you know, they came to the lab because it is very difficult to test this kind of Proof of concept without having these capabilities, you would have been waiting to start the project and it is very long and that is why it is easier to do it by the lab*" (head of the Lab).
>
> "*It was very important to have support from KB innovation lab. The head of the lab proposed us to go to the commercial committee which decides about some projects that will be delivered and financed by innovation Lab […] We won this day price and we get the money and we started*

working. […] We needed the organizational support from innovation lab, but what we didn't need some workshops facilities or some lab environment or somebody who will lead our design sprint because we already had everything from Auka" (project leader).

KB wanted to use Auka as **a supplier** providing its technological solution on a **white label** basis.

"*From the beginning, we wanted to cooperate with them like they are technical supplier. So, they have the solution, the solution runs there in Norway and we have this solution here and we will communicate it like "Auka powered by KB*" (project leader).

Define functional scope for first pilot and product roadmap.

Absorbing a solution that is particularly rich and flexible forces the Bank to decide on key options regarding how to use and position the solution of the Fintech. In that case, Auka solution proposed a large array of possible business models: from simply distributing the solution to white labeling it with different brand strategy. Using all functionalities or abandon some of them to focus on key ones forces the Bank to deeply apprehend the knowledge (Assimilation). **The Bank had defined a product roadmap** to progressively enrich the solution with new features (eg: account to account payments even for non-customers thanks to DSP2, cards, wallet …) that can be provided by the Auka solution. The Bank takes the knowledge developed by Auka and made accessible via its solution. the Bank elaborate on this, to reconfigure the proposed features which is **a way to understand and assimilate the solution**. **Modularity and functional richness of the solution facilitated assimilation of knowledge**.

"*We only customized small things. Via skype, one hour it* [the functional scope of the first pilot] *was done"* (project leader).

Secure data exchange legal framework with procurement and compliance department.

It was necessary to **set up a contract with Auka for the PoC and the pilot phase** because Auka was manipulating KB customers' data. Therefore, a dedicated contract was a pre-requisite to move forward though the sourcing and legal departments took times to prepare it.

"*We needed some Software as a Service document, it is some agreement between KB and Auka, you know, Auka will deliver to KB some technical solution and it was described in this software as a service document. […] It took like, I don't know, maybe 2 months to get this agreement signed. […] We asked legal and compliance to get support in case of contract between KB and the user because, you know, we wanted to get some users in the application, we needed to use some data from these users"* (project leader).

- <u>Build a Proof Of Concept and a simple pilot to recruit supporters for the project</u> -

The work started in November just after Auka and IT KB representatives confirmed to KB management the feasibility to connect Auka to KB's core banking system (and signed the NDA). The chosen approach was "learning by doing" instead of ordinary "buying the consultancy study" meaning that the Bank wanted to have the KB members of the team actively participate to the project. **The aim of the pilot was both to validate the potential of the concept but also to get support from management by making this concept tangible to get validation for exploitation i.e. for MVP phase (r8)**. The **Pilot was to be financed by the KB Lab** which was also supposed to provide resources.

<u>Get ready to manage the project.</u>

Before starting the collaboration, the previous internal prototypes had not been developed within an official project. **The Fintech acted as a catalyst to coordinate and rejuvenate the former internal project** on new innovative payment solutions yet still with a low level of officialization.

"*It was not a project, it was financing by our managers and the budget is directly on the control of the managers, but the prototype was very low cost, prototype that we can do it without any project issue*" (project leader).

"*The catalyst was that all these actions were divided in several departments, teams and so on. But at one moment, I got a situation where we went to one conference at one place, they met in person Daniel together and they had the possibility to risk us. At the moment, the things connected themselves together and we agreed that we would go as one team to pilot such a kind of service and try it. Because we all discussed that, separated activities need to be connected together.*" (head of digital channel).

"*I don't know if some kick off was arranged*" (project leader).

The joint and cross functional team was formed. It involved some people having worked on the former in-house prototypes and other people open to change and innovation.

"*We joined together with colleagues from IT, we have several open-minded colleagues and, definitely, without them, it won't be possible to do that and they showed us some possibilities how to do things not usually and but, if I may say, in bank style mode and they showed us some agile possibilities and not within project scope and so on but aside"* (head of digital channels).

The team was composed of **multidisciplinary contributors on both side** with dedicated person on Fintech side.

"O*n KB side, we had some business people, like me and XX and as well as we had team of technical as YYY as architect and ZZZ who was the technical guy who was coding. And on Auka side, there were some business guys as well, 2 business guys and more or less 2 or 3 technical guys."* (head of digital channels).

KB management allowed the project team to work in agile mode organizing itself freely to come up with innovative outcomes. They **empowered people on the project yet without fully dedicating full time resources to the project. A contribution from other departments including IT were asked to support the project, yet on slack time basis with no dedicated person even part time.**

"I think the supporting things was the free will that we got from managers. So, that was really great, empowerment if I may say was number one, and second part was that all people were enthusiastic. So, as I mentioned, they had it as a hobby, just besides there they will work and they did it" (head of digital channels).

Embrace working practices and expertise of the Fintech's (Assimilation).

Working mode within the joint team was agile and implied **high frequency exchange on process and content aspects of the project:** daily meetings with tasks and ownership of tasks. This implied high level of coordination and sharing on the knowledge.

> "W*e had some regular standups with Auka, everyday standups about 15min and we talked about what we will do today. And every person had his or her task of day. So, no big planning like in project management world. Just the high-level time planning for all the activities.[…] We had like business statuses and then we had statuses where all people had to be together."* (project leader).
>
> *"This is the crucial thing, to be in touch every day and to push things forward every day"* (project leader).

The team benefitted from the **high level of focus** of the Fintech which favored the quality of the knowledge transfer. This was even more facilitated by the **large involvement of experts** from the Fintechs who jumped into the project when relevant. This demonstrated the high level of agility, commitment, and investment of the Fintech. This enabled to have a **holistic view of the targeted knowledge**: from technological deep dive to market research to growth hacking recommendations – technics to rapidly and efficiently acquire users.

> Focus: *"If you are co working with some fintech company which is very good at one very famous product so they are focusing on that every day, every time, they know it very well and they put everything to this one product, the mobile payment and they have already knowledge about it and they can share with you their knowledge about customers, the target groups, they can lead you if you want to make some research, what we did with Auka together. So they gave us some guide, like materials steps described and they guide you so they share with you the best practices, the materials. If you do it with a fintech company, it is very easy and it is faster. They guide you"* (project leader).
>
> Experts: *"[The know-how of the experts provided by Auka] was quite diverse: from understanding how to understand the customer, so providing insights regarding marketing survey to how to communicate and to UX and, for sure, the core of the solution which was P2P and P2M payment"* (project leader).

Unlike Bank culture, **communication was rarely formal and formalized, yet relied on a collaborative tool proposed by the Fintech** and making exchanges fluid. This collaboration tool improved the efficiency of the communication but also **happened to be an informal social integration mechanism** (r13) useful to combine knowledge (Transformation).

> *"The "Slack" application allows all people to be on the same conversation. […] You can manage communication groups; […] Everything is prepared and you can very fast send messages and you can get what you need in few moment. So, it Is a very strong tool, in my opinion. Sometimes we have the status and we required something in the status or during the standup but, sometimes, we required something via Slack and we communicated a lot of things via slack."* (project leader).

The bank appreciated the flexibility and availability of the Fintech resources. The pace of work was good on both sides. Most of the **Auka resources were working remotely** which was slightly hampering the efficiency.

> "*We can do many things remotely but, in some cases, we need physical interaction with each other"* (head of digital channels).

<u>Face POC implementation difficulties</u>

The project faced three main operational difficulties.

The first one was around **resources availability**. It was already the reason why KB had trouble progressing on its first internal attempts. The collaboration project was provided with too few resources and too few dedicated ones. Though approved as an official project, the team has to work the so-called "agile way" meaning that they had to fight for extra free resources. This partially worked but was painful.

> "*I think it is still not like a project because the money is from the innovation lab and the execution activity was running like pure agile, because for the 100 % we were working I and Auka on this application, we just only need some work from IT guys, some technical work, and of course something from our support team and If we wanted something to do from anyone else from the bank, we were just going to him directly and told them the story, what is Auka, what we are doing here, "we need help, just come and give us something more than obviously*

we are doing" and I think many people made the work for us, like this agile work." (business analyst).

"*Part time resources was very hard to manage […] because, you know, you can count on capacity of technical guys of four hours per week for example. If you ask technical guys that you need to get some new features on IIP platform, he will develop it when he has the time. People in Auka are waiting for these features and they cannot continue without this feature, so they have to wait.*" (project leader).

And the dedicated structure to support the delivery of agile and digital projects was not fully operational.

"The Digital Center of Expertise is clear example that it works but, in the current set up, it is clearly difficult to manage it." (head of digital channels).

The second was the responsiveness of IT and Compliance departments.

"*Take people in the right place when you need them, but you have to think that this is now the right time to get them. Sometimes yes, sometimes not. It is difficult to do this small highlight inside of the organization and if you have, for example, compliance, it is not totally agile and if you have the IT security, it is not agile. others. They are just saying there are the barriers, they are putting all the barriers into your journey, but they are not helping*" (head of digital channels).

"It is difficult to do this small highlight inside of the organization and if you have, for example, compliance, it is not totally agile and if you have the IT security, it is not agile" (project leader).

The third regarded **tools** used on the project.

"*we had troubles with connection with Auka because sometimes skype or somebody was scratched or we had more difficulties. For example, another difficulty was documents sharing because we used Slack application but the same trouble is now in startups. All startups want to use slack and Société Générale group and KB, they don't want to give us access via our computers. We had it on our mobiles and we had it when we were developing Auka, but if Auka shared some documents via this slack application, you have to see it into your mobile and then send it to your email and then you have this document in your computer*" (project leader).

Promote pilot outputs towards business managers.

The final solution was designed mainly between the Fintech and the project leader who endorsed the role of product owner. The project organized a dedicated event with business representatives. The goal was twofold. Firstly, to ensure alignment between business expectations and what has been developed; Secondly, to showcase and "sell" the project internally.

> "W*e plan to do the great opening day for our top managers where Auka's CEO come from Norway and he will present Auka here and we will speak about our pilot, our experience with Auka and we will get a coffee in Art and Coffee which is one of our merchants. So, we want to present it in reality, how you can use it in real world.*" (project leader).

This was a way to **further assimilate the knowledge by showcasing it concretely** and to use a **socialization tactics** that would involve business representatives and make them support the change, the exploitation of the new knowledge.

Stepping back, **this event was beneficial for socialization**. It proved concrete achievement of the projects and some nice features form the Fintech' solution and it increased awareness of the subject and of the Fintech within the Bank. Yet, **the demo was quite simple and missed the crux of the success**: the acquisition of non-customers.

> "*The test purpose was to show our managers how easy and how funny is to send money. We wanted to convince them that this is, you know, very useful way how to send money between persons and it is an easy way how to pay in shops. And this purpose was fulfilled, and all managers and board members had this application in their phones in grand opening day which was in some coffee bar and, yes, we invited the CEO of Auka and the members of Auka and the CEO was presenting Auka application. So, this new product he was presenting to managers, board members and to our CEO*" (project leader).

Combine and create knowledge (Transformation) and benefit from experts to design the target solution.

Two topics, IT integration and adjustment of the solution to the Czech market revealed knowledge Transformation activities.

> *"We learnt about the application, and they learnt a lot about banking system. That it was their first experience of integration directly to bank system and to like our clients' accounts. Because in their solution, they are used to use cards and the users pay by cards which is put into the application but in our solution, it was the first experience of Auka where they integrated their solution into bank core system, and we saw that both sides had to learn a lot. At the beginning they did not have imagination how we will build this connection but, step by step, in cooperation with our technical architects, they scripted the solution and very important person was our technical architect who proposed the design of the solution"* (head of digital channels).

The IT architect played a key role in getting the approval to start the collaboration (through high level IT feasibility he performed and that which was a key criterion for decision makers) and to transform knowledge - by questioning IT integration in the core banking system and by fighting to get access to IT resources and validation.

> *"So, these business guys and with technical architects described very high level the solution, how it would be connected to KB and he approved that it is feasible, this solution, from his opinion. But there were a lot of discussions and meetings with our IT managers and, you know, if our architects had opinion that this solution is feasible and Auka could be connected to KB's core system, so he had to get a lot of approvals of our IT guys and IT managers and from our IT security"* (head of digital channels).

To know how to adjust and launch the existing solution of the Fintech, Auka and KB jointly designed and analyzed a qualitative and quantitative market research. **The jointly created a new knowledge** (Transformation of knowledge) like for example on how a merchant would use the application.

> "We arranged some research, it was quite big research and we asked one hundred merchants with, we collaborated with Ipsos, and it was not so common because KB cooperated with Ipsos on this research but as well, on the other side, with Auka. Auka told us what they recommend

> to ask, what they recommend to, like what target group they recommend to get in our interviews and Ipsos made the execution phase […] They prepared all questions that were put in our interviews and all questions put in our questionnaires." (project leader).

User experience (UX) experts were also provided by the Fintech to **adjust the solution to the Czech market.**

> "*We knew that our market could be quite different in comparison with the Norway one. So, we decided to make some research and the output of this research showed us the differences between Norwegian and our Czech merchants and their differences we had to check, to have them in mind to build the solution for our Czech merchants' needs*" (project leader).

> "Auka worked on some customization. The outcome was provided to us by their own user experience designers, and we did not use the KB ones because we have some internal user designers but we trusted to Auka's user experience designers and we cooperated together on the application for our pilot." (project leader).

Finally, other experts contributed to make the bank understand how to commercialize the solution.

> "*They have specialists, one person for marketing and one person for PR and they have got a pool of very experienced guys*" (project leader).

It is interesting to notice that the project organized an event before real Transformation work was finalized. Maybe the discussion that occurred with top management would have had more impact thanks to the new knowledge the team had created. We argue that this is one of the reasons why decision makers did not consider this project as critical, yet sufficiently interesting to continue with minimum investment allocated.

- <u>Fail to agree on a business case to contract on for MVP phase</u> -

<u>Negotiate exclusivity conditions based on a business case (appropriability regime and acquisition).</u>

The cost of exclusivity was at the core of the negotiation between KB and Auka. **They discussed several business cases** where KB translated its vision of the market value (i.e. the number of users to be expected to enroll in the solution) associated to the knowledge KB was looking for. By measuring the potential of the knowledge and by iterating with the Fintech on different versions of the business case, the Bank further assessed the knowledge and recognized the value of the knowledge. The Bank confronted its knowledge to the one of the Fintech.

The appropriability regime at stake (in that case mainly the cost of exclusivity) was discussed. It sat goals (costs being a function of the number of users enrolled) and needed to be agreed upon to contractualise (acquisition). **The mechanism was to apply a free exclusivity cost based on a commitment from the Bank on a number of users to be enrolled**. This was putting pressure on the Bank to exploit the knowledge provided (r16') and to dedicate all the necessary means (resources, supervision…) to make it happen commercially. On the Fintech side it was a fair deal to take into account their willingness to scale up.

> "*They want to grow to other countries to Europe, they will negotiate the conditions with each bank and with each company for cooperation. So, today, we have set some business cases, some various scenarios and we will negotiate with them some conditions*. […] *they are opened to negotiate conditions and for example, the exclusivity, they motivated us to get some users so they said that "if you get XXX,000 users, then, you will pay no money for the exclusivity, and we will cooperate only with you." It is a very good thought, I think, because it is motivating for us. And it is good for Auka because they will lose no money for other users that they could get if they bank with other banks*" (project leader).

Negotiate profit sharing scheme (appropriability regime and acquisition)

Profit sharing happen to be conflictual.

> "*Firstly, we had some models of paying for the license, paying for active users and after that, Robert suggested to make some other model. So, Auka prepared for us model profit sharing but, no, it was not good for us, it was not better than the first model, so it came back to paying for active users and for transactions and we tried to negotiate these conditions*" (project leader).

Fail to demonstrate business case.

The key assumptions on how to reach sufficient scale effect by easily onboarding non-customers and merchants was further challenged by some experience sharing at MNC level.

The Business Unit (EURO) organized a marketing seminar in Belgrade to share experience and partners. Auka was invited to present its solution and was challenged.

> "*They were questioning the difficulty of such a solution to succeed in general because there are lots of failures in fact, in different countries especially in France, because the problem is that it's difficult to get how the solution moves from close loop to open loop solution. […] other challenge was the impact of instant payment in countries* (head of digital channels).

Unfortunately, the answer from Auka's CEO disappointed the audience which further casted doubt on the potential business case.

> "S*o very openly we share this and, also very brutally sometimes during the discussion and we ask him to provide us key success factor to succeed because we are doubting that it was easy to deploy it. So, you know him so, he was quite, I wouldn't say aggressive, but he was very enthusiastic and, maybe, at the end of the day, he didn't really demonstrated how he could help"* (head of digital channels).

Finally, the first pilot and all the discussions around it did not translate into a contract for MVP phase and the project was abandoned and even not pursued internally.

> "[After pilot presentation to the Board and managers*, the next step was to discuss and negotiate the business conditions because, if Auka provides this product and this license, so we have to pay for that. And there was very big case, and we were negotiating conditions with Auka for long time, very long time, during running pilot because we knew that it is a very long process. So, we tried to do like build the business case for both sides. But then, after pilot, after grand opening day, we are focusing on figuring this business case and set up it for both sides fair. But then came one day, when Daniel did and said "okay, we made enough modification of our business case, and I don't want more modifications. This is our last offer, this is our last proposal and you will decide what we will do next". To be honest, the business case was not very good for KB and Robert decided not to go to this collaboration because it was not good for us. So, this is the sad end*" (project leader).

<u>Start using the acquired knowledge by its own.</u>

Even after having started the collaboration and be waiting for the result of a common proof of concept, **the bank has always considered alternative options to Auka**:

> "*Today* [in March 2018, while the POC was being performed and the solution tested with selected users]*, we don't know how we will continue with them. Maybe we will need some process of getting more offers from more companies, maybe we will make RFI and we will choose another company, finally, maybe*" (project leader).

The bank finally decided to move forward without the Fintech being now in a stronger position. Indeed, via the collaboration on the pilot, the Bank gained a great experienced regarding how to build a Czech fitted solutions for P2M, how to onboard people and how to communicate. The Bank "sold" the idea to the management that became a more active sponsor. Therefore, the Bank (and more precisely, the business line managers who met Auka) decided to exploit this knowledge in building and deploying an MVP without Auka.

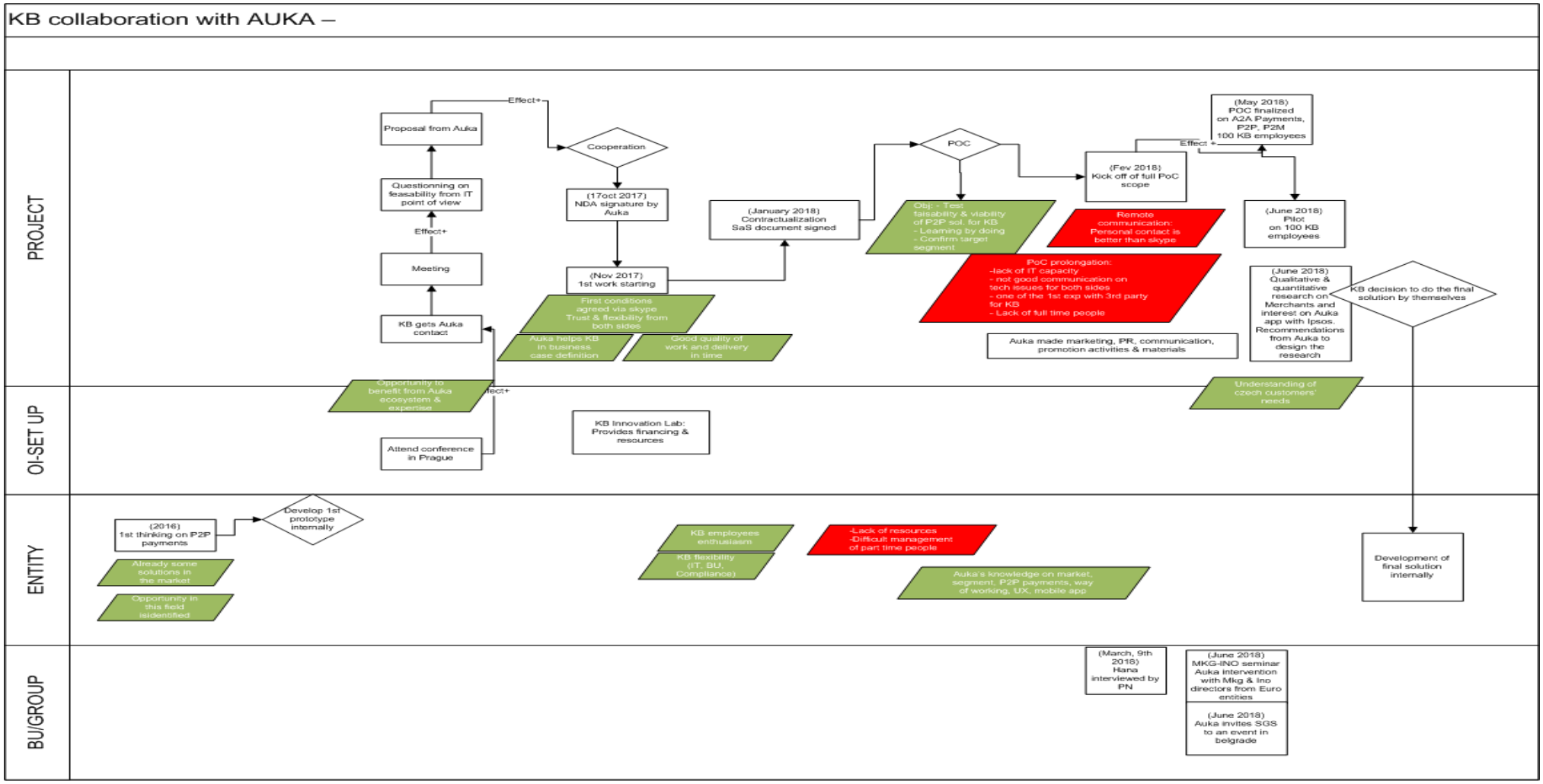
- <u>Project outcomes</u> –

At first, the project was stopped and planned to be internalized. Then, a few weeks after, **it was totally abandoned** facing growing criticism regarding non-customers on-boarding in non-Scandinavian markets and the coming of a new technology as a potential substitute. A few months later, the Fintech developed came up with a totally new concept confirming KB and market feedbacks.

Individuals involved in the project developed and were spotted as potential talents. A such some they felt more capable to address a new internal innovative project.

> "M*e and XXX we are very very happy for this experience and for this project because we learnt a lot. And you know that we will create Kinderbank* [a new internal innovative project]*, so now, we know what things have happened to get to our goal and to bring new product. We always and still need a lot of specialists regarding to graphics, to marketing to IT guys to be developing the product but we are very experienced with research, with communication, with Integration to bank. […] If you cooperate with Auka, with company who is experienced and they learned you step by step how to bring new products*" (project leader).

- <u>Auka collaboration process flow chart</u> –



Acknowledge the need to collaborate	Connect and secure foundations for collaboration	Build a Proof of Concept and a simple pilot to recruit supporters for the project	Fail to agree on a business case to contract on for MVP

Thanks to the process flow chart, we get a complementary longitudinal and multilevel view of the case and we observe that:

- **The stage gate approach reflects the importance for the Bank to manage risks**. It also reflects the defensive attitude / the remaining doubt of the management towards an external collaboration they fundamentally always wanted to avoid and towards the capacity of the project to solve the key business assumption (recruitment of non-customers)
- The pace of the collaboration was driven by IT feasibility and legal validation milestones and availability of Fintech resources.
- Overall, the time to present something tangible was short which demonstrates a good momentum despite the low level of resources granted to the project by the Bank and the commitment of certain individuals (IT architect).
- The first pilot was presented in parallel with the customer research, though it could have dramatically improved the pilot hence its impact on Top management.
- Regarding the different levels of analysis, we observe a light intervention of the Lab and the BU level (mainly for sharing the knowledge). This later having confirmed the doubts of KB while diffusing the knowledge across the entities.

Synthesis of main findings

A passionate individual prepared Corporate for knowledge acquisition by assimilating knowledge on its own.

In the case, **an individual got passionate about the PtoP payment, organized the capture of knowledge for the Bank and started to diffuse it**. The original intent was to capture external knowledge not to collaborate with a Fintech, but it laid the ground for better understanding of the topic. This person was not a manager but a member of the payment business team.

- ⇨ From a managerial perspective it implies that **organizations should promote individuals who capture knowledge externally** and develop. It may not necessarily rely on compulsory training process but rather leverage people's own appetites. Hence, those people can play an active role in diffusing broadcasting the knowledge internally and help the Bank better apprehend new solution providers.

An inhouse prototype before connecting with the Fintech created useful prior knowledge (r1) to prepare for acute decisions along the absorption process (ACAP).

The Bank produced its own knowledge on useful topics thanks to different prototypes KB performed. The Bank better understood the business opportunity and better apprehended the missing knowledge, both being necessary to assess the new knowledge to acquire. **With a prototype and for a limited investment, you get first insights into customers' behavior and on the critical knowledge you miss**. Moreover, this happened to be a good way to start **recruiting supporters** of the project and diffusing the knowledge.

- ⇨ Therefore, in a trivial way, we can argue that you may take a better "make or buy decision" if you have tried to make it. Therefore, organizations should promote prototyping culture, competencies, and capabilities (e.g. a Lab). This would disseminate the practice of prototyping and reduce the cost of doing it. This would be rational compared to the benefits you can expect: a better judgment to assess targeted knowledge, to design the solution (i.e. Assimilating and Transforming the knowledge), to negotiate and finally to decide to exploit the acquired knowledge (which bear the most risks an investment).

Prior knowledge is about having explored a technology but also knowing the Fintechs ecosystems working on the field.

KB spent two years working on Peer-to-Peer new payment systems and built few prototypes. Though originally, they did not plan to collaborate with any Fintech, they also built a good comprehension of the players in the fields by performing high level assessment. By doing so, they develop some additional understanding on the subject and also anticipated the assessment of Auka (r1) that has been deepened afterwards during the recognition of value step. We observed also by having many persons attending innovation events, they multiplied the function of gateway to Fintechs' ecosystem – while having such a formal function within the KB innovation lab. By doing so they increased the likelihood to recognize the value of a potential partner.

- ⇨ This may explain why on-going fintechs' market watch activities are widely spread within organizations and should be promoted among a large number of employees.

The Fintech was perceived as a way to bypass the Bank's organizational rigidity.

The Fintech was not just a solution to a knowledge gap. It was also a solution to a capacity gap and to a political conflict that froze knowledge absorption. The fintech unlocked the internal knowledge acquisition when internal processes were blocked.

- ⇨ From a managerial standpoint, it means that **fintechs are a strategic alternative delivery engine.** Hence, Banks can consider a collaboration either to secure the delivery – when it lacks the know-how and capacities, but also to challenge the existing ways of working. **Collaborating with a fintech is a way to demonstrate the need to change the way the bank operates**. Indeed, when people acknowledges / assimilates that business goals can be better achieved with a third party, it lays the ground for organizational improvements. Of course, if the collaboration is a success, the demonstration is stronger, but if not, we may also investigate if the signal send to the legacy organization makes people readier to change and become more flexible. In that sense, **we confirm that organizational flexibility is an output of a collaboration.**

  Operationally, a manager shall assess the real delivery capacity of a fintech: the size and organization of its IT team, its product development and collaboration track record.

Working with the Fintech rejuvenated project's organization and governance (r11').

Before meeting the Fintech, the Bank had not addressed the People to Merchants topic on a project mode. Maybe because of that, the bank was suffering from coordination and decision-making issues. By engaging with a third party, the bank had to switch to project mode and benefit from the energy and from the project management practices of the Fintech.

- ⇨ As for fighting organizational rigidity - we discussed just above, managers can leverage fintechs to make project management practices more robust.

The Leader and narrative of the Fintech favored decision to acquire knowledge (r19).

A Fintech comes with its leaders and narrative. The decision to collaborate with Auka was highly influenced by the strong character and singularity of its founder.

- ⇨ Managers shall be aware of this potential cognitive bias but they can also leverage it by conveying the story internally and connecting the founders to internal decision makers.

The Bank and the Fintech did not collaborate by chance.

At the time, there were no active sourcing activities but just market watch activities. Apparently, the collaboration was triggered by an unexpected meeting with Auka's CEO at a conference. But, taking a closer look at what happened, we see that some conditions were met to move forward: recognition of coordination difficulties and organizational rigidity; relevant prior knowledge; attendance of key stakeholders.

- ⇨ It means that the more decision makers attend to innovation events or connect to fintechs the more likely to start a collaboration. Secondly, it means that there are nevertheless conditions to make it happen. Yet, it is not easy to check if they are met. In particular, how to be sure decisions makers have given up the option of full internal development that can discredit their own teams. Conversely, there can be a risk in letting decision makers decide on collaboration the organization is not able to cope with. For instance, in case the delivery arm on bank side is not fully ready.

Misalignment of goals or expectations was detrimental to outcomes.

The Acquisition phase and especially the goals setting was based on a misalignment. **Indeed, the Bank willingness to avoid dependency with one supplier affected Exploitation.** The bank did not really plan to launch and run a solution together with the Fintech. For the bank, collaborating with the Fintech was a default choice. This explains why the Bank was more pushing for a limited test than for a real Minimum Viable Product to prepare for effective launch.

The organizational culture that empowered project team members facilitated absorption activities (r9) if appropriate resources and infrastructure (r10) can be dedicated.

Team members (r11) were stimulated by the freedom and responsibilities they were granted with by the management of the Bank to manage the collaboration project. Yet, the fact that they were not fully assigned to this task – they were working on **slack time, was hampering the delivery**. This type of staffing could have worked with the help of a specific organizational structures that would have smoothly and reactively provided appropriate resources when needed. This was the role of the existing Lab. Unfortunately, the Lab could not play this role because it had just limited resources and the Digital factory that was planned was not implanted yet.

Furthermore, Auka working remotely, we saw that coordination capabilities were hampered by a lack of communication infrastructure. This stresses the importance for a bank to have an appropriate open innovation infrastructure : in that case having reliable remote communication system (e.g.: G*oogle drive)* and having deployed up to date collaborative tools (e.g.: *Slack application)* that are familiar to most Fintechs and that equips social integration mechanism (r13).

- ⇨ Therefore, having project key business resources working slack time can work if the Bank has an up and running organizational arm that can secure the delivery. Moreover, the governance of these **specific innovation "delivery engines"** shall be prepared to manage this type of requests. In that case, it means the Bank should have either challenged the Lab effectiveness to support projects or to have waited until the digital factory was ready.
- ⇨ For the sake of efficient work with the fintech, there should be an **alignment of project methodology, level staffing and communication/collaborative tools**.

The Internal Lab was useful for the visibility of a non-critical collaboration project.

In the case, we observed that the lab did not participate in the sourcing of the Fintech. It did contribute to the delivery of the project neither nor in any type of capitalization or knowledge transfer. This can be explained by the fact that the lab had limited resources. Interesting is that the project was not complaining about it because it was benefiting of Fintech resources.

Yet its useful contribution was **on providing visibility and financing to the project** (that was not grated any specific budget like other traditional projects). Indeed, the project was presented at an Innovation committee managed by the Lab and the Lab organized the showcase in front of managers.

- ⇨ Collaboration project that are not yet perceived as critical shall be supported by labs. Labs do not necessarily need to be big to help collaboration projects face the rigidity of the organization. Yet lab should be better at challenging the project. In that case, it could have ushed for a better pilot.

System integration capabilities was a pre-requisite for collaboration (r10).

Following the argumentation on the importance of infrastructures that ease exchange and connection with third parties (what we call “OI infrastructure”), we recall that the start of any further discussion with the Fintech was conditioned by the feasibility to integrate Auka’s solution with the core banking system of the bank.

- ⇨ Very early in the process, an IT architect shall perform a high-level feasibility study on how to integrate fintech’s solution into the core banking system. Yet it does concern every collaboration because some do not require deep integration (for instance we can imagine fintechs that are just distributed by the Bank). But for a solution that require to be integrated to provide full value, there should be an early assessment. Moreover, **any investment made to facilitate integration with third parties** (e.g.; developing APIs) not just reduce cost to cooperate but open also the landscape of cooperation.

Embracing working practices and expertise of the Fintech's favored Assimilation and Transformation (r11). The lack of Bank resources on the project is detrimental to Exploitation yet can favor Transformation (r19).

We saw in the case that the Fintech's methodology and tools to manage a project was considerably beneficial to convey holistic knowledge on the targeted technology. **Focus, Intensity of exchange and involvement of multidisciplinary experts provided by the Fintech are enablers of knowledge transfer and especially knowledge Transformation.**

We observe that a **Fintech comes with more than technology but with some knowledge on how to commercialize it. It comes also with experts** who convey wider knowledge. There is a paradox because, the less expertise and resources a Bank can dedicate to the project, the more the Fintech assigns its experts and handovers knowledge. Yet by doing so, the risk on delivery increases and the number of bank employees to capture knowledge is reduced. Somehow, **the lack of Bank resources on the project is detrimental to Exploitation yet can favor Transformation (r19).**

- ⇨ Managers shall for sure **welcome the working habits of the fintech** and think about how to involve more employees of the bank in the project without jeopardizing the delivery. This would provide a good training to employees and further diffuse process and content knowledge.
- ⇨ **Availability of various experts can be a criterion to select a fintech**. It is also an investment on fintech side the Bank shall be grateful for.

By doing so Auka shared some knowledge on customer usage and market and not just on technological aspect of its solution. Auka not just provided a technology but also some **process knowledge regarding how to perform customer research and how to commercialize its technology**.

Negotiating was about defining the best appropriability regime.

The Bank and the Fintech bargained on the appropriability regime (in that case mainly the cost of exclusivity). The appropriability regime that was negotiated derived from the **knowledge gap** – the necessity to acquire a missing technology, **the shared vision of the market potential** – how much the Bank valued the knowledge and **the maturity of the Fintech** – the status of development of the Fintech. In that case, **the bargaining power was quite balanced** which slowed down the decision to further exploit the knowledge.

Regarding the necessity to acquire a missing technology, the Bank had investigated several alternative options (in-house or other suppliers).

Regarding how much the Bank valued the knowledge, KB was less ambitious than Auka yet feared the risk of having competition adopt/absorb it and increase its competitiveness. A business case translates the perceived business opportunity into figures that would trigger the decision to acquire and exploit knowledge. Together with the appropriability regime, it will trigger the decision to exploit.

Regarding the status of development of the Fintech, Auka was willing to scale-up based on a market proven solution and not really asking for co-construction.

In the case we observed that Auka proposed a feature for the appropriability regime that was pushing the Bank to commit on exploitation performance indicators. By proposing free exclusivity based on a target number of users, the execution / exploitation risk was on the bank side. The Bank had to commit on several users enrolled which put pressure on its capability to accompany the commercialization of the technical knowledge provided by the Fintech. Somehow, **a Fintech "stress tests" the capability of the bank to secure commercial launch** whatever the solution. In that case, the collaboration highlighted that KB sales division was not ready to support the project, being in-house or external.

Therefore, we see that negotiation is Recognizing knowledge value and setting appropriability regime that in return do not just impact collaboration outcomes but also the motivation to exploit (r16').

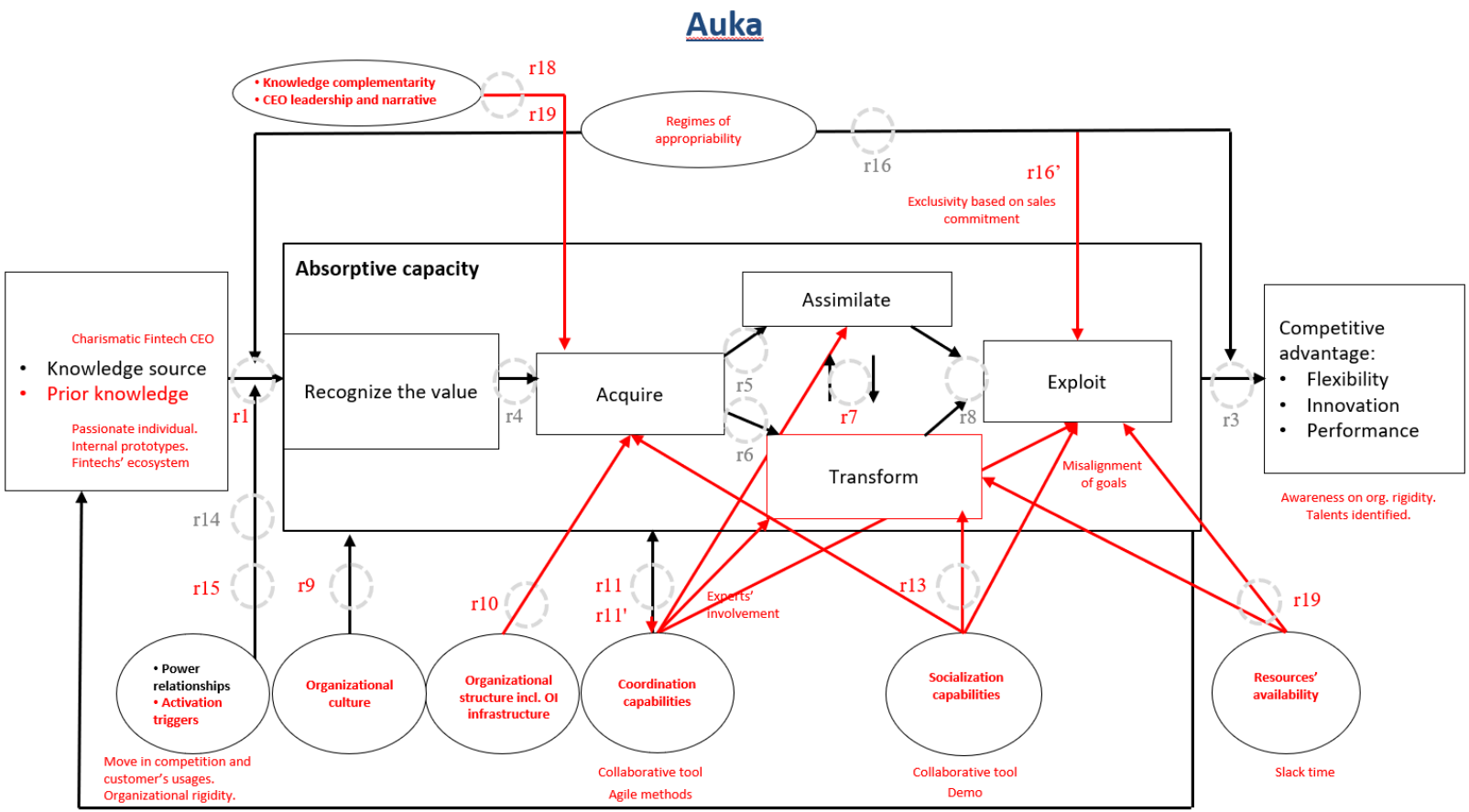
- ⇨ From a managerial perspective, any negotiation shall start by evaluating firstly the bargaining power based on the **knowledge gap**, **the shared vision of the market potential** and **the maturity of the fintech**.
- ⇨ Secondly, managers shall be very **clear on the organizational capability to accompany the exploitation** of the knowledge.

The pilot was useless because it did not validate the very key business assumptions.

How to explain the project was abandoned though it has delivered a pilot and successfully showcased it to the Management of the Bank? Probing further, we argue that the main reason is that **the scope of the pilot was not relevant enough to secure the decision**. Indeed, the key success factors of the PtoP and PtoM payments systems is to acquire non-customers and on-board them on the payment ecosystem to make this ecosystem valuable and the business case viable. But how to successfully manage it has not been demonstrated – the pilot was involving only KB customers. Therefore, managers and top managers had not been convinced during the demo day. This translated in a conservative business case that disappointed both the Fintech and the Bank. With no other tangible financial benefits plus some disagreement and some pressure on resources availability, this led to a no-go decision for the collaboration and for any in-house follow-up project. A relevant pilot does favor the decision to exploit knowledge.

- ⇨ From a managerial perspective, **this stresses the importance to focus a pilot on bullet proofing the key underlying business assumptions that will make the solution profitable**. On the fintech side, it means a fintech has to be active in scoping the pilot to increase its chance of success to sell its solution. This can be difficult for a fintech that is in a sales process and may prefer to step in with a less ambitious (and less costly) pilot taking the risk of ultimately not convince the Bank.

- Synthesis of main ACAP components observed in the AUKA case –



Adapted from Todorova, Gergana, et Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». *Academy of Management Review* 32, n° 3 (juillet 2007): 774-86.
In black are the ACAP components and relationships we observed
In red are the specific ones we observed and detailed in the case analysis.
We retrieved the items that were not observed during the empirical study

Synthesis of specific practices observed to perform ACAP process.

Table 16. Auka – Specific ACAP practices observed.

ACAP dimension	Practices observed
Prior Knowledge	Benefit from passionate individuals that capture knowledge on their own and diffuse it
	Create prior knowledge through benchmarking and prototyping activities
	Perform high level benchmark of solutions and Fintechs working on the field
Recognize the value	Listen to the Fintech's pitches at professional conferences
	Further Benchmark solutions competing with the Fintech the Bank is interested in
	Translate the value of the targeted knowledge into business cases
	Iterate with the Fintech on Business case assumptions (ie. confront knowledge)
	Negotiate appropriability regime
	Assess ability to manage volumes, track record and credentials, functional coverage, velocity to enter and expand on a market
	Organize a marketing seminar at BU level to share experience and Fintechs
Assimilate	Select and reconfigure the features available in the solution supplied by the Fintech by defining a product roadmap
	Closely cooperate by discovering and applying agile methods (e.g.: daily stand-up meetings)

ACAP dimension	Practices observed
Transform	Perform an IT integration feasibility study
	Adjust the solution of the Fintech to the local market with the help of its Growth hacking, UX, PR experts
	Perform a qualitative and quantitative customer research
Exploit	Perform and showcase a pilot to make decision makers validate the MVP phase where real customers are served / acquired.
Socialization capabilities	Showcasing a pilot demo (i.e.. the concrete impact of new knowledge) towards business representatives and decision makers
	Use a collaborative tool (e.g.: Slack application) familiar to most Fintechs that equips social integration mechanism (r13)
Coordination capabilities	Apply agile methods (that push for high frequency interactions)
External triggers	The Fintech to mention its readiness to work with competition in case the Bank does not want to collaborate.
Regime of appropriability	Apply free exclusivity cost based on a commitment of number of users enrolled.

Synthesis of specific relationships observed.

The above sections addressed how the ACAP practices we observed articulate. This section identifies and describes how the contingency factors we observed influence the ACAP components.

Table 17. Auka - Overview of the specific relationships between ACAP components.

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
Internal power relationship	r14 Heads of business decides to switch from inhouse exploration to collaboration project	**Recognize the value**
Prior knowledge	r1 An inhouse prototype before connecting with the Fintech creates useful prior knowledge to prepare for acute decisions along the absorption process	**Full ACAP**
Internal triggers	r15 Organizational rigidity triggers absorption process	**Recognize the value and Acquire**
External triggers	r15 Move in competition and customer's usages triggers absorption process	**Recognize the value and Acquire**
Knowledge complementarity	r18 Knowledge complementarity favors Acquisition	**Acquire**

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
Fintech leaders and narratives	r19 The leadership of the CEO and the story telling he conveys favors decision to acquire knowledge	**Acquire**
Organizational culture **Organizational structure**	r9 An organizational culture that empowers project team members facilitates absorption activities … r10 … if appropriate resources can be dedicated. For example, via an Innovation Lab or a Digital Factory	**Assimilation, Transformation and Exploitation**
Organizational structure	r10 System integration capabilities are pre-requisite for certain types of collaboration.	**Acquire**
ACAP	r11' Working with a Fintech rejuvenates project's organization and governance	**Coordination capabilities**

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
Coordination capabilities	r11 Focus, Intensity of exchange and involvement of multidisciplinary experts strengthen coordination capabilities that favors Assimilation and especially Transformation.	**Assimilation and Transformation**
	r11 Using remote and a collaborative tool that is used by the Fintech facilitates Assimilation and Exploitation	**Assimilation and Exploitation**
Socialization capabilities	r13 Collaborative tools (e.g.: *Slack application)* that are familiar to most Fintechs equips social integration mechanism which in return facilitates Transformation	**Transformation**
	r13 Showcasing a pilot demo (ie. the concrete impact of new knowledge) towards business representatives equips socialization tactics and favors assimilation and exploitation (go for MVP phase) Yet the relevancy of the pilot is a moderator of the impact on Exploitation	**Assimilation and Exploitation**

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
Regimes of appropriability	r16' Free exclusivity costs based on a commitment of number of users enrolled incentivizes the bank to exploit knowledge.	**Exploit**
Project resource availability	r19 The lack of Bank resources on the project is detrimental to Exploitation yet can favor Transformation	**Exploitation and Transformation**

Contributions of the case to the Research Question

Table 18. Main contributions of Auka case to RQ

	Research question	Main findings from the case
RQ	**How do Banks collaborate with Fintechs to innovate?**	- Prior knowledge is developed via internal prototyping and benchmark of Fintechs. - The Fintech is a way to bypass the Bank' s organizational rigidity and rejuvenates "sleeping" project. - The Fintech comes with its methodology and tools that transfer knowledge in ways of working (Assimilation) and favors Transformation. - The Fintech provides resources and experts to convey knowledge and create new ones. - Misalignment of goals affects Exploitation. - The Business Case translates the Recognition of value into figures and displays disagreement on value recognition.
RQ1	**Relevancy of the ACAP process to manage collaboration and innovate**	- The collaboration followed the ACAP process, yet resources' availability and Fintech narrative need to be considered as additional contingencies factors. - Knowledge captured entails not just technology but how to commercialize it (process knowledge)
RQ2	**What role do the dedicated OI set-ups play in this knowledge absorption process?**	- Visibility and small budget.

	Research question	Main findings from the case
RQ3	**What are the difficulties and enablers?**	+ Move in competition and customer's usages triggers absorption process + Fintech CEO's leadership and narrative + Organizational rigidity triggers the absorption process + Complementarity of knowledge + Experts, agile practices and collaborative tools + Prior prototype + Organizational Culture (empowerment of people) + Open Innovation organizational structure (integration capability as prerequisite for collaboration) + Lack of resources for Transformation - Misalignment of goals (highlighted by a business case exercise) affects Exploitation. - Pilot not validating the key assumption underlying the targeted business opportunity - Lack of resources for Exploitation
RQ4	**What type of learnings and outcomes?**	- Project abandoned. - Individuals' skills development. - Talent identification

Reflexivity on Research journey

Group interviews were extraordinarily rich though they could have been biased by participants' intent to overmarket the collaboration. Opposite from that, once I had explained the need for transparent and true discussion, people trusting me were quite open for fact-based analysis and group dynamics unleashed some good triangulations and discussions. Moreover, I performed different interviews with the same people within 5 months period which enabled triangulations.

I managed to assess the true role of the lab by triangulating information from the head of lab – who happened to work with me, and the other "users" of the lab.

I was an active participant on replication and broadcasting activities.

6.1.2. Fakturoid

Longitudinal analysis of the collaboration

Overview and periods

The collaboration lasted around 14 months from first meeting to first commercial launch. Since then, the Bank and the Fintech have kept partnering to regularly improve the solution and provide new the value-added services.

Looking at the different events, we split the collaboration journey into 3 different periods:

1. **"Set strategic vision on Open Banking[43] and on collaboration with Fintechs"**. This period occurred end of 2016 before meeting the Fintech and set the scene for the collaboration with the Fintech that was firstly met in January 2007.
2. **"Build the solution while missing some Open banking IT infrastructure"**. This period lasted one year yet with an interruption until the commercialization in March 2018. The team worked out how to design the Minimum Viable Product, to integrate it and to launch the service through the banking platform of the bank.
3. **"Launch, measure and continuously improve the solution with the Fintech"**. During this period, the Bank promoted the commercial launch and monitored its results while getting organized to continuously improve the solution with the Fintech.

[43] Open Banking is a secure way to access to functions and data of the bank and of third parties. It enables banks to aggregate own of third parties services on their distribution platform. Conversely it enables third parties to consume banks functions and certain data to be "consumed" by third parties.

- Set strategic vision on Open banking and on collaboration with Fintechs -

Embrace Open Banking Strategy

The project was fully in line with the Group Strategy being deployed in every country.

> *"Open Banking is for KB a strategic domain to allow KB to compete on the CZ market. KB Open Banking strategy is fully in line with the "Transform to Grow" our strategic plan 2020"* (presentation performed by the project manager to an innovation event - forum 2018 in Amsterdam).

The Bank had just experienced a painful attempt to work with Fintechs on a large project. In this former experience, KB had applied a very traditional approach to select and work with them. The purpose of this former experience was driven by the DSP2 regulation and was dealing with opening the Bank's systems for accounts' aggregation. In reaction, the Bank expressed a real will to learn to be better at collaborating with Fintechs.
In addition, given the Bank had decided to embrace the Open Banking strategy, KB was eager to support any concrete initiatives pushing in that direction.

Therefore, on a strategic level, **the Bank was looking for two strategic process types of knowledge. The first was to learn** how to collaborate with fintechs to ultimately industrialize it within the Open Banking framework.

> *"You know that each big journey, each big adventure starts with the first step and you can choose in a positional bank to acquire some consultancy study, you still keep your hands clean and you will be just buying the knowledge but we decided that we would like to have dirty hands. We wanted to live in the lessons learned, to have it personally in person, and to do it. Not to acquire the knowledge but to build it internally"* (project manager).

The second was to learn how to manage an Open Banking platform as the next market battlefield beyond the strict compliance with DSP2 regulation:

> *"This was the first experience. So, there was nothing before, there was just mandatory projects of PSD2, but this is totally different story. This is about APIfication about the out-bound*

direction and we wanted to start the inbound direction, so to start aggregation" (project manager).

The last type of knowledge the Bank was looking for was more on content and concerned the value-added services to be offered via the Open Banking platform. The strategic view was to propose an aggregation of financial and non-financial services in a more and more integrated way (in terms of user experience and data). Hence, on a tactical level, the Bank was looking for any technology to provide non-financial services to a specific customer segment.

Therefore, the Bank wanted to start its Open Banking journey with a concrete initiative.

Recruit the Fintech to work on a concrete and manageable open banking initiative.

The project manager was also the leader of the Open Banking delivery within the Bank. In charge of liaising with business representatives, he had to provide the solutions that would be sold through the KB platform on an open banking basis. He has been pushing a lot the open banking subject by widely explaining the topic to Management and by working with business representative to identify business opportunities.

The Bank identified and shared the business opportunity with the head of Small and Medium sized Enterprise segment.

"We wanted to realize a new value proposition for entrepreneurs and small businesses because these segments are the most valuable ones. But, on the other hand, this segment has the very less innovative services they can have. There are no innovations in our portfolio of products and services for them comparing to other segments. So, we wanted to show some additional value to give them the feeling and meaning of the value for money to be here in KB that we are offering something new, something more, something innovative for them. So, this was the tactical aim" (project manager).

"We measured that we can face with this service about more than X00,000 of small businesses and entrepreneurs in KB and what is interesting: more than Y0% of entrepreneurs were doing business not over the entrepreneur account but in shadow the personal account." (project manager).

The Bank spotted the Fintech to address the business opportunity. **In January 2017, KB approached the Fintech** which was chosen among other competitors. **KB wanted to "learn by doing" how to collaborate with Fintech and was looking for a relevant Fintech in the targeted segment**. **So, at the very beginning there were a will to learn and share knowledge with the Fintech and a belief that Fintechs are better than consulting firms to pass on knowledge and diffuse an entrepreneurial culture**.

> "*There were solutions in place which were doing same functionalities but there was something specific on Fakturoid side*" (project manager).

> "*We wanted to use it as a learning example how to get the best practice and have an experience about the cooperation of huge corporation, meaning KB, and the small startup which is Fakturoid. So, we had 2 points of view or 2 different layers. First was the strategical layer to get the experience, not to buy form consultancy company as a study but to do it, do it in practice. After that, the second point of view was we would like to deliver some added value for small businesses which will be perceived as innovative service*" (project manager).

> "O*n the Czech market, are dominating two solutions for invoicing. A first, is some spin off of huge Czech ERP vendor and the second possibility was Fakturoid which is pure startup, few people together and doing the business from the beginning. And that is why we have selected them, because we wanted to get the culture experience as well. […] Because we wanted to do the culture crash*" (project manager).

KB was not just **interested in the service but also in the brand** and in the freemium pricing strategy (process knowledge on how to price) that Fakturoid implemented. **Pricing strategy** is defining how to monetize the absorbed knowledge and then is key for collaboration outcomes**. KB chose to keep the Fakturoid brand** which was an opportunity for the Fintech to further develop its brand value and for the Bank to benefit from its legitimacy in the small business segment.

> "Entrepreneurs are using it and they recognize Fakturoid's service and they are looking forward for it. So, as well as there are several services like that, which are for free and Fakturoid it is a freemium model with a low level of free and the services so good they are in comparing this free competition as well as to pay for it. So, that is why we have selected it" (project manager).

The collaboration mode **was supplier mode which is** consistent with the sourcing and partnership strategy of KB regarding Open Banking. Indeed, **KB was looking for partners whose solution was market and technology proven** (r21). KB was not that much looking for pure co-construction projects with emerging startup. **The idea was to build up and create on existing stabilized knowledge**.

> "Fakturoid service was stable, was matured, and they were, how to say, they were favorable services for their customers. And there was no need to step in and I am pretty convinced that they won't be allowing us to change anything on their service by ourselves because they are strongly convinced that they are delivering best class service as they can we have invested in security penetration study by EY audit company and we are sharing results with them to make their service better. And to prevent possible risks for both sides, for them and as well as for us, mainly reputation risk in case of threatening such a service. So, these things could be maybe perceived as co construction of our service because we are enabling them to do the service better and we are explaining them how" (project manager).

KB's view on Open Banking partnership was twofold. Firstly, the Fintech would supply its services to the Bank, hence complement its knowledge. Secondly, **the Fintech would bear the costs of integrating its services on the Bank's platform.**

> "*This is something what I am strongly convinced that we have to do because if you like to partnership, there should be, how to say, equal positions so everybody is doing his delivery on his or her side and after things are done and are connected, we do mutual business and mutual profit*" (project manager).

The contract signed was **a 5-year contract in December 2017, with profit sharing terms and sales objectives**. **Exclusivity** was negotiated and the brand Fakturoid used (no white labeling model).

- Build the solution while missing some Open banking IT infrastructure -

Attract a team of motivated slack workers for a small budget project.

The project manager had **to recruit people on slack basis** (i.e. working for the project on top of their full time job) **yet with management approval**.

> "*It was a really small project for small money and we had a really small team […] And it was just pure, how to say, pure positive motivation. This was not like standardly built in. So, I just influenced people like "I know, you have your daily work, you are just doing your daily project but could you take something additional which would be very innovative, it would be hype" and they agreed and went together and something like 5 to 7 people did this and helped me to build this service*" (project manager).

He built an **interdisciplinary team of motivated people**.

Confront the two different working cultures.

In an Open Bank project, "producers" of services are highly dependent on the pace of change in the banking platform. Therefore, such collaboration **shed lights on the gaps in terms of cultures and capabilities**.

> Illustration on Bank' side: "*As a bank we have to fulfil rules in everything we do so we only implement when everything is absolutely perfect. We did our best in this project but there are limitations. Our infrastructure is not very flexible and changing it is expensive. But I hope this will show that cooperation with third parties is possible and bring benefits to both sides. The big bank and the small flexible companies"* (head of segment).

> Illustration on Fintech's side: "*We could deploy the app many times in a day. We could see what the clients do and make improvements. This is natural to us [...] What was more interesting was to see how the bank mindset in the legal and operations team prevents them*

from making quick changes. What KB needs is to be agile and quicker. To not just deploy three times a year. To push some smaller changes" (Ceo of Fakturoid).

Share knowledge and prioritize features.

The collaboration effectively started with some sharing (Recognition of value) then some design and prioritization (Assimilation) activities. The first design activities took place in the KB Lab environment but with no specific expertise provided. Finally, with the approval of top Management (ie a commitment to acquire the knowledge), more active Assimilation and Transformation activities started.

"*During March and April, we were discussing with Fakturoid guys the service, we were just designing or imaging the service, how it could work, how it could look like, what could be the major functionalities and so on. On the beginning of May, we have prioritized it and get the approval of the top management and we started preparation. So, just at the beginning of May, there was started design of service, it is called Frame*" (project manager).

Build a true MVP in an agile way

Product roadmap was defined which by reconfiguring features and functions was **a way to understand and assimilate the solution**. The first step was to launch core basic services with invoicing capability and a first level of integration (which was the single sign on). Second step was to further integrate both solutions. Third step was about adding additional services on top of Fakturoid's ones.

The product manager, a former digital consultant, was experienced in new digital service development and commercialization. Then he defined a Minimum Viable Product (MVP) as a pilot. In this MVP the functional scope was reduced only to the core underlying business assumptions to validate: basic invoicing services, freemium pricing, customer registration and sales. Any other features were postponed to ulterior releases.

"*It was pure MVP so we had to put aside many things that we were wanting to deliver as well but there was no place for it"* (project manager).

The MVP **was built in agile way**.

"*We did several, we did design sprints, we did several user testing, we had in place UX experts, top class UX experts who helped us to design the service and people just gave us good feedbacks"* (project manager).

Focus on designing a good UX and integration while relying on the core respective knowledge of both parties.

For the MVP, the work focused on ensuring a good user's experience or customer journey by working on the digital customer journey and on some integration.

Both parties shared and transferred knowledge to each other.

"*Definitely, what we did together is the connection of the services together because this was something what they run for them out and they were always thinking just in boundaries of their isolated service and, actually, what we did was the interconnection*" (project manager).

Stepping back, few modifications have been made to core knowledge of both parties. The main modifications pushed by the bank was driven by its own constraints and risk management concerns (IT security).

"*If we are anything co constructing for example, these are very specific things. For example, actually, we have invested in security penetration study by EY audit company and we are sharing results with them to make their service better. And to prevent possible risks for both sides, for them and as well as for us, mainly reputation risk in case of threatening such a service*" (project manager).

Suffer lack of resources and competition with a project supporting the core business model of the Bank

Given that there were no dedicated resources, the project was postponed due to the new release of the KB customer portal.

"O*ur intention was to go public before the end of 2017, during November* [there is a seasonality in the business linked to end of year fiscal declarations where entrepreneurs are more willing to witch their invoicing system]. *But during the summer, KB was doing huge project of*

individual retail account packages […] around 1 million of people, of end clients, were converted. So, it was really exhausting for my colleagues and it was demanding from the point of view of IT capacities. So, we had to freeze the delivery of Fakturoid for some short time and this made the postponement of the public release from November to February. So, the real go to public date was February 2018 " (project manager).

"You know that we have lack of resources. Generally, in CZ, there is zero unemployment rate and in that critical areas like IT experts, consultancy, digital experts and so on, there is minus unemployment. We have lack of resources, so, we had to discuss how we can do it and I was going through the bank choosing right people and just persuading them that we will take it as hobby to their existing work and they took it some additional work up to date" (project manager).

Experience internal rigidity

The project went through some difficulties to move forward because of some internal rigidity that contrasted with the Fintech capabilities and culture. This rigidity hampered the Transformation and Exploitation of knowledge (r11). This rigidity came mainly from internal policy that slowed down the exploitation (system capabilities - r12).

"*Just imagine these differences in IT security and information security levels because we had somehow aligned our I think very extensive standards and their, sometimes light, approach to such topics. And as well as the agility because, actually, we are trying to be much more agile and much more shorten the time to market but the reality when we are developing services is that time to market was over 3 quarters of year; on our side, on Fakturoid side, it was something like in few weeks*" (project manager).

"*They have standard features in SG in Paris for the all group and the security level is set really high comparing the startup which is doing things based on just joy and motivation. So, we had to align something these things together*" (project manager).

This rigidity came also lack of responsiveness of the **IT security** resources.

"*It was really crucial for us, vital function in the security area and we needed to have it implemented on Fakturoid side to be connected right away and they just told us: "this is not*

our priority now, we will implement in few weeks" and I have told them "Hi guys, you have to implement it right now because eon side of KB, the implementation is ending in like 2 weeks and after that, if you would not have implemented it, we will miss the release window and we will be able to deliver Fakturoid service half year later".

The collaboration stimulated and challenged the established way of working which was one of the expected outcomes of the collaboration (r3).

"They chocked but, on the other hand, they have understood the emergency and they aligned on our delivery cycles so we were able to deliver the service in time in the end. But these are the real cultural differences that we had to face." (project manager).

Bypass the lack of open banking infrastructure.

The project required to connect the Fintech solution with the system of the Bank. It happened to be painful because the project could not rely on an API (connectors) platform that was not ready yet.

"We are interconnected with Fakturoid service via APIs, via top class in technology and modern style of APIs and security which is a standard in PSD2 world as well as which is standard in a lot of APIs. […] the issue was that, in KB, was no API platform in these days available because it was still being delivered by the PSD2 mandatory project" (project manager).

The team had to figure out how to solve this problem by its own and finally invested in its own new technical solution to be able to connect the two systems.

"We had to find out the solution without standard tools available […]. We had to go over that fact, so we did some extra solution that DCS back end is calling directly the API of Fakturoid in a good protocol, in a good way, in that style of APIs, but without the API platform in place. And, as well, Fakturoid was preparing the connection on us, because we have two ways or two bound connection to be able to communicate. […] If we would like to do this again, definitely, we would go from the IT architecture point of view right away, we would go through that API platform but in these days, it was not in place" (project manager).

This solution was more costly than if KB had used an API platform.

- <u>Launch, measure and continuously improve the solution with the Fintech</u> -

<u>Closely monitor the performances of Minimum Viable Product</u>

KB launched marketing campaigns and monitored adoption/activation and transformation rate. Yet Fakturoid was not involved in the sales strategy that could have benefited from its knowledge on that topic.

> "*On our side we did not think through the selling process. The idea was that the client would see the communication and click on it. But this process was not as streamlined as it could have been. [...] We did not focus enough on the selling process."* (Ceo of Fakturoid).

The project manager was closely analyzing the adoption and monetization of the solution to find improvement areas and, when relevant, to communicate on it his management and opinion leaders.

> "*We will deliver small enhancement of Fakturoid because the initial delivery was MVP so we will focusing on the service itself and to make it working, to make it understandable and reservable for the client. Actually, after few months, we realized that we were missing several things and we need to finetune them. That is why we have prepared some steps or some small enhancement packages which will improve existing solution"* (project manager).

The project organized the active listening of customers to get new knowledge on how the acquired knowledge was adopted and what should be improved. For that purpose, the call center played a key role. **Customers feedbacks are new knowledge from the bank yet created by the collaboration**.

> "*We will collect all unfinished activations, we will be able to realize call centerful apps, we will be able to run continuous campaign in all centers via our operators that will contact clients, ask them if they are satisfied with the application process, why they have left it and rather they need some assistance to finish it"* (project manager).

This knowledge was shared between the Bank and the Fintech who respectively assess, assimilate and potentially transform this new knowledge.

> Example 1, discovery on the user's profile: "*You can see that higher segment of small businesses were interested as well. This is really interesting for us because we originally were intempting that this service would be used by somebody else and the spread is much more wider"* (project manager).

> Example 2, validation of the freemium pricing model inspired from Fakturoid: *And from that, 10% activated paid version because this is freemium software or freemium service, so the persons did just like that"* (project manager).

Therefore, by measuring and analyzing the performance of the solution being implemented (exploited), **the project got inputs or created additional knowledge to further improve the solution and start another loop of ACAP** (r2).

Continuously improve UX and data integration as a motive for further Transformation.

To be adopted, a service distributed via an n Open Banking platform must provide a seamless experience for the customer. It means that User Experience (UX) and data **integration is a permanent source of improvements and reason for collaboration**. **The project had a clear view on some next steps regarding integration** and how to combine knowledge of the Fintech (the invoice management) with the knowledge of the Bank (payment and alert generation) to create new knowledge and smart interaction with the customer: automatic alerting of due invoices that customer can pay through the platform.

> "*After this August release (basic service), we have to discuss whether we can interconnect the service of Fakturoid more tightly with KB in fact for notifications and payments because, once you are able, for example, to get through Fakturoid the invoice, and maybe you could be able easily to pay it. […] So, they are, somehow, notifying their users about crucial or sensitive moment like unpaid invoice or invoicing due and so on. We have pretty good notification services within KB application and channels so this is just the idea that we will open it via API and they could use KB channel as a notification channel. We would be able to provide third party application with the possibility to notify the client through API channel through KB.*" (project manager).

Another source of value is the use of data to provide new services to customers. These data for example can help customize the communication but also enable new services and revenues sources (e.g. in the case some pre-filled loans or factoring services based on the invoices managed by Fakturoid).

"*And last step is, to use it as an enabler for future business and there are several topics which they are open to discuss with us like factoring, so to provide financing based on invoices and as well as some possibilities for business loan, lending, investments and so on.*" (project manager).

Get organized to reduce the lead time to the ACAP loops.

The project planned next releases after the MVP and was getting organizationally prepared to deliver it thanks to the new organization and infrastructure being put in place.

"We are transforming into agile way of delivery in KB and this is part of the back log of my open banking team of one of open banking squads. […] *I would be in charge of 3 squads which are focused on open banking and one of that squads is focusing on aggregation and define its back log is the future for Fakturoid solution already. So, definitely, we plan to make it evolve"*

We will have in place APIs so there is discussion that we can interconnect through APIs together" (project manager).

Communicate internally and to the ecosystem of Fintechs.

Finally, the project was presented by KB to the *"Innovation Awards"* at BU then Group level with no particular impact.

To attract new Fintechs on its Open Banking platform, KB communicated externally on social media, on the SG extranet and at several innovation events to voice that they had concretely and successfully partnered with a Fintech. That they had learned and improved to do so and that they would continue as part of their open banking strategy.

- <u>Project outcomes</u> -

The project achieved its goal to build and learn from an open banking initiative.

> *"This is the first and real practice example in which it is possible to aggregate third party service, not just data or banking account, but service itself and how we can cooperate with startups"* (project manager).
>
> *"We learned on the contractual side and on the technical side. The basis we developed we will use with other partners, the communications campaigns and so on"* (head of segment).

In addition, the connection and work performed in the IT infrastructure would diminish the cost to welcome other Fintechs on the platform (**Performance impact**). Moreover, the Bank has launched an **innovative product** on the market.

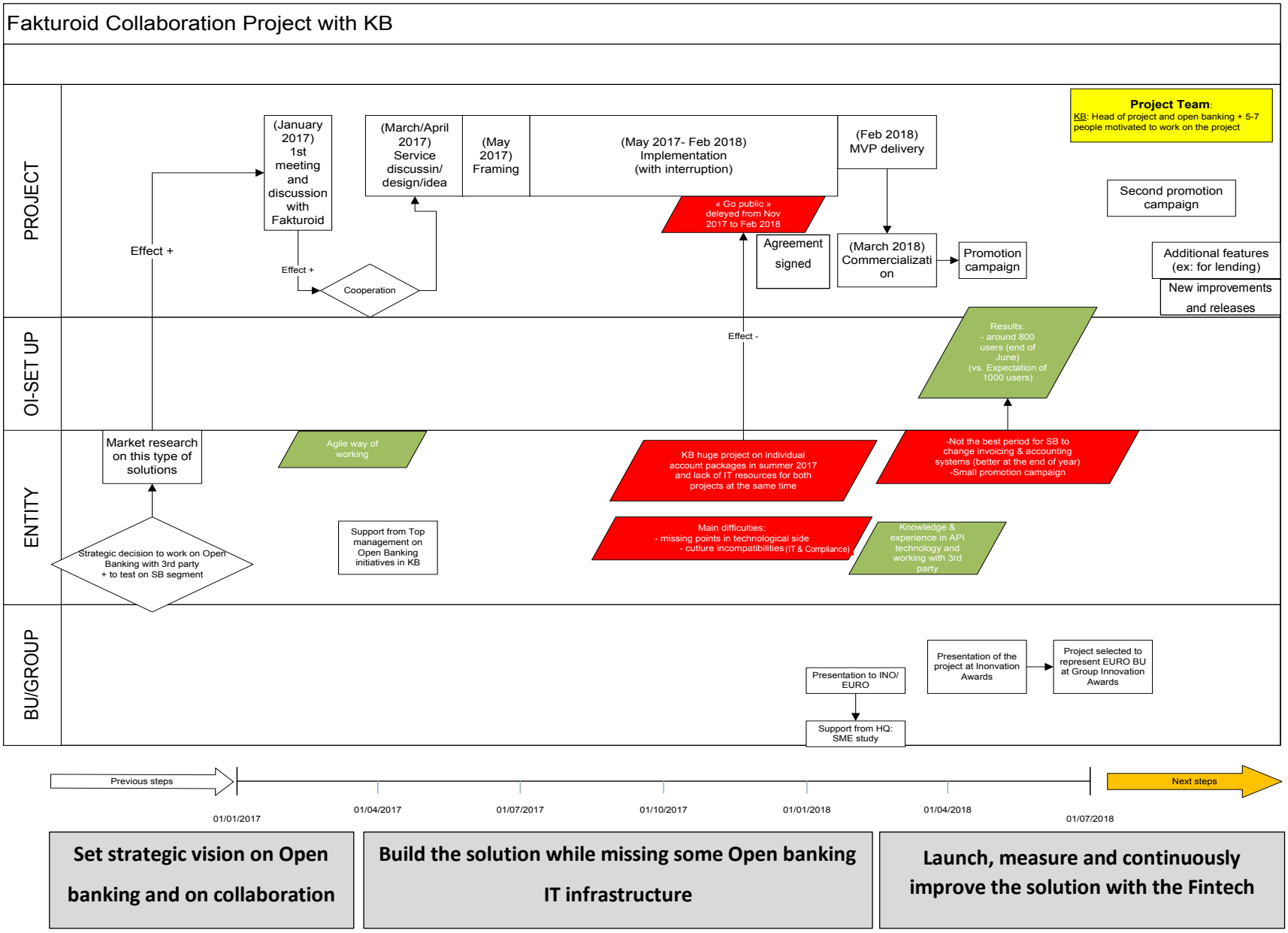
All in all, the **Bank has become more flexible and more efficient** in adding new third party services (r3) and better at working with a Fintech for future replication of such partnerships.

> *"The cooperation is the first one for KB. It is one of the reasons why it took one year to prepare"* (head of segment).
>
> *"First we got deeper understanding how to breach differences of the big enterprise and small startup cooperation. Second, we had to prepare internal environment within the bank to be ready to duplicate such cooperation for future occasions. So, we have prepared legal and security and other environments."* (project manager).

The long-lasting partnership with Fakturoid was set-up and the Bank could leverage its collaboration to demonstrate its **attractivity towards the Fintech ecosystems which is a real competitive advantage in Open Banking where Banks are competition for the best Fintechs**.

Yet, because the project focused on integrating the existing services in the platform, KB did not really absorb all the knowledge regarding the conception, delivery and servicing of non-financial services. KB could not replace the Fintech.

- <u>Fakturoid collaboration process flow chart</u> -



Thanks to the process flow chart we get a complementary longitudinal and multilevel view of the case and we observe that:

- The project took around one year yet with some interruption due to lack of resources.
- The planning should have been driven by business deadline (end of year fiscal declaration opportunity) yet was driven by slack resources availability, IT security validation and lack of open innovation IT infrastructure.
- The final contract was signed much later than the effective start of work.
- There was no significant involvement of the Lab nor of the BU.

Synthesis of main findings

An MVP is core knowledge Exploitation that created new knowledge and initiated absorption loops (r2).

An MVP is a live and functionally limited service but with non-optimal back-office processes and with (limited) integration with the IT system of the bank. Yet it is sufficient to test acquisition and observe usage of real customers. Performing an MVP demonstrates the capacity of the Bank to exploit **the newly exploited knowledge. But it also reflects the capacity of the Bank and the Fintech to focus on the core knowledge of each of the parties and to identify the core underlying assumptions to validate** before scaling and invest in large marketing amounts.

We saw in the case that the project manager focused on quickly delivering an MVP. This was a way to validate the assumptions underlying the new technology, but it also **generates a new type of knowledge that neither the Bank nor the Fintech could provide: the user's behavior and additional needs regarding the new service.** This newly created knowledge is then to be absorbed. The result of this new ACAP loop will be a new release of the solution.

Therefore, an MVP constitutes a new knowledge source that initiates a new absorption loop.

ACAPs loops (r2) were fostered by measurement and agile methodologies (coordination capabilities)

We argued that **an MVP is a way to increase the knowledge stock, that neither the Bank nor the Fintech have, and build upon it**. But to create and exploit this knowledge, the project shall organize the capture of the feedbacks and act on it. The project manager explained how managed it.

Firstly, we saw that the project manager organized a close monitoring of the results of the MVP. He set up metrics and staffed the customer care / call center for active listening of customers. Each new release will generate some feedback or new knowledge to be absorbed then triggering loops of ACAP.

Secondly, the case mentioned that agile methods were fitting the first MVP building and the management of ulterior releases. Agile methods rely on flexibility and continuous improvement. Therefore, absorption loops are fostered by and managed efficiently with agile practices.

At the time, KB was deploying a new organization where multidisciplinary teams (squads) were established to be able to manage services form design to maintenance and manage the regular update

on an agile way. The open banking tribes was one of the first to be deployed. Therefore, the bank was organizationally ready to manage the regular improvements of the solution.

- ⇨ From a managerial perspective it implies that for an MVP to have a superior value, it requires to **set up the appropriate measurement system** (KPIs and customer care/call center) **and organization to act on it.** It means the project joint team shall remain highly mobilized after launch and continue to work on the solution. It implies also that the project organization ensure the reactivity of resources both on banks and fintech sides to design and deliver the necessary improvements.
- ⇨ We note that customers feedback is an asset. It is collected and owned by the Bank. For the ACAP to be fruitful, we need to freely confront knowledge, therefore, we argue that these **customer' feedback should be freely shared with the fintech. This would provide** a sound basis for long-lasting partnerships and better outcomes for future ACAP loops.

Collaboration project and traditional project competed on resources (r19)

The project was mobilizing people on slack time meaning that very motivated people were working on top of their daily tasks on the project.

We saw in the literature review, that knowledge Absorption deals with knowledge Exploration. Yet what we observed in the case is that a project that is **closer to the current business model of the Bank will more likely get dedicated resources than the collaboration project.** Hence, with less resources to execute the MVP, the Exploitation is hampered (r19).

- ⇨ If your project is improving the current business model you can leverage existing governance and traditional means. On the contrary, you need to find alternative way of mobilizing resources (lab, slack, …). This legitimates alternative delivery engines a modern bank needs to set-up to explore new business models.

The Open Banking initiative focused on creating new knowledge on top of a proven acquired technology rather than capturing the Fintech core knowledge.

Collaborations are specific when they deal with Open Banking. As seen in the case, the logic of open banking is to best orchestrate (focusing on UX and data) services that are produced by the best suppliers. **Therefore, for the Bank, the key knowledge to acquire is more about IT integration, customer experience design and analysis of customer usage data rather than about the core content knowledge provided by the Fintech**.

Yet, for the Bank there is **a great value in building up on the knowledge of the Fintech hence creating new knowledge**. The Bank is "playing" with the functions or services it provides. It is like a "black box" with black "legos" components the Bank can play with. The Bank do not need to know how to build the different "legos". But the Bank can combine some of them with its own ones and come up with a new and creative knowledge to be materialized in a new value proposition.

- ⇨ From a managerial perspective, **such projects are not managed like other types of collaboration.** Indeed, in the case of Open Banking, the project manager should **select the fintech with the best service rather than the ones that is the most willing to pass on knowledge.** It means also that efforts shall be put in analyzing usage data and customers feedbacks to ensure good orchestration of services and identify opportunities for additional smart services/products. Finally, some creativity is expected form team members to be able to ideate on top of existing knowledge at disposal.
- ⇨ **Would the Bank want to insource the service (and the margin) from the fintech, it would require additional knowledge sharing** and even Transformation activities with the fintech.

Open IT architecture accelerated collaboration, favored Transformation by easily building up on respective knowledge (r10) and favored Exploitation by lowering the effort to implement (r10').

New features integration is a permanent source of improvements. We saw in the case that there is a virtuous sequence where the team launches an MVP (hence with a limited number of core features) and then regularly improves it based on customer feedbacks. **The easier it is to add new features, the easier it would be to build up on (i.e.. to transform) the Fintech knowledge (r10).**

Easy integration of partners services is at the core of Open Banking strategy implementation and a reason for collaboration. In Open Banking area, the costs and quality of integration is a key success factor. A Bank that masters this gains a competitive advantage. This is the role of APIs (application programming interface) that expose in a secured and easy way the services to be consumed by both parties. An APIs' platform orchestrates all the data and process involving the different interfaces and members of the platform gather on the Bank side all the intelligence of the interactions. Such a platform is also a way to decouple the rigidity of core IT system of the bank from the velocity of the Fintechs in proposing new knowledge to exploit. **The easier it is to connect with partners, the quicker and cheaper the implementation (ie. the exploitation- r10').**

- ⇨ **IT architecture capable to accompany Open Innovation (like an API platform) is necessary** to reduce timing and the marginal costs of collaborating with fintech. Investments (e.g.: in terms of security) can be mutualized among partners. Finally, from a more qualitative point of view, an API platform better manage the usage data among the different third services enabling the Bank to better orchestrate and improve them.
- ⇨ A key criterion for selecting a fintech within an open banking framework should be its track record in terms of integration and its APIs' availability.

Profit sharing as an appropriability regime (r16) offset the investments made to become an Open Banking partner.

KB applied a pure profit-sharing model. This was supposed to offsets investments made to become an Open Banking partner (meaning the IT investments made by the Fintech to connect with KB systems). This builds a long-lasting partnership with the Fintech. Indeed, the investment made by the Fintech is a real financial commitment to share knowledge over time.

The collaboration project stimulated existing way of practices (outcomes r3) yet with limited impact.

By interacting with the project, the rest of the organization experienced the gaps between its practices and the ones of the Fintech. The collaboration project raised new types of requests that challenged existing ways of working and thinking. The heavy burden of the regalian functions appeared

disproportionate. The reactivity was insufficient and thus put at risk Transformation and especially Exploitation of the acquired knowledge. The status quo was not an option. Firstly, because the Fintech was already successfully operating in the market which made its requests credible. Secondly, from a political point of view, collaboration projects, though small in terms of investments, were visible to top management. Thirdly, the project manager acted as an advocate for the Fintech inside the bank and as a transforming agent.

Yet we saw that the impact on culture and way of working was **relatively limited** to have a significant impact on KB.

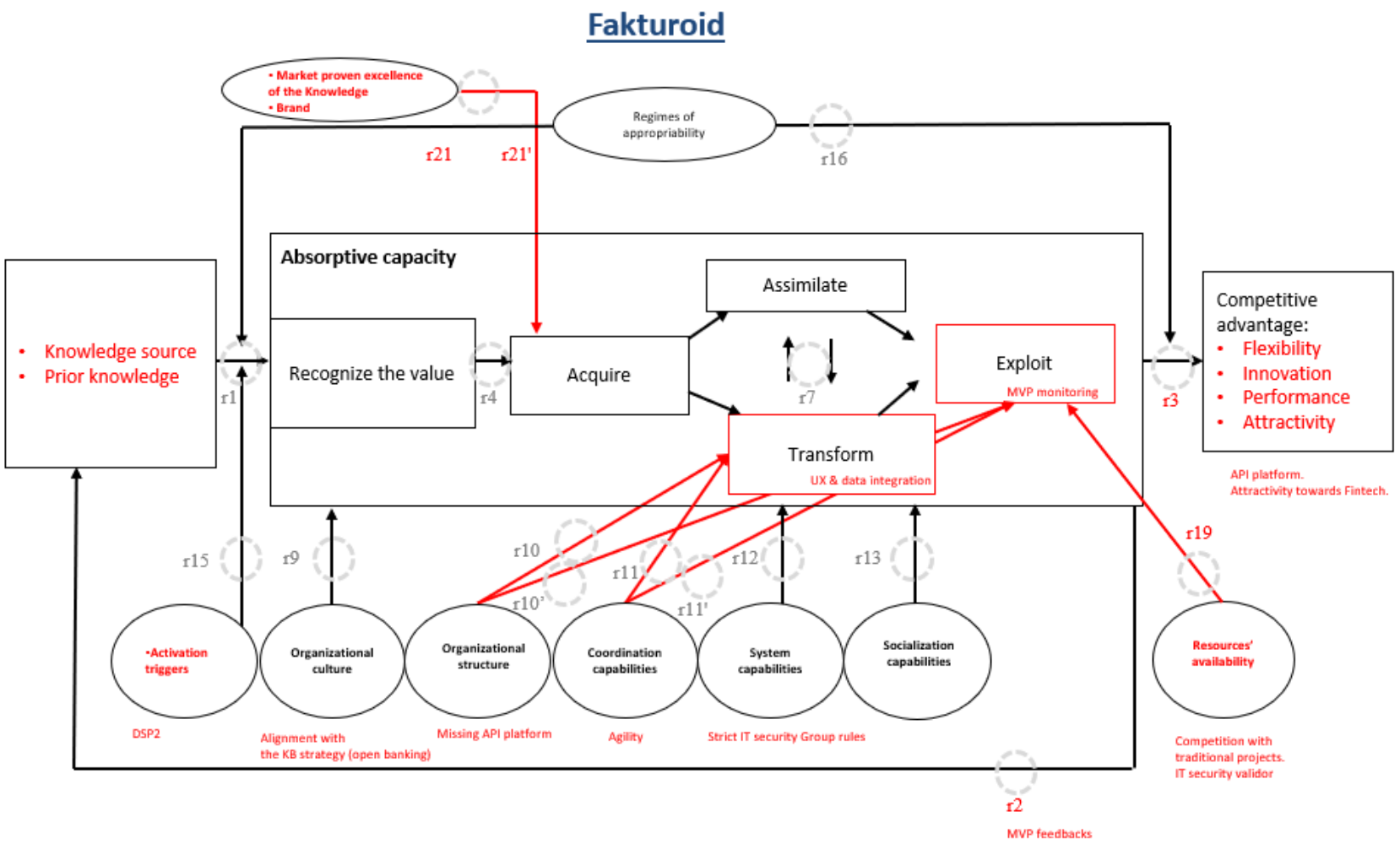
- ⇨ **Banks need to work on simplified procurement, compliance and IT policies to decrease organizational rigidity** (e.g. by defining fast track processes).
- ⇨ **Manager can leverage collaboration projects to increase the flexibility of the Bank** as a side outcome of the project (r3)
- ⇨ To have a better impact and start effectively to transform a bank, it is necessary to **multiply the number of collaborations with fintechs** that have market traction (hence legitimacy). In addition, any initiatives that provides higher visibility on the progress and difficulties are useful.

Exploitation encompassed activities and knowledge related to sales and marketing.

We saw in the case that the Fintech coming from the digital business had not been involved in the marketing campaign. Though, a collaboration is an opportunity to absorb knowledge on how to commercialize digital product and not just technology.

- ⇨ Involve fintechs in the design of digital marketing campaign all the more so in a profit-sharing model which is based on sales, interests are fully aligned.

- Synthesis of main ACAP components observed in the Fakturoid case -



Adapted from Todorova, Gergana, et Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ».
Academy of Management Review 32, nº 3 (juillet 2007): 774-86.
In black are the ACAP components and relationships we observed
In red are the specific ones we observed and detailed in the case analysis.
We retrieved the items that were not observed during the empirical study

Synthesis of specific practices observed to perform ACAP process.

Table 19. Fakturoid – Specific ACAP practices observed.

ACAP dimension	Practices observed
Assimilate	Define a product roadmap
	Scope a pilot / prioritize features
Transform	Push the Fintech to apply the IT security policy of the Bank
	Look for best user' experience and further data integration
	Analyze the MVP to identify improvements or new ideas
Exploit	Perform a marketing campaign
Knowledge source	Collect customers' feedbacks from the MVP (feedbacks being a new knowledge to absorb).
Appropriability Regime	Apply pure profit-sharing model to offsets investments made to become an Open Banking partner and to monetize a long-lasting partnership.
Socialization tactics	Participate to innovation events to voice open banking concrete collaboration successes

Synthesis of specific relationships observed.

The above sections addressed how the ACAP practices we observed articulate themselves. This section identifies and describes how the contingency factors we observed influence the ACAP components.

Table 20. Fakturoid - Overview of the specific relationships between ACAP components.

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
Exploit	r2 Measure the performance of the MVP to identify gaps and needs for improvements/ enrichment of the solution.	**Prior knowledge**
Market proven excellence of the Knowledge	r21 Market proven excellence of the Fintech's Knowledge favors acquisition	**Acquire**
Brand of the Fintech	r21' The opportunity to leverage the fintech's brand to increase legitimacy favors acquisition	**Acquire**
Organizational structure	r10 Open IT architecture favors Transformation by easily building up on respective knowledge; The easier it is to add new features, the easier it would be to build up on (i.e. to Transform) the Fintech knowledge.	**Transformation**
	r10'	**Exploitation**

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
	Open IT architecture favors Exploitation by lowering the effort to implement. The easier it is to connect with partners, the quicker and cheaper the implementation (ie. the exploitation).	
Coordination capabilities	r11 and r11' Agile methods favor Transformation and Exploitation	**Transformation and Exploitation**
Resources' availability	r19 Collaboration project and traditional project competes on resources (r19) Resources' availability favors Exploitation IT security validor slows down exploitation	**Exploitation**
System capability	r12 Applying strictly the heavy Group IT security guideline was routinization that increased rigidity and slowed down Exploitation.	**Exploitation**
Outcomes	r3 The collaboration project stimulates existing way of practices for better flexibility yet with limited impact.	**Flexibility**
Outcomes	r3 The successful collaboration makes the Bank more attractive for the ecosystem of Fintechs.	**Attractivity**

5 – RESULTS.

Contributions of the case to the Research Question

Table 21. Main contributions of Fakturoid case to RQ

	Research question	Main findings from the case
RQ	**How do Banks collaborate with Fintechs to innovate?**	- Open Banking is by construct knowing how to collaborate with fintechs. - Open banking focuses on creating new knowledge on top of a proven acquired technology rather than absorbing the Fintech's core knowledge. - An MVP is core knowledge exploitation. - Feedback on MVP creates new knowledge and initiates a new absorption loop (r2). - Agile methodology accelerates ACAP process and especially improvements coming from MVP analysis.
RQ1	**Relevancy of the ACAP process to manage collaboration and innovate**	- The collaboration does follow the ACAP process. - Resources 'availability is a new contingency factor to take into account.
RQ2	**What role do the dedicated OI set-ups play in this knowledge absorption process?**	- Provided an environment for sharing activities.
RQ3	**What are the difficulties and enablers?**	+ Support from Management and alignment with the Bank's development strategy + Open IT architecture facilitates collaborations and especially Transformation and Exploitation + Building an MVP (creating new knowledge and triggering ACAP loops)

	Research question	Main findings from the case
		+ Agile methods - Organizational rigidity - Lack of open IT architecture - Lack of resources
RQ4	**What type of learnings and outcomes?**	- Flexibility. - Innovation. - Performance. - Attractivity.

Reflexivity on Research journey

At the time of the observation, **the organization of the Bank was switching to a more agile type of organization** where regulatory and regalian functions remained organized and governed traditionally while business functions became responsible for the entire product life cycle and adopted agile methods. Some interviewees where not clear about their future position in the future organization. This could have led to some stress or overmarketing of personal actions that would have hampered the quality of the discussions. On the contrary, it favored a kind of introspection from interviewees who trusted me. In addition, as for all the cases of the thesis, I triangulated the information with documents and different interlocutors.

6.1.3. Collect AI

Longitudinal analysis of the collaboration

Overview and periods

The collaboration lasted around 8 months to decide to deploy a solution from official kick-off.

Looking at the different events, we split the collaboration journey into 4 different periods:

1. **"Connect and assess"** the Fintech. This period was quite condensed and started early 2017.
2. **"Adjust the implementation strategy and get started"**. The following period was about formally and operationally harnessing the fintech into a project of the bank. This lasted from April to October 2017.
3. **"Build a pilot and demonstrate"**. This period corresponded to the effective work that the fintech and the Bank performed together to materialize the purpose of their collaboration and the output of the transfer of knowledge. This period lasted from November 2017 till March 2018.
4. **"Broadcast and innovate further"**. Finally, the last period was dedicated to the deployment of the pilot, preparation of next releases and communication about the achievements of the collaboration to improve the brand image of the bank and to find additional supporters for the next steps to come.

- <u>Connect and assess</u> -

<u>Recognizing the value – Accessing knowledge.</u>

The Hanseatic Bank (HB) has a culture that welcomes open innovation initiatives. The bank is in contact with a lot of startups in different technological fields. Yet, originally, the first **connection with Collect AI was made through shareholders relationships** given that the Fintech had been incubated by the Otto Group lab, a shareholder of Hanseatic Bank. The CEO of Hanseatic Bank was involved in first meetings with Collect AI.

> "*There was a newsletter from Otto Group saying Collect AI is funded and seek customers… and then we got a letter from our CEO asking to take care about it*" (head of Collection).

> "*It was an opportunistic meeting that was triggered by previous meeting with CEO and then we had this first meeting and felt quite interesting by the technology and the AI applied to collection and the process they had implemented to ease payment"* (head of project).

There has been a clear influence **of power relationships** in triggering (r14) the communication from HB with Collect AI as an external source of knowledge.

> "*I did not visit any fintech fair, I just got a very simple letter from my manager saying just take care about it*" (head of Collection).

To access this new knowledge source, HB asked for a first meeting with the key account manager. **The start of the collaboration was quite rapid**.

> *"The process was very easy, I got a phone call with the key account manager and we seated together for 30 hours and we did it*" (head of Collection)

The meeting took place in March. HB's team expressed an interest and organized a first **workshop** in July 2017. The goal was to identify all the topics to address in case of starting the project and going for this collaboration. The potential team and the way to work together were presented.

Recognizing the value – Confronting internal and external knowledge.

The **confrontation of respective knowledge** during this workshop was a good way not just to circulate and share information but also to **clarify the business opportunity at stake**. Confronting the external knowledge from Collect AI, HB rapidly detected the **opportunity** to collaborate by **spotting some external know-how and technology** that could improve the performance of a part of the collection process (the dunning process) which is **a critical knowledge** to its operations (Zahra and George, 2002).

> "*I was very keen on a partner that provides a platform as the bank can solve all the different channels so there was a vision to become, to write a digital story for Hanseatic bank on artificial intelligence.*" (head of collection).

> "*Using artificial intelligence to decrease cost of risk, increase efficiency and increase customer experience.*" (head of marketing).

Though HB had a structured approach to source innovation and relevant partner, there was **no specific selection process nor deep assessment of the Fintech**. The criteria mentioned were the **product match** - but with no a priori specific detailed aspects to be covered, **the fit with the soft skills of the Fintech's team** and the **appealing image of a startup**.

> *"We were not clear [about the knowledge we wanted to acquire and to implement], it was a kind of surprising that it is possible to have an artificial intelligence driven to process and they offered a link to the landing page where customer can pay their debt in a digital way and that was kind of surprising and we wanted to implement this service within our process"* (head of collection).

> "*Maybe it is a nightmare from a shareholder's point of view, but we simply had just the feeling that we could work well together with this company… and that we could build a partnership so that we could work together*". "*Everyone was very motivated to work together…it is just about contact… maybe not professional but it turned out quite well*" (head of Collection).

"*Even EOS a major collection agency company also owned by Otto is competing against Collect AI and also wants to build up artificial intelligence on their own and collect AI challenges them"* (head of collection).

In fact, interviews revealed the Bank had inexplicitly and quickly validated some key selection criterion they considered satisfactory enough to move forward. These criteria were mostly based on **fit between what knowledge the Bank was looking for and what the Fintech was able to provide thanks to its technology and thanks to the people to pass it on.**

"*We had a first meeting to introduce the bank and our process, they presented what they do and we recognize that we matched perfectly together*" … "*There was a match between our needs and what they provided and a fit with the people*" (head of project).

"*We simply had a feeling that we can build up a partnership where we can learn from each other"* (head of Collection).

Regarding technology, the fit meant a **complementarity of knowledge which happened to favor the moving forward recognizing the value and acquisition phases (r1)**.

"On one side, we have Collect AI, the service provider in the field of debt management and they provide a service which focus on artificial intelligence and with the aim to rise efficiency and effectiveness focus on customer satisfaction. On the other hand, we, as Hanseatic Bank, we had a strong commitment to fulfill the digital agenda of Société Générale and we would like to learn more on collaborations with Fintech companies. So that was the perfect match for both companies" (head of Collection).

"What we acquired from Collect AI is that let's say, in terms of processes, in terms of data protection and in terms of customer frightens, they are stricter than we are, I would say" (head of Collection).

This sample of verbatims also demonstrate that the bank perceives the fintech both as a provider **of content and of process type of knowledge**. Process being how to do best use the technology and process being how to how to innovate or collaborate with third parties. The bank was also looking at

acquiring a knowledge that was not related to technological know-how but to **methodology and cooperation capability**.

"*We wanted to learn more about collaboration with fintech companies*" (head of project)

To assess the capacity to pass on the knowledge, the Bank used the following criteria to be reassured: the willing of the Fintech to learn and focus on execution. For the business sponsor (the head of collection) and for the project manager, the good and attractive people to work with were operational people, "**makers**" rather than thinkers.

"The fact that Collect AI had also something to learn is the key factor" (head of Collection).

"*They are operational guys they do not talk about their vision they just want to make projects*" (head of collection).

New "hidden" knowledge appeared. Indeed, to ease payment, Collect AI used to partner with a company called *Figo* that acts as a hub connecting banks each other's to enable customers to reimburse Hanseatic bank using another banks account. Furthermore, *Figo* is more than a technical solution, it is a platform that enables third parties to access various financial sources through the integration of their technology. They animate a community of fintechs through hackathons and open development platform. **Hence, for the bank, this was the opportunity to learn and enrich its intangible assets**. Indeed, on the one hand, the bank experienced that to be compliant to DSP2, you can leverage existing hubs. On the other hand, by partnering with the Fintech, the **bank also joined its ecosystem and increased its own "stock of network" and connective capacity.** The Bank already Knew this company and attended some of their Hackathons yet working with Collect AI was another concrete experience of indirect collaboration with Figo and as such increased their relationships.

"Collect AI sent their generic landing page they customize for us but they also brought an interface to Figo which is connected to every bank in Germany and our customers were able to login by using the payment link to their own other banks accounts to pay" (head of project)

The Bank's willingness to learn by doing on an opportunistic basis was more important than over investing in an in-depth prior Fintech's assessment. This was quite in line with the innovation strategy fostered by the top management. The explicit recommendation of the CEO to consider working with this Fintech certainly triggered a quick start. But the main reason to avoid investing too much time in

an explicit assessment phase was the Bank's belief and **culture (r9)** that **learning by doing was better than thinking about it**. **Hence pragmatic culture accelerates the acquisition of knowledge.**

> "*We had a lot of cooperation here at Hanseatic Bank but what I found out of here is keep it as simple and as fast as you can" "I was not interested in attending others speech I just wanted to get started*" (head of collection).

Initial discussions were early opportunities to start combining pieces of the respective knowledge. This happened naturally at least to define the type of opportunities and to start scoping the project to launch. **Partial assimilation started early and smoothly**.

> *"In the beginning, they [Collect AI] were not sure whether they should focus on, let's say, the dunning procedure right in the beginning or the life cycle or whether they should use the solution for collection agencies that are at the end of the dunning life cycle"* (head of Collection).

- <u>Adjust the implementation strategy and get started</u> -

<u>Commit.</u>

The will to share knowledge and implement it (acquisition) was validated and communicated via **formal process leveraging the established governance**.

> *"We had a collection committee where we presented the opportunities with this collaboration to the CEO and we got their green light to make the pilot with Collect AI"* (head of project).

> *"W*e have portfolio management or project portfolio committee where new projects can be approved and then resources allocated" (head of project).

The governance to rule the key decisions and to globally supervise the collaboration was traditional: steering committees with stakeholders of both sides and of business, risk and IT departments. Only **new methods and associated governance were applied only within the project team** (e.g.: daily meetings from agile methodology framework).

The scope and ambition of the collaboration was iteratively defined**.** The decision on the scope of the project happened between the workshop and the official kickoff. **It was driven by the will to demonstrate as soon as possible the potential of the concept** and hence to get rid as much as possible of the constraints and notably to limit integration with the existing system. **It was also driven by the capacity of the bank legacy and processes to welcome the technology**. Here, the reason was the potential **lack of available data** to optimize the use of AI technology:

> "*AI learnings stream was postponed because we have some topics with lower efforts and better benefits*" (head of project).
>
> "*The AI was not the main focus within the process because the amount of the transferred accounts was not big not enough to learn from the AI*" (head of project)

A pilot has been defined with a limited scope based on feasibility and collaboration risks more than on value. The goal was twofold: test and implement - meaning learning, a slice of the knowledge made accessible through the Fintech and test the capability of the Fintech and the Bank to collaborate and learn.

> *"For me, the project was really order because the project had aim to make a pilot just to get clear about how efficient can be the collaboration with Collect AI and it was very efficient and now we have, yes, we have the collaboration operational business*" (head of Collection).
>
> *"We made a first 4months pilot contract and it was valid from October 2017 until January 2018, we made a pilot. [] And then, we prolonged the pilot phase until the end of March because we wanted to make a business review and after business review, we signed a fixed contract*" (head of Collection).

A pilot hence implies **a learning loop (r2)** where the bank incrementally increases its stock of knowledge both on the acquired knowledge and on the third party's sides.

Defining the scope of a pilot seems also to require to partially anticipate the assimilation of knowledge. Indeed, it is necessary to understand more in depth the knowledge to be able to identify the relevant uses cases to work on prioritize and to be able to identify significant difficulties and postpone them. HB aligned its ambition on the main priorities which was more on digitalizing the

customer journey than fully leveraging the elaborate AI knowledge Collect AI was primarily supposed to convey.

> *"The objective was to manage the lack of digital before letting completely AI go"* (head of project from Collect AI).

The planning shows the intensity and speed and effort to gather knowledge and spread it over. The planning of the project reflects the will to get organized to acquire knowledge and especially the phasing of the project and the different streams of work to achieve the implementation.

Looking at the project planning, we observe that **knowledge absorption is not embodied in a dedicated work stream**. Absorptive capabilities and associated activities are spread into the different project implementation tasks and information sharing events.

The resources allocated demonstrates the effort the bank is ready to dedicate to learn. In that case, **both parties dedicated full time resources** that coordinates with other respective pool of experts.

The project governance - which further demonstrate the will to get organized to gather knowledge and use it, was established.

The team was organized on **project mode on both sides**. **A cross-functional team had been set up from the very beginning** i.e. from the project kick off i.e. in March 2017. The intent was to early involve every stakeholders incl. those who would have been threatened by the solution or those who had to grant validation with respect to compliance. The team was hence composed of a business representative (collection manager assigned as project manager, outbound manager, website manager and a marketing contributor), IT resources and experts (eg: datawarehouse responsible) and some "gatekeepers" functions or guardians of the Temple (controllers, head of compliance, IT security officer). The project manager has been hired and working for two years as project manager for the collection department. He had no experience of the collection process but is very skilled regarding IT project management. He is also used to work transversally with marketing, customer service and IT. No one from the project team had been involved in a collaboration with a fintech.

On fintech side, the composition was less clear for the bank though the functioning was processed and smooth.

> *"They had a data scientist and an IT specialist, but the collaboration was organized between the project manager of each sides. Both we were the focal point of contact to organize the tasks" (head of project). "There were an operational manager working on the landing page and data security expert"* (head of Collection).

Officially kick off the project.

The go decision was subject to the green light of the compliance. Otherwise, the project would not have been allowed to start the cooperation. CEO was also waiting for this confirmation to effectively start the cooperation. And this validation was perceived as long by the project though it took only weeks. Tricky point was the data given to an external company that sends e-mail and SMS to the customers of the bank. The validation was subject to new developments to be performed by the Fintech.

> *"We had to deal with the risk by implementing an authentication step that we ensure they contact the right customer"* (Head of project).

To some extent, we see that **acquisition phase** – that confirms the will to absorb the knowledge, **is enabled by the own capability of the Fintech to integrate key Compliance pre-requisites of the banks (r17)**, to demonstrate its own ACAP. In that case it was about understanding and implementing a typical banking requirement from compliance department (authentication).

Contractualise.

On one side, **the contractual framework was driven by the effort to be made to elaborate the solution the project focused on.** For the pilot, the existing solution was just to be adapted to the banking sector (without requiring heavy specific co-development). **The "Supplier" type of collaboration model is naturally chosen when the knowledge gap is in favor of the Fintech**. **Yet collaboration framework can evolve over time according to the knowledge gap or based on collaboration outcomes (r16')**: if the collaboration goes well or if knowledge is combined or

transformed which implies some co-construction activities. When the fintech has something to learn and develop with the Bank, then the collaboration moves from supplier to co-construction.

> *"They did not have a special product for banking before they collaborate with us they offered this product to e-commerce platforms within the Otto concerns but it is nearly similar*. *There is not a big difference between e-commerce and collection*. *The product they use for us was already at 90% used before"* (head of project).

> *"Next steps of the collaboration [i.e. when they would modify real time the AI algorithms] would require more investments on both sides then more co-construction"* (head of project).

Therefore, freezing the contractual framework as early as possible to fulfill procurement best practices may penalize the appropriability regime hence the full capture of the profit associated to the absorbed knowledge (r16)**.**

On the other side, the contractual framework was driven by **the will to avoid too many constraints** that would slowdown or complexify the collaboration. **This can imply to follow by-pass roads** to lower procurement policy constraints for the sake of the project hence for the sake of the knowledge absorption.

> *"It was very important for us that the cooperation with the fintech was classified as a non-essential outsourcing* [minimum requirements for risk management by the German regulation authority] *otherwise the consequences would have been dramatic for a very small partner" "there is so much regulation to take care of than you are dead."* (head of collection)

In that case, **the appropriability regime was in favor of the Fintech**: all the algorithms developed by the Fintech with for some of them, thanks to the data of the Bank, belongs to the fintech. The Fintech charges an amount per file whose treatment is outsourced to Collect AI. The fintech had developed a dedicated remote on-boarding process based on the request and overall requirements of the bank. But the bank did not ask for any compensation for this transferred knowledge though these regulatory developments will be largely re-used to other banks.

Finally, the **official kick-off took place** (end of august) once compliance and contractualisation had been secured. A working plan has been established by the Fintech in coordination with the bank.

- Build and iterate -

Manage and govern the project.

They worked **on a start-up mode yet with a close governance to keep the momentum.** They had very few workshops (3 half days workshops) to define the scope, the data flows and to design the solution. During the 6 months pilot phase, they made one weekly 30mn status call meeting each week with an open issue and task list. The mindset and tools relied on **transparency and reactivity**. Once a month the team sent to the CEO a status report of achievement with open issue and next steps. Every three month a collection committee followed-up progress. And finally, a "business review" took place after the pilot phase to decide on further deployment and contractualise accordingly.

There was a clear project interface: a single point of contact (the head of project from the bank and the on-boarding manager on Fintech's side).

The project was financed by the business. Collection department paid the limited investment. No dedicated innovation budget was existing.

> "*It was just X0 000 euros for the pilot because collect AI wanted the collaboration and the money was not the major topic for them compared to getting in the banking sector*" (head of project).

The resource allocation was formal and traditional: a dedicated Project's Portfolio management committee approved the project and allocated resources for the projects.

> "*It was a mixture between a traditional way of project management and agile way of working from Collect AI side, therefore we were very fast within special tasks*" (head of project).

> "*Because everybody wanted this collaboration and we had very good and positive project team and collect AI worked very hard to make this collaboration because the bank was the first bank they collaborate with*" (head of project).

Teams were not in the same location but they had workshops either at the bank or in the office of collect AI which are situated not very far in the center of Hamburg. They also worked with **collaborative tools** (Arkadin platform collaboration services) to explain more easily some contend in the digital way.

Start design phase and prepare the pilot.

The Fintech started to focus on **developing the critical authentication process required by the Compliance**.

Once this solution had been secured, **the project agreed to prepare a 6-month pilot.**

To prepare the pilot, the fintech configured, meaning adapted its solution to the banking context and Hanseatic Bank functional requirements. **The configuration of the Fintech existing solution was clearly a knowledge assimilation activity by clearly linking bank knowledge with Fintech knowledge**.

For the pilot **to demonstrate the value of implementing the fintech's features,** the team performed A/B testing to compare the value added of the solution to a controlled group being treated according to existing routines. These was typical assimilation activities.

> *"The good part is the digital journey: we found digital communication channels, a component of opportunity to stay online with Figo, and then, we measured the success of this test."* (Fintech's head of project)

The focus was made on digitalization of customer journey and on simplification of the payment process (online payment link). The use of AI to automatically determine the best mix of message, channel and timing would be tackled later. Yet there were some quick to expect: costs reduction from automating some collection tasks - outsourced to the Fintech ; better collection rate thanks to the eased payment process.

> "*The Fintech was about machine learning but from an operational point of view I was very unhappy about the way we were dealing with our e-mail, SMS and letter treatment of our customers*" "*There was a vision to write a digital story for HB on AI but the operational pressure has come more for the channel management… and it was a good choice"* (head of collection).

Renouncing to some features for the pilot was a way to discover and reconsider knowledge hence to assimilate knowledge. In fact, the key knowledge the bank wanted to start to acquire was less ambitious and less trendy than the one conveyed by the Fintech. Though, the teams decided to focus the first pilot on a limited and easiest number of functionalities, they introduced some more sophisticated AI functions to be partially tested in first pilot. The first pilot was to play traditional scenarios but based on an improved digital journey. The next pilot will more heavily rely on AI and especially machine learning capability to define the best customized communication (i.e. a mix of message, timing and channel).

> *"For the moment, we have two scenarios which are mostly focused on the digital channel, but we will create a third one on the letter. Here, the whole part is mostly manually A/B testing where we have exactly told and configured the system what they should find and at which day they should find".*
>
> *"We have like an agency model where every parameter should be defined by an agent automatically and, for HB, we have left since the beginning running the time agent (AI)".* (Fintech's head of project)

Key Performance Indicators (KPIs) were established very early to monitor the pilot. By the end of pilot phase, the project came up with promising results for the team to feel comfortable to extend the contract. They also come up with a **better insight of the limit to further use AI**.

Then, the teams presented during a Business Review in March 2018 two type of measures: the collection rate measuring the direct **P&L impact of the innovation** and the use of payment method through the payment aggregator (Figo) measuring the **adoption** of the proposed digital user experience. The results were over exceeding expectations. Yet they were hampered by the limited number of remote payments means at disposal for the clients. Then it made AI process underused. No feedback on any process type of knowledge like agile methodology diffusion was mentioned.

Iterate, face implementation difficulties and be ready for change.

The bank and the fintech invested **time and effort to assimilate respective knowledge**.

> *"HB already really understood the solution because a lot of reviews were made all together with HB and Collect AI, on diverse topics (focus on improvements topics, operational topics, more strategic topics)"* (head of project from Collect AI).

By adapting the fintech solution to the specificities of the bank practices, **knowledge has been combined** during this transformation phase.

> *"Collect AI's product was very generalist at the beginning and was covering HB's use cases, but in terms of content, multiple scenarios etc., they had to adapt it according to HB's expectations and requirements"* (head of project from Collect AI).

> *"Very specific use cases for Collect AI were built and a benchmark of Collect AI vs. HB's internal processes allowed to compare and mix the processes. From June, they were able to send digital communications, thanks to a good mix of processes."* (head of project from Collect AI).

The bank improved its current practices by strengthening its payment process and tool (on-line payment) but also on designing best business scenarios to collect money. Therefore, **the bank did not just assimilate the knowledge but transformed it by improving its own practices**.

> *"The 1st step is then to play traditional scenarios by starting to focus on the digital journey, and the next pilot will try to come to the machine's capability to define these mixes"* (head of project from Collect AI).

Creation of knowledge was another transformation activity the bank went through. Indeed, the bank observed customers usage of the solution during pilot phase to improve its practices.

> *" Findings, A look into the AI : ✓Time decisions taken by the agent ✓Morning times are less chosen ✓ Not enough data for meaningful and visible improvements on timing decision"* (abstract of a workshop presentation 03.2018).

The project faced two major difficulties. One was about payment and the other one being on data. In both cases, the team found a solution by combining respective knowledge. **Somehow, the difficulties catalyzed the combination of knowledge (r7) by forcing bi-directional exchange of knowledge.**

> " *So, as they had never cooperated with a bank before, they had to make a new payment operation because they had to really implement the solution that allows each customer to pay on his own IBAN"* (Head of Collection).

> *"We have an initiative where we are trying to see with HB whether it is possible to add more payment messages so that people pay more online and then we get more data in terms of online payment and the time agent can learn what it did well and what it did wrong. So, we have at least 5 or 6 initiatives with guys in HB trying to, not only go directly, but to build as well the whole system because the algorithms, itself, we have them, the thing is that they would not learn if the set up does not work. […]*
> *We had another challenge that we had during 6 months, the data exchange"* (head of project from Collect AI).

This last verbatim also illustrates that AI related knowledge stresses the infrastructure of the bank (r10).

Finally, knowledge provided by a fintech was not considered as fixed and **evolves and improves overtime**.

> *"They have some initiatives that are being deployed for HB but also other initiatives with other clients; they are always in the product development mode as new features are coming every day and, when Collect AI has a new feature, the Fintech also asks HB if it wants that new feature to be implemented".* (head of project)

- Deploy and broadcast -

Exploit.

Based on the good results, the bank **decided to deploy the solution and to improve both the solution and the legacy to prepare for second pilot:** add on of additional payment method (e.g.: PayPal) and digital channels (e.g. chat) and communication strategy (eg. fall back).

> **"***we have some optimizations addressed right now, one thing is to integrate new payments method like for instance paypal and optimize the communication strategy and the process after the pilot now***"** (head of project).

A **new contract** was established for operational roll-out and preparation of the next pilot and reflecting a high level of **trust**.

> *"Now we are working on a project mode, with an unlimited contract"* (Fintech's head of project)

Communicate and push for investment.

In parallel with the deployment, the CEO **started to communicate both internally at BU and Group levels.** He communicated in several ways (innovation awards, management meetings, communities, BU supervisors) on the project and on the collaboration/strategic partnerships. **This socialization tactics and social integration mechanisms (r13) favored assimilation and transformation** because it raised the interest of BU headquarter for replication (see after for detailed mechanism).

The CEO submitted an investment files to the MNC headquarter. Fintech is another way to further acquire knowledge. Based on the success of the pilot, the CEO broadcasted the collaboration to trigger investment appetite and support from the mother company headquarter. **The exploiting knowledge confirms prior recognizing the value and fosters further acquisition (r1).**

Seek replication opportunities.

The project benefited from **another round of assimilation activities at BU level**. Indeed, the BU investigated the replication of such collaboration with other entities to address similar business opportunity and support the Fintech in its scaling up. Thus, the Central EURO innovation team organized a sharing session. They gathered project team members and BU experts to challenge (i.e. knowledge transformation through conversion) the knowledge at stake and the collaboration outcomes.

> *"Their solution does not replace a collection software, it focuses and the SMS/email/automated voicemail campaigns" (minute of meeting with BU experts).*

This sharing enabled ideation because this gave HB the opportunity to discover and compare with the French collection systems equipping the French sister company. Moreover, the French solution used for collection in the French market decided to accelerate its own AI based developments based on this HB experience.

- Project outcomes -

The project is on run mode for the first release.

The outcomes (r3) expressed by interviewees are really positive with regards to project **delivery**, **business impact (performance)** and **individual development**.

> "*We managed a lot of think within two and a half months which is to my mind very fast way of implementation*". (head of project).
>
> "*We demonstrated that by digitalizing the payment process you can increase already the collection rate*" (head of project).
>
> "Positive P&L impact through improvement of the collection rate and automation of tasks" (head of collection).
>
> *"I did not expect that the numbers would be so good as they are in terms of increase of recovery. I was a bit, let's say, doubtful on the sense of how much we would impact. Because we had a part of the campaign that we were mixing the phone call that the team was doing with digital*

channel, and the payment method was a bit my concern, since the beginning" (Fintech's head of project).

"*I personally learned quite a lot because that was one of my first project at HB and I learn a lot on collection"* (head of project).

"I learned a lot about project management in a sprint and scrum environment and about mentality because it a small company with 18 different nationalities" (head of collection).

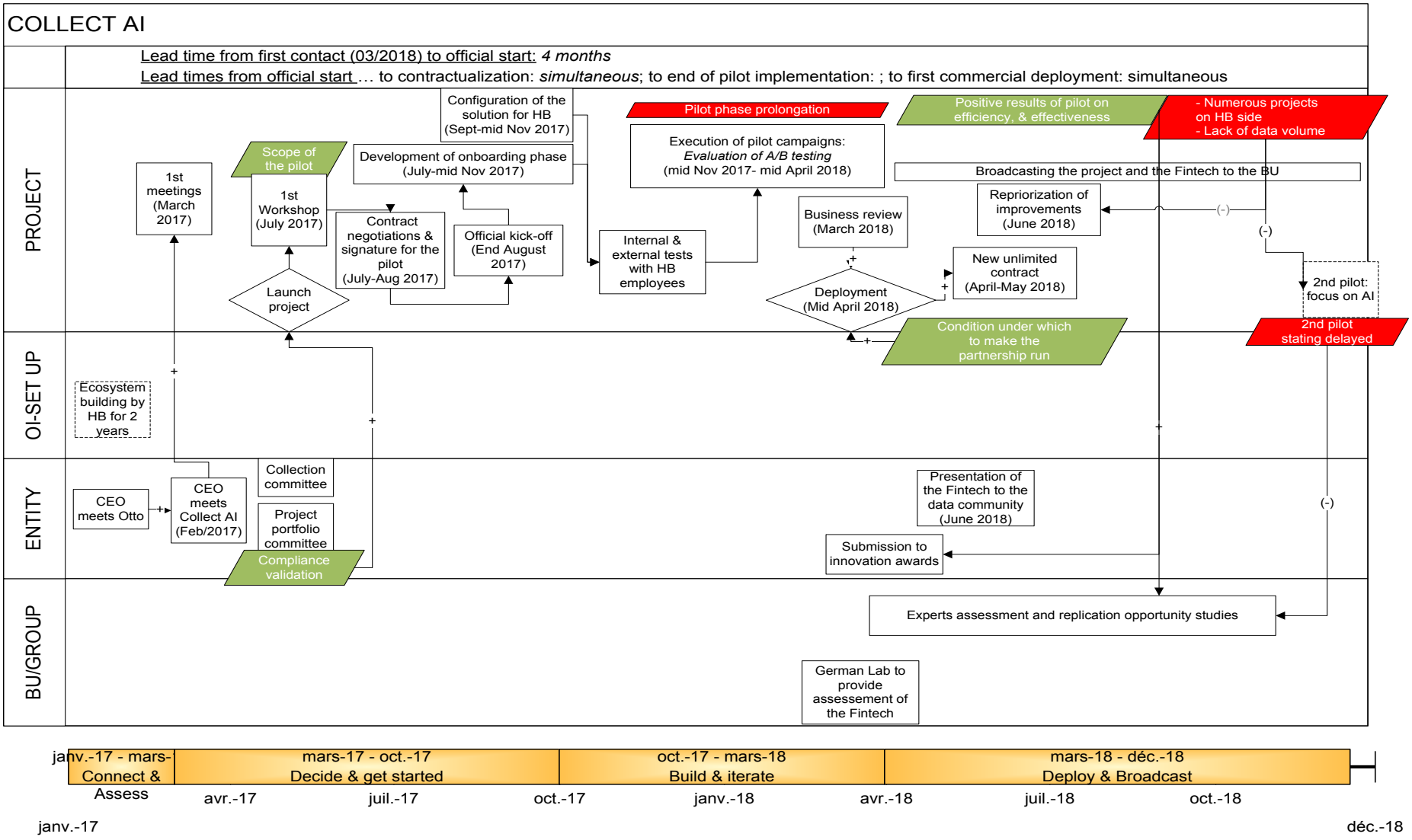
The bank assimilated knowledge and **increased its stock of knowledge**- in that case on digitalization, to be able to re-use it in other contexts.

"Let's say, they are getting this information, so they know how the end customers are actually being digitized, they are also proposing initiatives on digitize another part of process" (head of project from Collect AI).

Regarding their capacity to collaborate, they assessed positively the efficiency of the collaboration and what they experienced regarding how to tackle project and opportunities: the "learning by doing and testing approach" which belong to the DNA of startups. This process type of knowledge they acquired would have **improved the performance and the flexibility of the team's members.**

"*Major* learning *is that is it good to collaborate with fintech because … I do not know. Sometimes it is good to have the courage to make things not to have doubt*" (head of project).

- Collect AI collaboration process flow chart -



Thanks to the process flow chart we get a complementary longitudinal and multilevel view of the case and we observe that:

- The pace of the collaboration was driven by validation milestones and organizational infrastructure preparation rather than commercial or political deadlines.
- The collaboration did not wait the first contractualisation to be finished to start in parallel another operational workstream.
- Compliance validation was a clear milestone to validate official kick off and to start contractualisation.
- Successful pilot enabled the broadcasting of the collaboration and triggered the decision to work on a new and more sophisticated release and sig a new contract.
- The BU was only involved for investigating replication opportunities not to support the collaboration at entity/project level.
- The entity was involved for “institutionalized” type of activities (talking with the shareholder, formally validating the project, broadcasting).
- No “local” OI set-up was involved at entity nor project levels.

Synthesis of main findings

Openness of mind and reactivity was sufficient to identify relevant collaboration opportunities (recognize the value).

Though middle and top managers perfectly post rationalized their strategy regarding Fintech sourcing (cf. the strategy presentation document built after the collaboration). In reality, HB adopted a more emerging approach. On one side, the bank was clear on the overall business goals (in that case collection efficiency improvement). On the other side, the bank welcomes for assessment any fintech that could contribute to these goals whatever the profile, the technology, or the use cases.

- ⇨ From a managerial perspective it implies for Fintech facing people to be clear on the strategic goals and for the organization to react when an opportunity is identified or pushed (like in the collect AI case)

The first meeting with the Fintech was a dense, complex and decisive milestone.

First meeting is quite rich in terms of knowledge exchange on the solution, the third party and the opportunity. This meeting is not just key for moving forward in the project but also essential to set **expectations**, set rational **guidelines for cooperation** and **emotional vision** of the way the collaboration should be. Modalities are quite simple (meeting), information sharing are dense. Attendees are talking about **"feeling", "fit"** with the persons and with the solution.

- ⇨ The managerial consequence is that for the process to be effective, this meeting has to be best prepared: ensure senior business people are present to best identify business opportunities; ensure future members of the project attend to get best insights on possible good cooperation.

Pragmatic culture accelerates the acquisition of knowledge (r9).

HB management welcomes “learning by doing”, “test and learn” approaches that avoid projects investing too much time in performing and formalizing a complete due diligence of the Fintech. Reassurance factors like the trust of Otto shareholder and push from the CEO was enough to start rapidly working.

- ⇨ From a managerial point of view, it means that a project manager shall take into account the culture of its organization. It means that pragmatic culture accelerates collaboration yet with no evidence observed it systematically ensures success.

To move forward, the Bank first looked for technological and collaboration fits with the Fintech.

The value of a knowledge derives from the potential of the business opportunity it would unleash. The Bank seeks for a fit. The fit was defined in terms of an alignment between the knowledge the bank is looking for and the knowledge a Fintech can provide. This ability to provide knowledge lies in the **technology** the Fintech masters but also in its **people and will to pass it on**.

Before, starting the project, the main knowledge features the bank is looking at is **complementarity** with little concerns for complexity or diversity of knowledge taking the risks to overlook the “acquisition” and implementation difficulties.

The Bank analyzed the fit during the recognizing the value phase was through **unformal and formal meetings** that enable communication and sharing activities like for instance showing a demo of the existing product.

The acquisition phase tries to ensure this transfer through contractualisation. Contractualisation is good at securing the use of the technology and the co-construction (combination) of new features. Yet **the capability of the team to be good at passing over the knowledge is difficult to describe and highly contingent on the individuals.**

- ⇨ From a managerial point of view, firstly, given that complementarity favors the decision to move to acquisition phase, the assessment shall involve business and IT people capable of balancing existing knowledge of the bank organization with the one conveyed by the fintech. Secondly to evaluate the capacity of the fintech to pass on knowledge, we suggest meeting

people of the team and share project methodology as soon as possible to mitigate this uncertainty and to go for pilot to learn not just on the technology but on the capacity of the two organizations to transfer and combine knowledge. This is what HB did which may explain the success of this collaboration.

The knowledge provided by the Fintech was more than technology and evolves overtime.

A fintech always comes with its ecosystem. In this case, we saw how the connection to the fintech Figo not just brought value to the absorbed knowledge but also increased the "stock of connections" of the banks.

Given the pace of development of a fintech and its capability to pivot or seize any business opportunity, a fintech **is permanently creating and testing new knowledge**. By liaising with a fintech, a bank can have access to external R&D. Once you have collaborated with a fintech, a bank can benefit from the upgrades of the new releases. This is true also when they work with any established tech solution providers. But a bank can get more if it is able to keep the relationship as trustful and as collaborative as the first collaboration.

We observed that **both process and content knowledge are identified and valued yet with no differentiated treatments afterwards in the ACAP process**.

- ⇨ From a managerial perspective it means that the success of a potential collaboration and of a knowledge transfer shall be assessed both in terms of content and in terms of process. If the successes of technology implementation or commercialization are easy to assess, the way the bank learn "how" to do thing – and especially how to collaborate with fintechs, is more difficult to measure and was not even analyzed as such by the Banks. Consequently, **poor commercial results should be mitigated by good process transfer** and managers shall better take care of this aspect – for instance by formalizing better this know how to make it independent from the person directly involved in the project, and better communicate on it to all the stakeholders.

Finally, given that Fintechs are naturally providing new ideas or value creation opportunities, only organizations that can treat their knowledge transfer proposition can benefit from it. It means that to make the most of the vibrant fintechs, banks have to be good in ACAP. **The more one practices its ACAP with fintechs (r1), the more one gets value out of a collaboration with a fintech (r3)**.

To recognize the value, the Fintech and the Bank started to assimilate knowledge in a light and unformal way.

This happens naturally because it is necessary to start framing and scoping the opportunity and project to make real. And somehow is a first evidence on how fluid would collaboration and knowledge transfer be. It also helps assess the respective gaps of knowledge and the asymmetric or balance transfer of knowledge that would steer the collaboration in the future.

- ⇨ From a managerial point of view, it implies once again that skilled persons should be present day one during initial task in order to look ahead to the best collaboration scheme and initiate the momentum.

The traditional governance leveraging existing validation committees and proven project management practices was efficient.

A collaboration project can leverage the established governance to get "institutionalized" validation and gain full support from the organization. Yet, we can wonder if such established governance cannot hamper very disruptive knowledge absorption. Because of lack of sufficient knowledge or because of fear of change, existing governance may replicate orthodoxies.

- ⇨ Hence, managers should figure out if the existing governance though being efficient would fit its specific innovation project. For most disruptive ones, more maverick leaders or topical experts may be worth joining the decision committees. Head of collaboration project could also help decision makers to assimilate knowledge to be in a better position to decide. Similarly, like observed in the case, people fearing the most the new knowledge – in Collect AI case, the collection agents, should be involved in the design workshops.

ACAP is an iterative process and when it involved a successful pilot the latter secured and strengthened the collaboration.

We saw in the case that **the earlier you assimilate, the better your pilot**.

- ⇨ From a managerial point of view, it implies that it can be good to let bank and fintech start assimilating even before any formalization of cooperation and even before contractualisation. The legal risks being largely offset by the better quality of scoping and adopting the pilot.

A pilot is used as an **execution risk mitigation, a learning loop process and a socialization tools that accelerate recognizing the value, assimilation, and transformation**.

It mitigates risks because it explicitly tranches the amount of knowledge to be absorbed and it is used a tangible demonstrator to assess the ability to collaborate further.

It is a powerful assimilation activity that forces the banks to interpret and reconsider knowledge to be absorbed.

It is a powerful transformation activity that is aimed by construct at reducing the gap of knowledge.

To sum up, a pilot is a way to progressively capture knowledge through an ACAP loop (r2).

- ⇨ From a managerial standpoint, a pilot is then extremely useful under the condition that it is smartly scoped and that both parties can openly and accurately learn and act on the basis of its outcomes. To make the most of a pilot, it requires rigors and skills to recognize the value of the pilot which is an additional joint knowledge that has been created via the implementation and test of the pilot. Interesting enough is the difference between pilot and minimum viable product (MVP) notions. The later defines its scope according to the key minimum business model assumption the bank must test. The former favors progressive efforts in terms of workload and feasibility (a proof of concept would be just focusing on technical feasibility). On one side we have quick wins rather than deep key assumptions bullet proofing. Hence HB has secured its collaboration yet not optimized the potential value of the full improvement of the business model.

The later you contractualise, the more chance you have to improve the appropriability regime.

This finding is rather counter-intuitive, but by setting too early the legal framework, you come up with a contract not sufficiently benefitting the bank. **By default, the fintech is ruled by a supplier type of contract which does not consider the value the bank and the fintech co-create during combination and transformation activities.** In HB case, the algorithms - created thanks to the knowledge and data of the bank, were gave up for free to the fintech.

Such situations happen because banks do their best to build long time connections with fintech ecosystem and avoid being perceived as predators.

- ⇨ The managerial consequences would be to try to postpone as much as possible contractualisation fighting corporate procurement policies yet giving time to define a fair profit-sharing mechanism. The balance of power being in favor of the corporate, there is little risk do to do so (as long as it does not harm the financial health of the fintech). Completing the discussion of the previous section, **a smart way to proceed would be to contractualise for the pilot phase and set up a new contract for the other releases of the solution**. This is what HB did by proposing first a contract for the pilot and then a fixed contract - yet still letting all the IP go to the fintech, after the business review.

The Fintech's ability to absorb knowledge on Compliance allowed Acquisition.

We saw in the case that absorbing compliance knowledge was a pre-requisite to collaborate (r17). It shows **the Fintech is a major contingency factor in the ACAP process**. Indeed, the fintech shall demonstrate its ACAP to learn Compliance requirements to allow the bank to acquire the knowledge of the fintech.

- ⇨ From a managerial perspective, it explains why more and more fintechs are recruiting compliance experts to reassure banks prospects and strengthen their business development. On the bank side, it implies to have a clear vision on the very key compliance pre-requisite to fulfill and to communicate it. It means also to on-board compliance as soon as possible in the project.

  "It is important to involve the compliance team when the project starts, even involving it as earlier as possible to understand and know the requirements, potential issues before starting

developing the solution" […] "Notably, all the topics related to data protection, I would charge them as earlier as possible " (head of Project from Collect AI).

⇨ Commercially, successful fintechs may be the ones that anticipate these pre-requites in their product development. They should share credentials that demonstrate their ability to have already integrated the knowledge of banks hence their ACAP abilities. Successful banks may be the ones that best define those minimal pre-requisites so as to avoid smothering their potential fintech partners with irrelevant and potentially costly developments (especially if the costs are not shared).

Tackling constraints starting with Compliance requirements was Transforming knowledge (r7).

Facing regulatory (compliant customer remote on-boarding process) and implementation (online payment specificities) constraints, the project was forced to intensify the exchange of knowledge to combine knowledge.

⇨ For managers it means constraints are more opportunities than threats and shall particularly be addressed in joint team with the fintech's resources.

Measurement was about assimilating and equipping socialization capabilities hence easing ACAP.

By measuring the impact of the new knowledge, the bank better grasp its potential and provide tangible arguments to get support within and outside the entity.

⇨ Collaboration project managers shall then ensure KPIs are set, monitored and largely communicated.

Once the local success had been demonstrated OI set up took over Assimilation activities and ACAP process started at BU level.

As witnessed in the case, the **OI set up at BU level can diffuse the collaboration project within the MNC organization**. The aim is to further value the knowledge absorbed at local level for the benefit of other project and entities. By doing so, a ACAP cycle began where the knowledge was further analyzed (then assimilated) and further challenged and combined (then transformed) by suggesting inspiring existing alternative tools within the Group. Replication or diffusion of a "local" collaboration is about performing ACAP process at different organizational levels, a change of level from project to MNC and entities and then back to a new project's level.

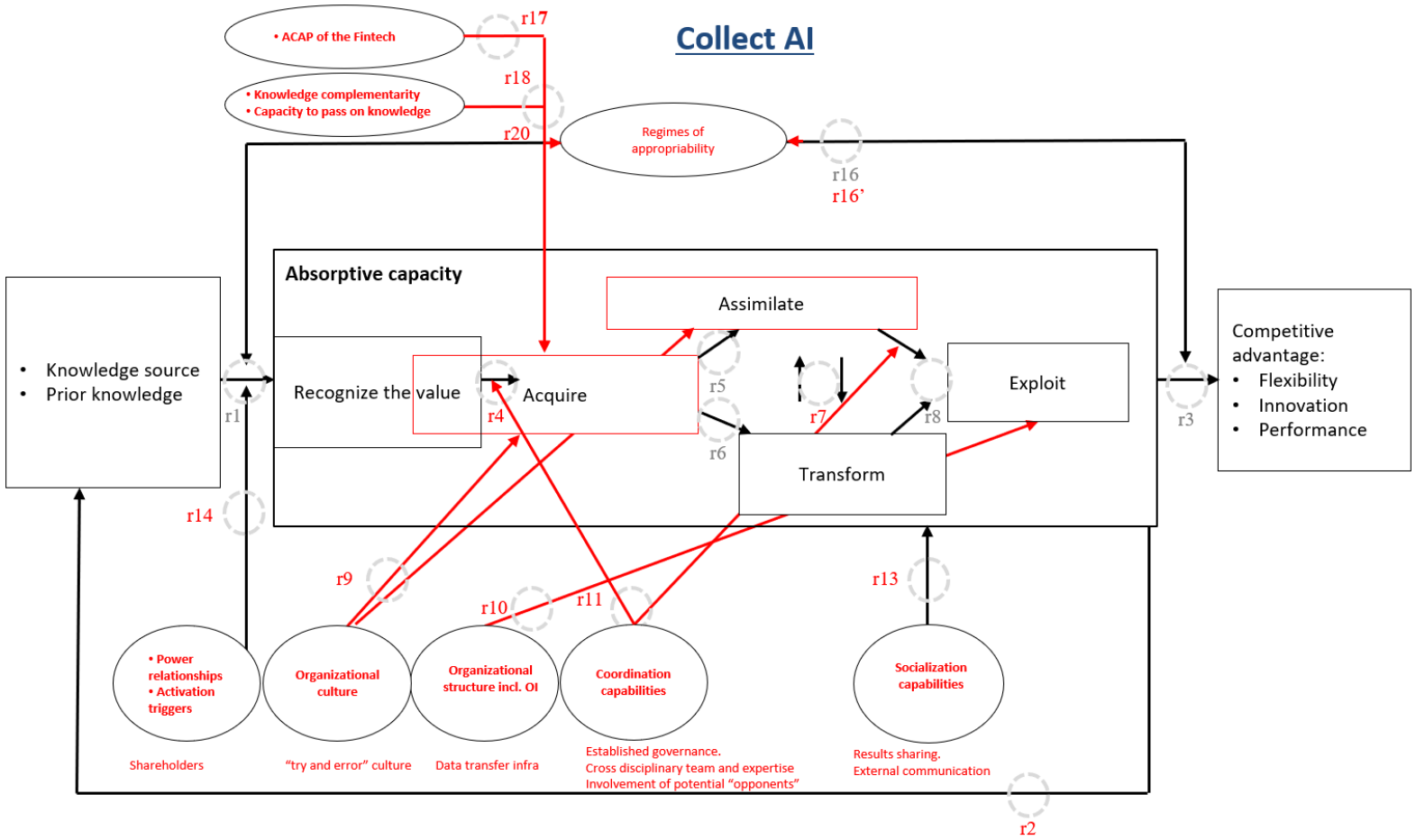
- ⇨ From a managerial point of view, it means OI set up resources can be useful to process a BU wide sharing of knowledge. **This then stresses the ACAP of the MNC**. Starting with the individual capacity of the OI set up resources to assess the true value of the collaboration and avoid being manipulated by the local entity wiling to overmarket its project. The challenge is to make experts and manager understand the solution and how contingent it is to the entity. Though people involved were ready to recommend the Fintech, they were not involved in diffusing it within the Group – maybe due to a lack of availability or guidelines from their hierarchy. Diffusion of knowledge is not natural and could be fostered either by investing in a OI setup or by incentivizing local "ambassadors" of the project.

AI related knowledge stressed the infrastructure of the Bank.

The case highlighted that the success of a collaboration is dependent on the bank organizational structure (r10) - in that case the capacity to transfer data.

- ⇨ From a managerial point of view, it means that the bank shall check how ready is its infrastructure to decide best planning to initiate a collaboration with a particular fintech.

- Synthesis of main ACAP components observed in the Collect AI case -



Adapted from Todorova, Gergana, et Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». *Academy of Management Review* 32, nº 3 (juillet 2007): 774-86.
In black are the ACAP components and relationships we observed
In red are the specific ones we observed and detailed in the case analysis.
We retrieved the items that were not observed during the empirical study

Synthesis of specific practices observed to perform ACAP process.

Table 22. Collect AI – Specific ACAP practices observed.

ACAP dimension	Practices observed
Recognize the value	Communicate with / listen to its shareholders and clients
	Spotting external know-how and technology that could improve the performance of critical operations
	Check product/technological fit
	Check fit with the Fintech in terms of its capacity to pass on its knowledge
Acquire	Build a planning
	Bypass procurement rules
Assimilate	Perform compliance / risk analysis associated with the target knowledge
	Scope a project and define priorities and releases (e.g. pilot definition and planning)
	Configure the Fintech solution to the bank context
Recognize the value & Assimilate	Perform A/B testing and measure/monitor results
	Compare the solution of the Fintech with comparable solution within the MNC mother company
	Measure impact of the knowledge
	Perform an A/B testing pilot to demonstrate objectively the value of the KM by operationally testing it.
	Investigate replication opportunities and by doing so benefit from the positive and negative feedbacks from other managers

ACAP dimension	Practices observed
Transform	Perform a pilot, assess it and improve it.
	Adapt the fintech solution to the specificities of the bank practices
	Create new knowledge by observing customers usage of the solution during pilot phase
	Combine internal and external knowledge to solve implementation difficulties.
Exploit	Industrialize or deploy pilots
Socialization tactics	Communicate on measures / impact of acquired technology to headquarter of the mother MNC

Synthesis of specific relationships observed.

The above sections addressed how the ACAP practices we observed articulate themselves. This section identifies and describes how the contingency factors we observed influence the ACAP components.

Table 23. Collect AI - Overview of the specific relationships between ACAP components.

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
External power relationship	r14 Shareholders triggers ACAP	**Recognize the value**
Fintech ACAP	r17 Fintech capacity to understand and implement (i.e. absorb) requirements of Compliance	**Moderator of r4 relationship: Recognize the value => Acquire**
Knowledge complementarity	r18 Knowledge complementarity of the Fintech favors the decision for acquisition	**Acquire**
Fintech's network	r18' The fintech's ecosystem made available for the bank favors external connectedness	**Socialization capabilities** **Exploitation**
Capacity of the Fintech to pass on knowledge	r20 Capacity of the Fintech to pass on knowledge favors the decision for acquisition	**Acquire**

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
Assimilate	r7 Tackling constraints starting with Compliance requirements favors transformation	**Transform**
Exploitation	r2 By performing a pilot, the bank gets acquainted progressively with a new knowledge and lays the foundations for next loop of ACAP	**Prior knowledge**
Organizational culture	r9 A culture fostering “try and error” or “learning by doing” projects favors quicker implementation	**Acquire and Exploitation**
Organizational structure	r10 An infrastructure that enables easy data transfer favors exploitation of knowledge.	**Exploitation**
Coordination capabilities	r11 Transparency and reactivity favor ACAP	**ACAP**
	r11 Cross disciplinary team and expertise identifies business opportunities and fit with the Fintech which eases Recognition of value and Assimilation	**Recognize the value** **Assimilate**
	r11 Established governance provides institutionalized validation	**Moderator of r4 (Acquire)**

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
		and r8 (Exploit) relationships
	r11 Involvement of potential “opponents” to the new knowledge	**Transform**
Socialization tactics	r13 Measuring the impact of new knowledge equips socialization tactics and favors assimilation and transformation	**Assimilation and Transformation**
	r13 External communication towards the ecosystem triggers another loop of ACAP at different levels of the Organization	**ACAP**
Knowledge gap (the difference between Prior knowledge and the knowledge source)	r16’ Collaboration framework can evolve overtime according to knowledge gap	**Appropriability regime**

Contributions of the case to the Research Question

Table 24. Main contributions of Collect AI case to RQ

	Research question	Main findings from the case
RQ	**How do Banks collaborate with Fintechs to innovate?**	- The Bank is looking for a fit in terms of technology and ability of the Fintech to pass on its knowledge. - The Bank looks for and benefits from content and process types of knowledge. - A pilot is a powerful means to absorb knowledge progressively through ACAP loops that tests the outcomes of the technology and the respective capability to collaborate. - MVP is a meaningful progressive implementation / testing strategy. - The knowledge gap determines the recognition of value but also the appropriability regime.
RQ1	**Relevancy of the ACAP process to manage collaboration and innovate**	- Knowledge gap and transfer is effectively at the heart of collaboration though with no specific roles or responsibility to take care of it in the project. - Overall, the ACAP process is confirmed with overlapping of Acquisition and Recognize the value phases. - Yet, it should integrate the ACAP of the Fintech, its knowledge complementarity and its capacity to “teach” as key contingencies and moderatos of ACAP.
RQ2	**What role do the dedicated OI set-ups play in this knowledge absorption process?**	- OI set up takes over the assimilation once a local success has been demonstrated and ACAP process can start at BU level. This then stresses the ACAP of the mother MNC.

	Research question	Main findings from the case
RQ3	**What are the difficulties and enablers?**	+ Clarity of the business goals and targeted knowledge that is critical to core business of the Bank + Starting with a successful pilot + Tackling constraints starting with Compliance. + Own Fintech's ACAP + Own Fintech's network of fintechs + Capacity of the Fintech to pass on knowledge + Open Innovation Infrastructure (data transfer, data availability) notably + Power relationships to trigger connection with the fintech + Pragmatic culture / A culture fostering "try and error" or "learning by doing" + Effective coordination capabilities: Cross functional teams and expertise, transparency and reactivity and the leverage of institutionalized governance, involvement of potential opponents + Socialization through successful KPIs broadcasting + External communication towards the ecosystem - Freezing too early the legal framework

	Research question	Main findings from the case
RQ4	**What type of learnings and outcomes?**	- Ecosystem and connectiveness development - Content and process knowledge - Business and project management performances - Individual skills development

Reflexivity on Research journey

This case was the first analysis performed. **As during the interviews, an immediate jump into the ACAP process is not possible** to capture how to operationalize ACAP. No interviewees spontaneously made the connections between the operational collaboration activities and knowledge absorption activities. We need first to "tell the story" of the activities and then select some of them as ACAP ones.

The triangulation with the Fintech was necessary, not so much for challenging data, but to better understand the content of the knowledge and of the different releases. **I needed to assimilate the knowledge of the Fintech**. This effort was necessary to understand what part of the knowledge has been effectively exploited.

I was an **active participant** on replication and broadcasting activities.

6.1.4. Personetics

Longitudinal analysis of the collaboration

Overview and periods

The collaboration lasted around 12 months from initial talks to the end of the POC.

Looking at the different events, we split the collaboration journey into 3 different periods:

1. **"Develop own knowledge to recruit sponsors and a Fintech"** the Fintech. This short period laid the ground for the collaboration by developing relevant prior knowledge and by selecting a Fintech to fill the knowledge gap necessary to test a chat bot solution.
2. **"Co-construct a Proof of Concept"**. During the period, the Bank and the Fintech co-constructed a solution to fit a specific Romanian segment and product. This lasted around 8 months till the end of the tests performed with employees of the Banks in June 2017.
3. **"Perform a non-convincing test with employees".** Finally, during this last period, the project did not manage to get traction and support to trigger additional initiatives and the initiative was abandoned.

- <u>Develop own knowledge to recruit sponsors and a Fintech</u> -

<u>Develop prior knowledge on chatbot.</u>

The project was initiated by the head of Innovation Lab of the BRD Bank. Before joining the Bank, he was interested in this technology and learned about it by himself. He then joined in July 2016 and he quickly identified chatbots as a business opportunity.

The business opportunity was twofold: to attract new segment (the "millennials") by using new channels and especially chatbots on social networks and to reduce the cost of serving customer.

> "*So initially, the opportunity was to find a new channel which will attract customers, you know, millennials customers. Actually, this was, I think, what can we do to differentiate and from the competition and to attract this kind of clients with good commercial potential […] So, of course, the chatbot was seen as a very interesting environment to do banking and, yeah, this is, this was the opportunity*" (head of Lab).

The Head of Lab performed several prototypes on chatbot before and while contacting The Fintech. Internal prototypes raised the stock of knowledge (r1) of the Bank and helped to acknowledge need for complementary external knowledge.

> "B*efore that [benchmarking activities], I had the prototype built by us using the internet platform, called "flow XO". So we used the platform which was very cheap and flexible enough. You have to pay a subscription fee very small like $40 or something like this. You can do it yourself because it's in cloud and you can configurate yourself and, and train it yourself"* (head of Lab).

<u>Identify and select a Fintech to complement knowledge.</u>

The Head of Lab Bank decided to look after an external partner to **bring both some knowledge and some workforce**.

> "*It's difficult to do this a conversational assistant for banking in Romanian or in another language than English. All the rest is difficult and it's not something you can do with one or two people or internally or with students. It will take months and you don't know if you get it. So, if*

you succeed it, you might as well make a company on building exotic chatbots. So, it's not the core business you know, it's not taking anything easy to internally." (head of Lab).

The missing knowledge was around **natural language processing** (NLP) for Romanian language and **how to implement chatbots in social networks**.

"*NLP is the skill and it's building natural language processing models for exotic languages. This is the key, the key missing. […] Another missing point was the security attached to this kind of channel, so you need to have somebody who really knows how to build a secure link with Facebook and with Bank's servers and all this kind of stuff*" (head of project).

The head of Lab knew the Fintech before joining the Bank. While learning himself on chatbot, he attended a web seminar organized by Personetics which enabled him to **confront his knowledge with the one of the Fintech** (Recognition of value).

"*So, I was interested in these topics in the spring before even I was hired here. I was at home at that time and I was listening to stuff on internet and one of the things was a webinar promoted by them with Forrester, so it was a combined webinar about chat bots in banking and so on. So, I said, wow, this looks nice. […] I was looking specifically at chatbot. I knew that I wanted to do this and they seemed to be the right partner.*" (head of project).

Then, he naturally mailed the Fintech and official conversations started very quickly with official formal talks organized in July 2016. The head of Lab asked Personetics for a presentation of their solution in August 2016 (Recognition of value).

"*They presented me initially the capabilities, what the chatbot would do. Then, we discussed about how it would look like, what are the feasible objectives let's say, the realistic objectives on that, what is the best approach: that it is best to start with employees and not with clients*" (head of Lab).

The criteria to select (recognition of value) the Fintech was knowledge **complementarity, robustness and brand** of the Fintech.

> "*The important was to have the right technology and to have enough stability. I was looking for somebody with good investment source, I mean, with good chances to succeed because, otherwise, it is impossible to deliver with somebody who might disappear in one year.*
>
> *[…] the brand was definitely an asset.This made it easier for me to sell it internally"* (head of Lab).

Sell the Fintech and the project internally

Before exchanging with the Fintech, the head of Lab **leveraged its own prototyping activities to hook its Management** and start raising interest.

> *"So, this is what we've done [prototyping] before everything because this is how we convinced the management that it's possible. We showed them this handmade prototype […]We presented this prototype internally into the innovation committee when we asked for the decision on the Personetics thing*" (head of Lab).

This socialization tactics was important to trigger the need to address the topic (r13) and to start assimilating a knowledge close to the one to be provided by Personetics.

> *"[to built a prototype to sell it internally] was critical. If we wouldn't have shown anything, it would have been difficult just to serve an idea, you know, like an article on the internet, I don't know. So, it was critical to show them something happening for real on my phone, on my Facebook, even if it was not perfect or not really understanding Romanian*" (head of Lab).

In the beginning, for the head of Lab, it was **more important to sell the idea than a Fintech**.

> *"It was important to sell the idea. The provider, they didn't care if it is internal or startup*" (head of Lab).

In August, **Personetics was presented at the transversal Innovation meeting** to ask people from other departments if they agreed on the project to go further. This meeting was regular mini sponsors meeting inviting people from various department: marketing, IT, HR, communication, risk…. Yet in reality very few regularly attended. The meeting gave formal approval nor dedicated means.

> *"It was something very pragmatic, it was not a committee, it is more an exchange of ideas every two or three weeks.[…] It is like the first information in the Bank about it, official information"* (head of Lab).

Afterwards, Personetics made a presentation to marketing and IT representatives in BRD (in September). Outcomes of the meeting: it seems feasible, "*we can do that and see*, *it is interesting*". At that point, there were a lot of questions concerning IT integration and IT security but no explicit buy-in nor disagreement:

> *"There was a lot of questions about the POC and the feasibility of the production, implementation"* (head of Lab).

Finally, the head of Lab presented a formal request on his willingness to do a Proof Of Concept (PoC). **The decision to move forward and launch the PoC took place in October in an Innovation Committee of the Bank** with Board as statutory members. At that time, only the CEO and the Innovation Sponsor of the Bank were present. The Innovation Sponsor is in charge of fostering innovation. He was the COO also in charge of investment funds' activity. The Lab was directly reporting to him.

> *"I asked for green light because this committee is not decision committee, it is just a consultancy committee"* (head of Lab).

Finally, **the governance in place did not lead to a formal and collective decision to support an innovation project for business**. It was not a formal decision, just a "green light" from the main stakeholders. It did not stop the project neither. In fact a board approval and formal decision was only required for a project over a certain amount. Under this amount – which was the case for the PoC, the decision could be taken only by one person: the manager of grant the budget. So, the CIO decided to finance the project with its consulting budget because it was not *"so big"*. The head of lab made a formal note for the approval of this spending to the CIO, that was signed by him and the Innovation Sponsor – the member of the board who was in charge of innovation. The note was approved and then the formal decision was made.

> *"Initially, we wanted to pay from the Innovation budget but we needed the approval of the CIO of the bank anyway because it involves an information system acquisition somehow, or it is something related to information system"* (head of Lab).

Set the ambition for the collaboration;

The head of Lab and the Fintech agreed on performing a Proof of Concept (PoC) to learn and validate if they could handle the Romanian language. For the Fintech, it was also an opportunity to develop knowledge they could further exploit with other clients. Therefore, there would be a bilateral exchange of knowledge, a **co-construction of the target solution**. The objectives were clear and shared.

> "*I was paying some money and trying to see to learn, for real, to see if the technology is capable of handling Romanian language and the right experience for the customer is fluid enough. I paid this money to learn this stuff and this was my thing and, for them, it was doing these to, of course, to have a chance to learn Romanian. So, to have a prior experience with chatbot in Romanian language which might help them with other clients"* (head of Lab).

By sharing with them about the product and the scoping of the pilot, the Bank further assimilated the knowledge of the Fintech and defined the limited scope for the PoC.

> "*It was very clearly described what we wanted to test in, with a lot of boundaries like 10 topics, one push notification, only about investment fund, cloud information, nothing real so it is pretty clear*" (head of Lab).

Finally, the objective stated in the final contract was mentioning not just to test the functioning of a chatbot but also **to test some impact on sales**: "The purpose of this project is to test the effectiveness of a conversational interface to support sales and servicing requests through Facebook messenger and to demonstrate to BRD business representatives that the Software is an effective and innovative means of enhancing the personalized services that BRD offers to its customers" (source: proposal and statement ow work document signed).

Contractualise

The contract was signed in November by the sponsor of Innovation Lab but the money was coming from IT department. The perimeter very clear relying on the business requirement the BRD team already worked on. **The agreement was to do this project on an agile way, with 3 sprints in 6 months.**

On top of some traditional software licensing, **the contract included a time and materials one to co-construct a solution with IP handed over to the Fintech.**

> "*It was a supplier with a little touch of cooperation*. *[…] It was a classical contract of a work order, actually, buying the time and materials software developers. […] even it if it was not written in the contract expressively, we helped them in defining the correspondence between Romanian and English. It [the correspondence between the English term and the Romanian terms] belongs to them actually, but we provided it. […] So, we didn't pay like the full price of the developers because they were also getting some learning out of this*" (head of Lab).

On the Bank side, there were some 6 months exclusivity on the Romanian market and a discount on developer's rate. **This time limited exclusivity pushed** to accelerates implementation (exploitation of knowledge). So was the license pricing logic.

There was also an incentive to walk through all the features meaning all the knowledge that was available from this Fintech and that the Bank were not fully tapping into.

> "*They would discount the full price to almost a half for the first year and they would say "look the first year because you're slowly adding product we will not give you the full price because we will not use the full product" so this is one incentive to, you know, to give us time to fully add all the functionalities […] because we did the proof of concept and, then teach them this and open the market for them somehow, they would give us for free a big chunk of functionalities, you know, the "engage [smart alerting system]" thing, the push notifications. This would be for free for us if we get the chatbot working*" (head of Lab).

- <u>Co-construct a Proof of Concept</u> –

<u>Set the team and governance.</u>

On the Banks' side, **the team was small and exclusively composed of Lab members**.

> "W*e had the governance setup with them so we knew the escalation path, we had like steerco in the beginning and at some point. It was somehow very simple because it was two persons on our side, then two on their side, so it was clear and it didn't change*" (head of Lab).

The collaboration was mainly based on **remote exchanges** though facilitated by a project management tool.

The team had weak direct relations with the businesses which were elusive regarding their commitment to the project.

> "*The business line, it's always part of the innovation committee and at some point, we have informed them separately about the results, so they know about the results and I asked them if they want to transfer it into the real project because they will be the beneficiary and the owner, and they said that they want but they didn't start the formal approval yet. They said that they want to make, you know, an opportunity, now to get approved in the project committee but it's stopped somewhere because probably of holidays, I do not know.*" (head of Lab).

<u>Fail in on-boarding the business stakeholders in first Assimilation and Transformation activities.</u>

In fact, at the beginning, **businesspeople were doubtful about this idea and did not participate much in the first Assimilation and Transformation phases**.

> "*At the beginning, they [business people] were reluctant, they were like, you know, laughing like "ah it will not be going to happen, is too out there, it is too…. Nobody will approve it is too, it's on Facebook […]*
>
> *The only counterpart I have is a girl who is like the digital channels manager but she has only 2% in our team and she also handles the credit cards and debit cards and all these kinds of huge business, so she is extremely busy and they would never contribute to activities in the first phase. […] Only at the end when we reach to them [business people] as part of testing, so they were invited to test that chatbot and they had the chance to play with it. They became more, more prone to the idea. So, we won them at the end, not at the beginning"* (head of Lab).

Hence, business representatives did not validate the scope of the PoC nor had the opportunity to assimilate the richness of Personetics knowledge.

The head of Lab focused on few decision makers (mainly the CEO, the Innovation Sponsor, the CIO and even the Head of the BU visiting BRD) and on an emerging governance (the innovation committee) rather than investing sometimes in convincing internal experts.

"*It was very, very targeted. I didn't waste much."* (head of Lab).

Run 3 sprints to build the PoC

The were some Transformation activities happening during the design of the PoC (r6).

For instance, the Fintech nurtured what would be a new channel based on social media hence extending the possibilities offered by the chatbot technology if combined with their own knowledge on mobile : "*They shape the bigger context, like you have to build something that you can deploy on any channel, so you build an assistant but you can deploy it on Facebook, you can deploy it on your mobile banking, up to you. You can have a widget in the app and it transforms into conversation, you know, environment. You can deploy it on the Internet side of the bank, so you can deploy it on Amazon Alexa, for example. So, they helped us evolve the concept definitely.*

The Fintech advised also on test environment and testing strategy: "*They did things about the channel, about the environment options so, they made me aware about what is possible and what not on Facebook, what can be possible on bank application or on Bank internet site. So, this I haven't in mind initially too clearly*" (head f Lab).

Finally, the Fintech helped in **assessing IT integration feasibility**. "*Yes they were pretty helpful in explaining how this [integration and scaling of the solution] can be done in a secure manner, how from technology point of view, what kind of API to use and so on. So, it was very, very helpful, this is what I said to you at the beginning, that if I would have worked with some local startups from students, they wouldn't know this"* (head of Lab).

Conversely, **the Fintech was not good enough at providing the two key missing knowledge the Bank was looking for**.

Regarding the natural language processing (NLP) for Romanian language: "*And on the NLP side, unfortunately, I know more than them because I knew how this should be built. I was disappointed because they weren't very sophisticated in terms of technology and also the reality is not very good, I mean, the bot was not very smart".*

Regarding how to implement chatbots in social networks: "*If I am referring only to this social media expertise, let's say, they weren't helping too much. […] They are more learning to, actually, to the banking environment, not to the social media. [*If they did not bring any value

regarding the understanding of how customers adopt product on social media*]. No, I wouldn't say that, no"* (head of Lab).

However, the head of Lab acknowledged the Fintech was very good at another knowledge who happened to have become the new core knowledge of the Fintech.

"*For the engage [the AI based smart alerting system], definitely, they have a big know how about what works and what not and you cannot replicate this easily because it took them some years and some millions of clients, but for the basic assist, I didn't find any advice about how to package it or how to sell it by a social media or no. They were very technical and dry on this"* (head of Lab).

The team tried to build the PoC as an agile project based on 3 sprints (ie partial exploitation activity – r8).

<u>The Fintech to disappoint on delivery.</u>

According to the Bank, the Fintech failed in delivery.

"*What I didn't like was delivery, so, the project team from their side, so, not the governance, not the senior people but the very additive ones. These guys were not up to the challenge, I don't know why but they were not moving. They were not delivering in time. They were having a lot of, you know, regressions like new versions making worst, you know, solving something and, making something don't work"* (head of Lab).

The first sprint delivered a very basic chatbot that did not understand Romanian. The Fintech had trouble dealing with Romanian language and the building took more time than expected (7 vs 4 months). It was the most difficult part. There were some changes in their team, they added people to the team to help, notably Romanian people.

"*They requested us more and more examples, we translated a lot of Romanian to English. […] Then, the problems appeared because, first, they were very slow"* (head of Lab).

The second sprint looked much more promising though not providing any metrics.

The third sprint in mid-June 2017, finally gave bad results and functional regression. The head of Lab raised some problems of communication, but the objective was to finally finish to launch the testing campaign before summer.

> *"At some point that in May and June before the tests, we could say that all the features were tackled but the quality was worse than in April. […] It would not have been much better even if we had let them do 6 more months"* (head of Lab).

- <u>Perform a non-convincing test with employees</u> –

<u>A successful PoC to fail demonstrating.</u>

The team maintained the pilot. **Testing a PoC with the help of employees is diffusing (assimilation-r5) knowledge within the Bank.**

The launch and promotion of the test towards employees was supported by a nice campaign with the aid of internal communication department to motivate employees to test the chatbot for one month. Test lasted for one month because after one month, employees forget about it and did not test the solution.

Though successfully organized with 500 employees participating in the test, the PoC demonstrated insufficient tangible results to significantly reassure on implementation feasibility nor to appeal additional business sponsors. 10% of the target group tested the solution with no figure regarding potential monetization insights.

The PoC results were presented in September 2017 to the Innovation Committee showing score and participation rates. **The head of Lab was not pushing for Personetics to continue the work as he did not recommend moving forward and going to production with them.** No one from the business side proposed to continue and argued that other projects had higher priority regarding the lack of resources to make all the projects. They decided to stop the project.

> *"I did not say that I would not go into production but they also did not say they want to go so nobody wanted to continue […] So, nobody said anything and it blocked. […] we had to stop because there was no interest on the marketing side because marketing did not really want the product, I mean, for real. It was ok for the POC but when it comes to production, they did not want it. […] At that time, in September, it is usually time when we have the arbitrage committee*

for the projects of the bank because there are very limited resources and marketing of course chose some other priority projects" (head of Lab).

<u>The collaboration to be unable to pivot.</u>

Though being disappointed by the contribution of the Fintech, **the head of Lab acknowledged that some initial choices were questionable.**

Firstly, the business objectives and the associated functional scope were not that relevant. Indeed, they chose an extremely specific product (investment funds) and limited associated segment of customers. It means that, by doing so, **the Bank may had poorly recognized the true value of the Fintech (r1) and committed on incompatible objectives (r3) hence hampering collaboration outcomes (r3).**

The fact that Investment funds product were supervised by the Innovation Sponsor who happened to be the direct manager of the head of Lab may have played a role. **Power relationships may have influenced the absorption process** (r14) – which we will deep dive into in the following section.

Secondly, it was odd to ask the Fintech to build something new and far from its core knowledge.

Bank's view: *"I would have expected the close to state-of-the-art implementation compared to their communication thing and compared to what I know, it's possible, but the IT was far behind. And for them, probably the main surprise was that we asked them to build a product, you know, this investment fund, they didn't have experience in this, they didn't know what this means, initially, and for them, it proved to be too complicated. Because at the last meeting, when I told them what I didn't like and so on, they said "we shouldn't have started with this complicated topic investment funds, we should have stick to the normal retail products like paying this, doing transfer and so on."* (head of Lab).

Fintech's view: "*So, again, our positioning as well has changed over the last 18 months. So, at the beginning, the chatbot market was very new and a lot of people were very interested in chatbot. So, we were positioned not only on the engage tool but also on, let's say, standalone chatbot. But what we very very quickly understood was that chatbot were actually not very successful in banks. And what we understood as well, and this is what we started to launch in the market, was this capacity, even inside a specific channel being chatbot or mobile of*

whatever, was to be able to create an engagement tool. All of the real Personetics' value is in the predictive analytics. That is where we are the world leader." (Personetics head of Sales).

In fact, the Fintech had pivoted their focus on the pure smart alerting features rather than chatbots channel. This can explain why surprisingly they were not good at building the chatbot (Exploitation) nor willing to invest too much in building a product they fundamentally did not believed in anymore.

"It proved that we did our job and they didn't, they were not agile enough and this was a big big surprise. I would expect the Fintech to be, you know, eating it. (head of Lab).

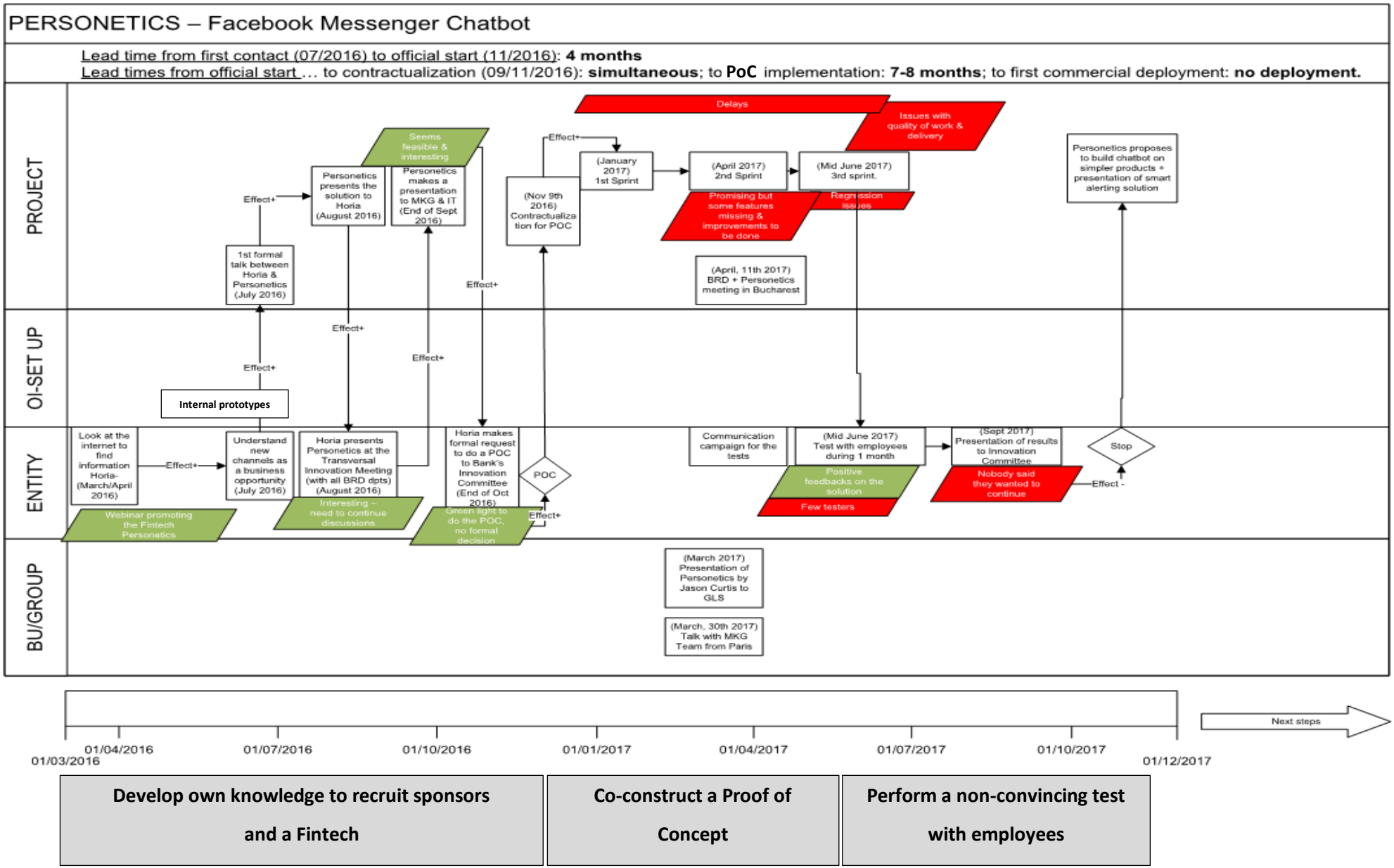
- <u>Project outcomes</u> -

Finally, what the Bank learned was quite limited (IT architecture hints regarding how to interface with Facebook for instance) and not improving its competitive advantage.

The Bank did not decide to turn the PoC into a project and **discussions with the Fintech stopped in October 2017 and never recovered** though the Fintech was pushing for another collaboration of their core smart alerting solution.

A few months later, the marketing division started to address the "Smart Alerting" opportunity with another Fintech. Though this knowledge had become the core knowledge of Personetics.

- <u>Personetics process flow chart</u> –



Thanks to the process flow chart we get a complementary longitudinal and multilevel view of the case and we observe that:

- The pace of the collaboration was driven by the poor delivery of the Fintech and the will to start the testing campaign before summer rather than by management validation or business related.
- Main validation milestones were on allowing the Lab to perform a PoC and on contractualisation.
- Knowledge sharing and scoping of work had already started before contractualisation not the building (exploiting) of the PoC.
- At entity level, the contribution was on validating main milestones and involving employee in the test.
- This involvement being a large knowledge Assimilation activity that occurred after the partial (a PoC versus a live pilot) Exploitation of the absorbed knowledge.
- The BU had no particular impact on the collaboration.
- Finally, the OI setup of BRD being the Lab, it was the main locus of the collaboration.

Synthesis of main findings

The project manager came with his expertise and connections with his network of fintechs.

Before joining the Bank, the future head of Lab was interested in chatbot and AI technology. He developed not just its knowledge on these subjects but also some knowledge and connections on Fintechs.

- ⇨ From a managerial angle, it indicates organizations should promote sharing of their employees' connections and knowledge regarding expertise and fintechs they have identified and even assessed. **Tapping into this knowledge increases the prior stock of knowledge and increases the socialization capabilities of the Bank** (r13)

Previous internal prototyping increased prior knowledge (r1), triggered ACAP (r15) and improved recognition of value.

Before engaging with the Fintech, the lab had performed prototypes to become more literate in the subject they spotted. **It developed the prior knowledge (r1) and raised attention of the direct supervisor to trigger the ACAP process (r15).** This is a also a way to start recognizing the value and assimilating the missing knowledge.

This prior knowledge - created thanks to internal prototypes, enabled the project manager to challenge the technology and the capabilities of the Fintech. Yet, we saw it remained **insufficient to fully validate the know-how of the Fintech.** Building was the only way to assess for real a Fintech yet happened to be too late.

- ⇨ **Cheap prototyping should be fostered** and largely shared with potential stakeholder to gather feedbacks (additional knowledge) and potential business sponsor.
- ⇨ **Assessment of the fintech should be strengthened** for example by involving additional experts and performing additional deep dive assessment (e.g.: prototyping workshops or simple sprints).

Weak involvement and buy-in of the business stakeholders (r11) hampered absorption and Internal power relationships altered recognition of value (r14')

The collaboration between Personetics and BRD did not manage to get business traction for two main reasons: ineffective innovation governance and complex power relationships.

We saw in the case that there was too little attention paid to get support from the business functions. **The head of lab rather focused it socialization tactics and attention on a few top managers within a blurry governance**. Indeed, the recent governance (the "innovation committee") was just a consultancy governance supposed to gather representatives from all the major divisions of the Bank. Yet, real project approval and resources allocations were decided in another committee were all the projects of the Bank were competing: the exploratory ones like the Personetics against other big traditional project supported by the business. A presentation was made to the heads of the Business Unit with no effect proving that what really matters is to ground an innovation in a local market with local business support.

Secondly, the head of Lab has suffered from some power games the innovation governance was unable to manage.

The marketing division team never welcomed an initiative they had not initiated. In addition, the project poorly involved business representatives in design and building activities, missing the opportunity to be part of assimilation, transformation (including the challenge of the scope) and exploitation activities. Interesting to note that a few months later, the marketing division started to address the Smart alerting opportunity with another Fintech. This demonstrates that if they had been truly involved in the project, they would have better recognized the value and pushed to commit for another business goal for the collaboration (Acquisition). Personetics could have made available its smart alerting knowledge to the Bank. Yet, **the sourcing of a Fintech is a political action.**

On his part, the Innovation Sponsor (the COO also in charge of investment fund activities) was pushing to perform innovative projects to legitimate his role (i.e. fostering innovation within the bank). Delivering concrete innovative initiatives rapidly somehow was more important than getting a consensus within other business division on a true Business Opportunity. Hence, the head of lab (who was reporting to him) had little space left to move forward.

Finally, on his part, the CIO financed the PoC using an existing envelop for consultancy budget. Paying is power and it was a smart and cheap tactical move to show support to innovation in the Bank. The downside of it is that thanks to this budget the project was challenged further and was not stop earlier.

The business objectives and the associated functional scope were not that relevant, and the Bank may have poorly recognized the true value of the Fintech and committed on incompatible objectives (r3) hence hampering collaboration outcomes (r3).

Paradoxically, the objectives for the collaboration could have been much more ambitious to bear better value. Just applying the technology to another segment (the much bigger retail segment) could have optimized significantly the cost to serve. Yet the head of Lab and its supervisors finally preferred to push for a scope they supervised and that were the least conflictual ones.

- ⇨ A bank needs to ensure its innovation governance and project organization (coordination capabilities - r11) **formally ensure the support, involvement, and commitment of business functions.**
- ⇨ **A lab should report either to business function or preferably directly to the CEO** to better manage power games and ensure it serves proven business opportunities.
- ⇨ A lab can have the temptation to focus on "standalone" PoC. A PoC that is not sufficiently harnessed to the explicit needs of the business functions. This can be lived as "**confort zone**" for the Lab especially when the Lab is too recent or not enough legitimate yet or when it reports to a support function (like to a COO/CIO) – and not to a business function or directly to the CEO. Labs are said to be useful for exploratory purpose. Yet, in any case, not being closely linked to business functions is risky. Such projects may lack the expertise, the support and the financing of the Business. **This may prevent any exploitation of knowledge or lead to invaluable experiments** (like in the case). To keep its total freedom from legacy business organization and keel on proposing new disruptive topics, **a lab requires a minimum of dedicated means and access to business expertise.**

The knowledge of a Fintech was dynamic which led to misalignment of interest (r1).

Fintech's knowledge evolves thanks knowledge exchanges with the Banks and with all the players they are in contact with in the market. When a significant change occurs, both parties shall question the goals of the collaboration. Otherwise, the Bank and the project do not benefit from this new knowledge that may be more appropriate, more valuable. Like witnessed in the case, Personetics should have clearly stated earlier that the value was more on AI based communication towards retail customers (so called "Smart alerting") to improve their engagement than on investing in a chatbot on social media for a niche product. Nevertheless, the info was shared during their joint work, but somehow, both parties got "lost in Transformation". In addition, there were a misalignment of interest and the objectives the parties committed on in the contract (Acquisition) was not in line with Personetics development strategy.

- ⇨ **Banks shall welcome the update on the market knowledge of the fintechs** and be attentive to the pivot they make to question the collaboration. The sooner, the better. Otherwise, there could be some misalignment of expectations if the Bank is looking for a knowledge that is no longer the current core knowledge of the fintech.
- ⇨ **Yet fintechs shall help banks to pivot**. Pivoting is easier for a Fintech than for a Bank. The Fintech shall be more pro-active in explaining to the Banks their conviction regarding the direction for higher business value. If a fintech is pivoting on a different knowledge because its conviction has evolved. It shall be explained transparently, loudly and early. They should not be afraid of being conflictual to voice their market conviction because this is part of what the Banks acquire inexplicitly beyond the technology. If they wait too long, they may be accomplice of a failure that would jeopardize any future collaboration project.

Co-construction mode did not necessarily guarantee best Transformation of knowledge.

A priori, when it comes to co-construction, we expect superior absorption of knowledge. Yet, in the case, we observed that there are some pre-requisites for rich Transformation activities.

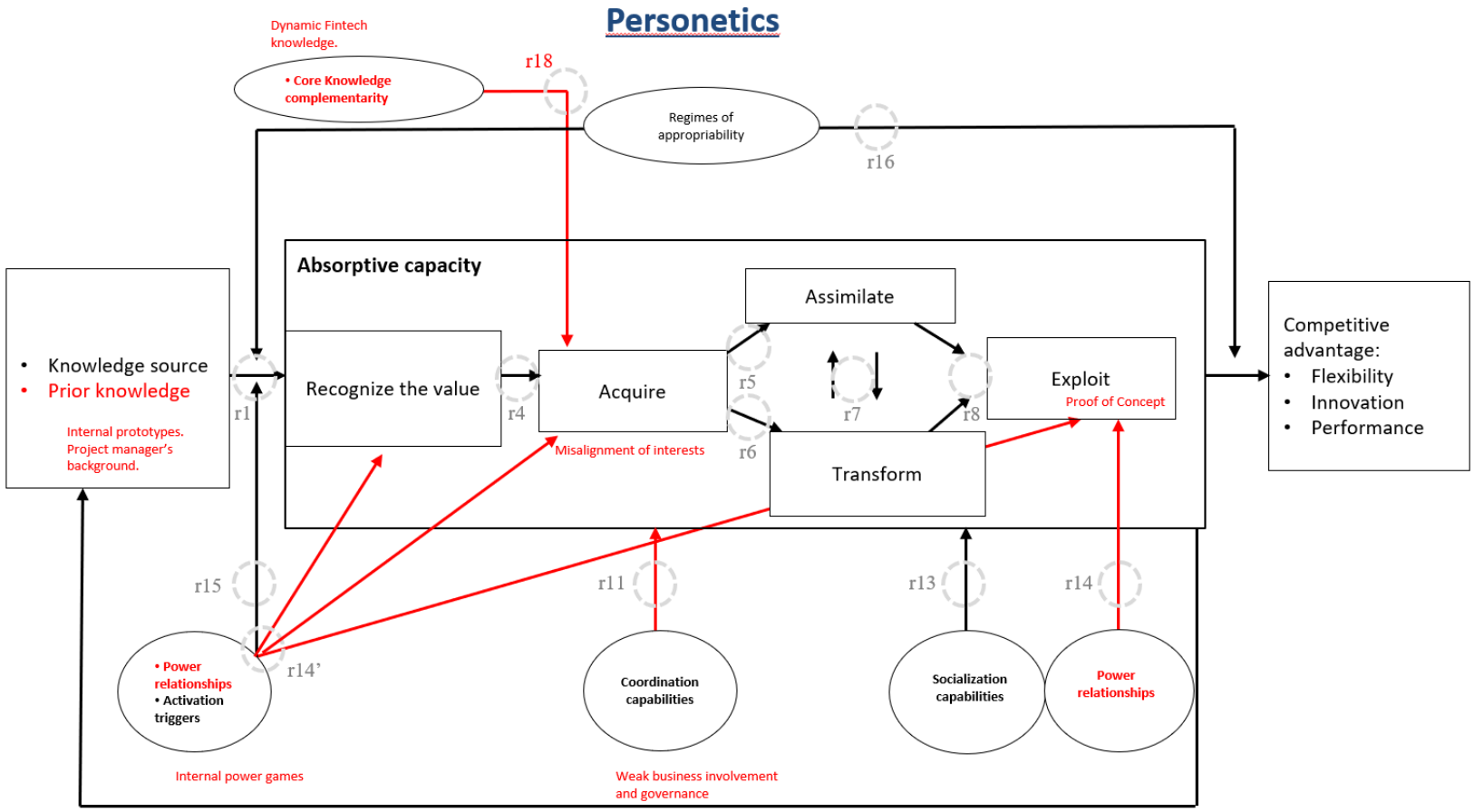
Firstly, it is necessary to have the **necessary and relevant resources on both sides to share**, combine and convert knowledge. Yet, in the case, the Fintech was not good at managing its delivery resources.

Secondly, **the Fintech should be motivated to invest time and effort**. Yet, the Fintech was not willing to overinvest in a customized solution (here a Romanian bot) they did not want to capitalize on. For commercial reasons, the Fintech accepted a co-construction project on a technology they were abandoning to step in with the ultimate goal to sell another much promising one.

Thirdly, **face to face working sessions** are better than remote relationships.

- ⇨ From a managerial point of view, it implies to test the fintech appetite for capitalizing on the joint solution and find ways to meet transformation pre-requisites. For example, contracts shall be more pushing for commitment on results than on means.

- Synthesis of main ACAP components observed in the Personetics case –



Adapted from Todorova, Gergana, et Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». *Academy of Management Review* 32, n° 3 (juillet 2007): 774-86.
In black are the ACAP components and relationships we observed
In red are the specific ones we observed and detailed in the case analysis.
We retrieved the items that were not observed during the empirical study

Synthesis of specific practices observed to perform ACAP process.

Table 25. Personetics – Specific ACAP practices observed.

ACAP dimension	Practices observed
Recognize the value	Attend webinar organized by Fintech
Assimilate	Diffuse knowledge by performing a test with a large number of employees.
	Scope the Proof of Concept
	Perform a large test with employees
Transform	Shape the bigger context of application for a given technology together with the Fintech
Exploit	Perform a Proof of Concept
Socialization tactics	Showcase prototypes to Management
	Showcase PoC to Management
	Involve employees in a test
Prior knowledge	Build prototypes internally with cheap and flexible tool

Synthesis of specific relationships observed.

The above sections addressed how the ACAP practices we observed articulate. This section identifies and describes how the contingency factors we observed influence the ACAP components.

Table 26. Personetics – Overview of the specific relationships between ACAP components.

ACAP dimensions and contingency factors	Description of the type of relationship	ACAP model components
Internal power relationship	r14' Direct hierarchical link influences the objectives and scope of the collaboration.	**Recognize the value and Exploitation (testing)**
	r14' Internal power relationships can alter recognition of value by not detecting and selecting the appropriate business opportunity	**Recognize the value and Acquisition**
Coordination capabilities	r11 Weak involvement and buy-in of the business stakeholders hamper absorption.	**ACAP**
Knowledge Source	r1 The knowledge of a fintech is dynamic which can lead to misalignment of interests (Acquisition) if the Bank is looking for a missing knowledge that is different from the current core knowledge of the Fintech (Recognize the value)	**ACAP process**
Internal trigger	r15 Showcase internal prototypes on a new technology triggers ACAP process	**ACAP process**

Contributions of the case to the Research Question

Table 27. Main contributions of Personetics case to RQ

	Research question	Main findings from the case
RQ	**How do Banks collaborate with Fintechs to innovate?**	- Individuals come with their own knowledge to tap into. - Fintech's knowledge is dynamic. It evolves thanks to knowledge exchanges with the Banks and the overall market. When significant change occurs both parties shall question the goals of the collaboration to avoid misalignment of interest. - Internal prototyping increases prior knowledge (r1), triggers ACAP (r15) and improves recognition of value. - Weak involvement and buy-in of the business stakeholders (r11) hamper absorption and Internal power relationships can alter Recognition of value and Acquisition (r14'). - Co-construction do not guarantee knowledge transformation and requires relevant resources, motivation of the Fintech and face to face interactions.
RQ1	**Relevancy of the ACAP process to manage collaboration and innovate**	- The collaboration did follow the ACAP process. - Knowledge view was at the heart of understanding why the Fintech poorly collaborate and why power relationships are detrimental to the success of a collaboration.
RQ2	**What role do the dedicated OI set-ups play in this knowledge absorption process?**	- Lab and legacy business functions are competing, and a Lab can remain in the "comfort zone" of doing technical PoC not explicitly grounded in business needs which jeopardize exploitation.

	Research question	Main findings from the case
RQ3	**What are the difficulties and enablers?**	+ Internal prototypes - Internal power games - Weak involvement and buy-in of the business stakeholders - a PoC unable to reassure on implementation feasibility nor to appeal additional business sponsors
RQ4	**What type of learnings and outcomes?**	- No improvement of the Bank's competitive advantage.

Reflexivity on Research journey

This case was challenging. Firstly, it was the first interview I performed. It enabled me to refine and refocus the questionnaire that was too long yet providing me a lot of data.

Secondly, I witnessed some sort of denial both from the head of Lab and from the Fintech regarding the outcomes and mistakes made during this collaboration. I had the opportunity to have two interviews with the same project manager with one year between each. This enabled the project manager to develop its own reflexivity.

Thirdly, the power relationships I shed light on was sensitive to share with the interviewees who were involved in it and faced it.

6.1.5. Overview of key specific takeaways per case

Table 28. Summary of collaboration story per case

#	Project / Fintech name	How a bank…	Collaboration status at end of data collection
1	AUKA	- leverages the Fintech as an alternative delivery engine to demonstrate the need to change the way the Bank operates. - increases its prior knowledge through an in-house pilot to better reach a “make or buy” decision. - transforms and challenges the acquired knowledge to decide to stop the collaboration.	Pilot launched by employees, yet project abandoned
2	FAKTUROID	- embraces Open Banking strategy where being good at collaborating with Fintechs is a competitive advantage - sources Fintech with proven technology to create new knowledge on it rather than capturing the Fintech core knowledge - realizes the importance of open IT infrastructure to be efficient at collaborating - gets organized to learn from customers’ feedbacks to run continuous absorption loops	Deployed

#	Project / Fintech name	How a bank…	Collaboration status at end of data collection
3	COLLECT AI	- co-constructs a solution with a startup and broadcasts it within the Group - faces implementation hurdles that limits the innovation impact at first but solidifies the collaboration - learns by doing together with the startup - benefits from the ecosystems of the startups	1st Pilot deployed
4	PERSONETICS	- misuses a Fintech by not absorbing its core knowledge and in return is disappointed by its delivery - builds a Proof of Concept that is not grounded in an appealing business opportunity nor demonstrates business traction - suffers from political games	Prototyped and abandoned

6.1. CROSS CASES ANALYSIS

In this section, we will compare the different cases along the ACAP process and components. To strengthen our process analysis, we will also compare the different flow charts.

As a foreword to the discussion part, we firstly note that **our research validated the relevancy of the Research problem** because all the cases either experienced failure or difficulties in absorbing the knowledge of the Fintech.

Cross case analysis along the ACAP model

Prior and target Knowledge.

There are different ways to develop **prior knowledge**. Running internal prototypes and engaging motivated individuals are good ways to get familiar with the targeted knowledge, meaning the one the bank will need to seize as a business opportunity.

The use of internal prototyping as a source of prior knowledge depends on the existence of a Lab to perform (thanks to its resources and expertise) or support prototyping activities. This was the case for big organizations like KB or BRD.

The prior knowledge is often embodied by an individual that was interested and even passionate about the topic.

A stock of knowledge can be composed of technologies but also of fintechs the bank is aware of and that could be mobilized if needs be. Thus, this accelerates the recognition of value phase and increases the socialization capabilities of the bank. The cases that did not mention the value of knowing the fintech's landscape correspond to the ones that are less experienced in fintech collaboration.

Regarding the **targeted knowledge** (that we define as the knowledge source that makes sense regarding the Business Opportunity) we note that all banks were interested in **content and process types of knowledge**. A fintech is not just providing a technology but brings also know how on how to integrate or commercialize it.

Table 29. Comparison focused on knowledge.

	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
Source of prior knowledge	Internal prototypes. Individual.	Individual.	Operations	Internal prototypes. Individual.
Targeted / missing knowledge - **Content type**	X	X	X	X
- **Process type**	X	X	X	X
Knowledge gap (between prior knowledge of the bank and the targeted knowledge out of the fintech)	medium	high	high	medium
Bi-directional Knowledge exchange	x	X	X	x

Obviously, appetite for collaboration grows just as the gap between prior knowledge of the bank and the knowledge of the fintech grows. However this cannot be the only driver for success which is the existence and consensus on a business opportunity (see after). What is less obvious is that **the bigger such gaps - between prior knowledge of the bank and the knowledge of the fintech, the more bi-directional knowledge exchange and consequently the richer the collaboration.**

Recognize the value.

This phase is critical because it entails the first connection and impression with the Fintech and because this is where the Bank identified the business opportunity that should drive the collaboration.

Identify the Business Opportunity

The business opportunity is at the heart of collaboration. It is the potential value the bank and the fintech can create if they manage to collaborate, if the bank can absorb the knowledge. Identifying it is the main output of the Recognition of value phase.

Thus, we saw in all the cases that **when the collaboration starts, the underlying business opportunity is clear and there is an alignment of interest**. Apart from the case of Personetics, whose hidden agenda was to step in the BRD commercial account to sell other products, the business opportunity was shared.

Some doubts were expressed in the Auka and Personetics cases regarding their respective market potential. There were doubts regarding Auka solution would be adopted and position against some substitutes (instant payment). On Auka side, the targeted market was small. This clarifies why it was so important to reassure decision makers with PoCs that finally turned out to be disappointing.

There is alignment of interest to collaborate if the fintech helps to close the gap between, on one side, the knowledge that is necessary to seize the business opportunity and, on the other side, the prior knowledge and core business model of the bank. In the Auka case, the Bank had not sufficient knowledge to execute the project by itself yet had enough knowledge to jump on any opportunity to reinternalize the project. With Personetics, the misalignment came from the Fintechs' refocus on another core knowledge which show us that the **fintech' core knowledge can evolve overtime**.

Finally, **clarifying expectations becomes a key activity of the Acquisition phase** where both parties commit to collaborate and avoid misalignment of interests. Ultimately, the value associated to the KM to be absorbed is translated into figures within the business case. Disagreement on business case, like in the Auka case, reflects disagreement in value recognition. The Personetics case reflected the inability of the Bank and the Fintech to acknowledge a misalignment of interest and to pivot on another business opportunity.

Table 30. Business Opportunity comparison

Driving forces	Features of the Business Opportunity	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
Motivation to move	**Clear and shared**	yes	yes	yes	yes
	Relative market potential	low	big	big	low
Risk to move	**Disruptiveness for the market**	high	medium	high	medium
	Distance with prior knowledge and the core business model of the: - Bank	no	yes	yes	yes
	- Fintech	yes	yes	yes	no
Acceptance to move	**Alignment of interest**	**no**	**yes**	**yes**	**no**

- ⇨ From a managerial perspective, the more established the business opportunity, the more knowledge absorption and likelihood to exploit the acquired knowledge.
- ⇨ Furthermore, this analysis stresses the importance to assess carefully the knowledge gap and the capability of the fintech to close it and the importance to clarify respective interests.

Assess the fintech

Looking at the **selection criteria observed, complementarity or market proven excellence of knowledge are the key drivers for decision to Acquire the knowledge**. KB interestingly did not mention it for Auka (because they felt literate in the technology they prototyped internally).

Other criteria are more distributed reflecting the different intents of the banks. KB used traditional supplier's criteria for Auka while for Fakturoid, it focused on key items securing an Open banking, strategy (service excellence, brand and pricing). BRD was looking at robusteness and brand because they wanted to be reassured they will actually build and maintain overtime the solution and because they need reassurance items to more easily "sell" the Fintech internally.

Collect AI was the only bank asking for knowledge transfer capability. Only this Bank was explicitly mentioning the capacity to pass on knowledge as a selection criterion for the Fintech which reflects the current **poor awareness regarding the knowledge transfers' challenges at stake**. **In fact, knowledge absorption is perceived as less important than project delivery which both secures and limits outcomes.**

Finally, almost all banks are interested in the brand. This reassures banks regarding the robustness of the fintech, but which is also a way to better sell or influence the Recognize the value activity.

Table 31. Criteria observed to select the Fintech

Criteria observed for Fintech selection	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
Complementary knowledge		**X**	**X**	**X**
Market proven excellence of the Knowledge		**X**		
Track records and credentials	**X**			
Robustness				**X**
Ability to manage volume	**X**			
Ability to expand in new countries (to scale)	**X**			
Brand / Image		**X**	**X**	**X**
Functional coverage	**X**			
Pricing		**X**		
Soft skills of the fintech's team / Ability to pass on knowledge			**X**	

In terms of practices, recognition of value is performed via benchmarking attendance to event, sharing meetings, business case building and even appropriability regime negotiation (slightly overlapping with Acquisition phase).

Acquire knowledge.

Acquisition of knowledge is the phase where the bank and the fintech agree to collaborate and to get organized to make something out of their common knowledge.

Align on goals.

The main activities observed in all the cases were to **align on objectives for the collaboration concerning the scope, the planning, the ambition, the product roadmap and implementation strategy**.

Therefore, **this phase somehow overlaps with the Assimilation phase** because to work on a planning or a product roadmap the bank must get familiar with the knowledge proposed by the fintech, and the fintech must get familiar with some structuring constraints of the bank. Some analysis shall be even made as pre-requisites before deciding to commit in the collaboration. It concerns notably IT integration and compliance with IT security (like in the Auka case).

Commit on a Business Case

There have been different levels of ambition: from conducting a PoC (Personetics) to committing on a Business Plan (Auka) or exploiting as much and as quickly as possible (Collect AI, Fakturoid). We observed **that the ambition regarding Exploitation depended on the value granted to the knowledge, on the organizational culture and on political games.** Indeed, ambition setting reflects the culture of the bank regarding its appetite to risk (cf. the stage gate approach adopted by KB for Auka). It is also influenced by political games like for Personetics where the scope has been defined to avoid conflicts (no integration, only employees).

We argue that Acquisition is a key moment where you can challenge the real collaboration intent and objectivize the value effectively recognized to the knowledge. **Indeed, setting sales goals** and sales-based incentives (like in Fakturoid and Auka) **reveals potential misalignment of expectations** regarding the collaboration. For instance, Auka judged the sales forecasts proposed by KB were too shy. On the contrary Fakturoid totally supported the proposed profit-sharing mechanism.

Of course, goals setting is not easy until you have a good understanding of the knowledge and the associated solution you are going to build and launch. The bank gets this understanding through Assimilation, Transformation and Exploitation phases. **Therefore, goal setting must not be frozen and should be dynamic like suggested by the ACAP loop (r2).** By the way this is what we observed and explains why in most of the case, the final contact has been signed late in the process.

Finally, we observed **the decision to commit in the collaboration is also influenced by the leadership of the CEO of the startup (Auka) and the capacity of the Fintech to pass on knowledge (collect AI).** This demonstrates that the fintech, beyond participating to the sharing of information, has a **key role to play in the acquisition decision and can directly influence the Bank.**

- ⇨ The managerial consequence is that **goals setting must be as ambitious as possible** in terms of exploitation and that goals setting must be translated into a business plan. The goal setting exercise **must be formalized and as much as possible in a business plan and be reviewed transparently along the different knowledge transfer loops within a governance that ensures commitment** for each versioning.
- ⇨ Goals' setting must also **involve the business and regalian functions** to stress test their commitment and more important to highlight as soon as possible the potential showstoppers of the collaboration.
- ⇨ for the project to address them as soon as possible. Knowing the potential blocking points of a solution is by itself a key new knowledge that is produced by the project and that shall be addressed during the Assimilation and Transformation phases. **Therefore, somehow constraints should be welcomed.**

Contractualize when necessary

Contractualisation is the formal evidence of acquisition. We saw this task happening at different stages of the process even after the partial exploitation of the new solution. The level of formalization and **importance of formalizing a contract before starting was driven mainly by culture and regulation otherwise it was not an issue** (like for Fakturoid). For instance, Auka and Collect AI had to formalize the contract because of customer data exchange. BRD fulfilled a formal process consistent with its procedural culture. Procurement rules were judged too heavy and legal department too slow. The Collect AI project team even bypassed procurement rule to lower the legal administrative burden.

Assimilate/Transform

Embrace the Fintech's solution

Looking at the common practices observed in the case, Assimilation is mainly about defining a product roadmap and scoping the test to perform in priority. Modularity and functional richness of the solution facilitated assimilation of knowledge (Auka). **Involving employee in a PoC is large scale knowledge diffusion (Personetics).**

Nevertheless, it is worth mentioning that **when Open Banking is concerned**, the Bank (KB) focuses on creating new knowledge on top of the proven acquired technology rather than capturing the Fintech core knowledge of Fakturoid. Compared to pure assimilation of Fakturoid's solution**, the value is greater in working on the integrated customer journey and on data exchange to come up with new value-added services**.

Transformation main common activities are dealing with managing constraints and with learning out of exploited knowledge. Constraints to solve are about compliance with IT security (Fakturoid, Collect AI), IT integration (Auka), implementation difficulties (Collect AI). Analysis of exploited knowledge deals with MVP (Fakturoid) or Pilot (Auka) results.

Manage the bank's constraints

It is interesting to see that for all **collaboration projects, tough time consuming, it was beneficial to address constraints** because this accelerated the sharing of knowledge, hence Assimilation and Transformation activities including new idea generation. For managers, it means constraints are to be seen as more opportunities than threats and shall particularly be addressed in joint team with the fintech resources.

Embrace new methods of working

Looking at the enablers of Assimilation and Transformation, the main favoring factors observed are coordination capabilities driven by agile methods (Auka, Fakturoid and Collect AI), **socialization capabilities** notably via showing demos (Auka, Personetics) and finally **open IT infrastructure** (that eases building on respective knowledge like particularly observed in the Fakturoid case).

Exploit.

Build and test to learn and iterate (ACAP loop)

For practitioners, there is no real innovation if there is no implementation (especially value capture meaning monetization or cost reduction).

In the cases, all banks were convinced **that the best way to learn** (i.e. to absorb external knowledge) **was to build something together** with the fintech: "learning by doing" was often cited as opposed to buying an "on the shelf" solution from a technological vendor or working with consulting companies.

Based on the comparison just below, we note that **all banks chose a progressive implementation strategy. Therefore, by systematically relying on testing a slice of the absorbed knowledge, ACAP loops were systematic**.

Yet, this progressive implementation strategy was diverse in terms of ambition and organization set to support and learn from it. The exploitation strategies vary according to choices made on the level of IT integration (standalone till full integration), on the functional scope (large or focused on key

functions to validate the core of the target business model) and on the users involved in the testing or launch (employees, customers, or non-customers). Globally, **Proof of Concept** – PoC (see Personetics) are focusing on testing high technical feasibility and customer fake customers' journey on a limited functional scope with no real users and nor significant IT integration. **Pilot** (see Auka) are testing more functionalities still without significant IT integration and with "friends and family" users. **A Minimum Viable Product** – MVP (see Fakturoid) is a live version with IT integration of a functional scope that is focused on testing the core value proposition of the solution acquiring non-customers. This later (MVP) is the most advanced and sophisticated type of testing. **But it happened to be also the most useful because it tests the very key assumptions underlying the business opportunity**. This was not the case for instance for Auka that did not address the key assumptions in his pilot. Then, we observed that projects with the clearest and highest ambitions for their progressive implementation are the ones which achieved the most visible outcomes.

Finally, in order to make the most of the ACAP loops, projects need to measure (see all) and get organized to capture (see Fakturoid) and analyze the results of the testing.

Table 32. Comparison on exploitation modalities

Exploitation strategies	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
PoC	**X**			**X**
Pilot	**X**		**X***	
MVP		**X**	**X**	
Measurement and monitoring		**X**	**X**	**X**
Dedicated set-up to manage ACAP loops		**X**	**x**	
Alignment of interest with the Business Opportunity	**no**	**yes**	**yes**	**no**
Outcomes	**Abandoned**	**Commercialized**	**Commercialized**	**Abandoned**

*Collect AI had a pragmatic strategy. With no available data to really test on an MVP basis its AI engine, it started with a less ambitious test yet live and enough to bring some tangible financial returns and rapidly got started for another ACAP loop.

Factors influencing Exploitation

Organizational structure (Fakturoid and Collect AI) is the main contingency factor affecting Exploitation. Missing open IT and data infrastructures hamper Exploitation. This is particularly the case for more sophisticated technology like for Fakturoid (open banking with data exchange) and Collect AI (artificial intelligence requiring data exchanges). **Second impacting factor is resources 'availability**.

Coordination capabilities (r11)

Team and governance.

We observed an important number of commonalities regarding the teams and way of working:

- **Multidisciplinary of the teams** on both sides.
- **Involvement of experts** from the bank and from the fintech in their key respective and quite large areas of expertise. For instance, Auka brought its experts in the fields of marketing, growth hacking and UX. Collect AI benefitted from the insights of bank's experts on collection process, IT and data security and compliance. Personetics and Fakturoid did not mention explicitly experts. Nevertheless, BRD acknowledge some good insights regarding IT security on social media and the KB head of project was himself a digital expert maybe denying the expertise of Fakturoid on that subject.
- **Motivated core team members** that were attracted by this type of innovative and disruptive project and eager to learn. To recruit motivated people, the banks' strategy was to propose to work on slack time basis even for the support functions and IT delivery resources. Only BRD was dedicating a full time yet small core team of two people.
- **Low formalization and agile methodologies at project level** as a common language and coordination mode make the joint teamwork efficient.
- Though some projects were conducted totally or **partially remotely** (Auka, CollectAI, Personetics), everyone agree on the **need to have face to face meetings** at least to solve blocking points and to better share and absorb knowledge.
- **Collaborative tools** (mentioned for Auka and Personetics) are informal social integration mechanisms useful to combine knowledge.

This means that it is a given for all banks and for people engaging in these projectd that collaborations must be handled with **modern project management methodologies**. These methodologies differ from the traditional ones banks are used to. It shows also that Management even looks for different working habits they want to infuse in their organization, at some point of time thanks, to the collaboration.

Involvement and commitment of business representatives.

As discussed in the prior and target knowledge section, we observed that if a collaboration project involves business representatives late and weakly (e.g.: Personetics), it may jeopardize its chance to survive the project portfolio review.

The analysis below shows that **it requires more than having a transversal governance to avoid elusive support of business representatives.** It requires a legitimate governance and formalizing / validating the commitment of business representatives.

Table 33. Involvement of business representatives

	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
Cross disciplinary team on bank side	strong	strong	strong	weak
Cross disciplinary team on Fintech side	strong	strong	strong	weak
Cross functional validation governance	yes	yes	yes	yes
Legitimacy of the validation governance	medium	no data	strong	weak
Internal power relationships hampering the collaboration	yes	no	no	yes

Regime of appropriability (r16)

Globally, the regime of appropriability was fair with contracts being often in favor of the Fintech. It demonstrates the will from banks to avoid leveraging too much their bargaining power. **It reflects their willingness to access the knowledge and secure the relationships**. If all banks asked for exclusivity, it was paid and limited in time (Auka, Fakturoid, Collect AI). Except for Fakturoid, development costs were paid.

Rather counter-intuitive, we even found that **by setting too early the legal framework, you come up with a contract not sufficiently benefitting the bank** (Collect AI).

Some contracts were incentivizing for Exploitation (Auka, Fakturoid) via profit sharing and decreasing of exclusivity costs in case of sales target met.

Power relationships (r14)

Power relationship can play a positive or a negative role on the ACAP process. I**t can hamper the whole ACAP process.** For example the Acquisition of knowledge by validating fragile business opportunity (like for Auka) and the Assimilation and Transformation by not dedicating the (appropriate) resources (like for Personetics and Auka). It can favor ACAP for instance by triggering the Recognition of value phase (like for Collect AI or Auka).

- ⇨ Welcome any sponsors that can increase your connectiveness.
- ⇨ Mitigate power games with transparent, transversal and decisional governance that forces the business stakeholders to commit on validating the business opportunity and take ownership of the project.

Outcomes (r3)

Looking at the outcomes that were mentioned, we noted firstly that **projects' outcomes have long lasting effects both on the entity and on individuals**. Indeed, the knowledge in terms of content and process is acquired by the team members and diffused overtime within the organization.

Secondly, we observed **that outcomes exceed the strict business performances of the project**. For example, the flexibility of the entity is increased thanks to the improvements of the Open IT infrastructures that are initiated (Fakturoid) or thanks to the higher connectedness (Collect AI) and **attractiveness towards the fintech community**. There is also some generic knowledge that can be re-used in a large number of projects (e.g. on digitalization of customer journeys for Collect AI and Fakturoid; new methods to conduct project in all cases) and provide a long-lasting impact for other projects to come.

Finally, this comparison interestingly put into perspectives the failure of some cases. Even the failing cases had some valuable outcomes. For instance, the increased **awareness to make the organization less rigid** (Auka and Fakturoid), or **the knowledge transfer or creation regarding IT integration** that was discussed in all cases. More tangibly, any improvement regarding how to simplify or bypass (Collect AI) compliance to regalian functions (e.g. Procurement, Risk, Compliance…) or any improvements regarding how to better apprehend (Auka) or ease IT integration (Collect AI and Fakturoid) are valuable outcomes of the collaboration. Moreover, projects that were stopped revealed the **capacity of the bank to reassess the business opportunity** thanks to the knowledge sharing (Assimilation) and questioning (Transformation) that occurred thanks the collaboration. Both Auka and Personetics cases abandoned the technologies proposed to pivot on another one. Knowing what not to do is a valuable knowledge. Then, in a positive way, a side valuable by product of apparently unsuccessful projects is the capacity of the bank to better assess business opportunities (which is at the very core of any collaboration) and potentially abandon future projects.

Table 34. Outcomes' comparison.

	Competitive advantages	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
Direct impacts	**At project and entity level**				
	Performance		X	X	
	Innovation		X	X	
	Flexibility		X		
Foundations for competitive advantage of the bank	Open Innovation infrastructure (IT or data integration capabilities)	X	X		
	Awareness of employees on the technology	X			X
	Awareness on need to reduce internal rigidity	X	X		
	Talents' identification	X			
	At individual level				
	Skills development on agile methods and innovative project management	X		X	

Resources' availability

The main discovery out of these cases was the intentional lack of resources to manage the collaborations. How come were such challenging projects were so poorly staffed quantitatively? We propose the following reasons: **the fierce competition on resources** within the bank and the **managerial belief in the virtue of frugal project** when it comes to innovation.

Competition on resources

Collaboration projects and traditional projects competes on resources. Collect AI was an innovative solution to improve the core business of the Bank (in that case the collection process). In the other cases, the fintechs were more challenging than the current business model. Fakturoid was introducing concrete Open banking and non-financial services), Auka was conveying a PtoP payment solution that was mobile only and Personetics was introducing a new sales and customer care channel (Robo advisors). Based on our observations, we draw the conclusion that the closer to the current business model a collaboration project is, the more likely it will get dedicated resources and the more it can rely on existing governance.

Ambivalent impact of lack of resources

On one side, availability of resource ae beneficial to ACAP. The more resources a project has, the greater the positive effect of the coordination capabilities (especially the project team) on Exploitation. Lack of dedicated resources are painful to progress on the project. Firstly, mechanically it slows down the project because you must wait till people (and especially validator) are available which does not match the pace of the project. Secondly, you are desynchronizing with the fintech counterpart which is detrimental to the functioning of the joint team. Working part time on a project is radically different from the working organization fintechs are used to: working full time agile project mode.

But on the other side, we see it does not apply to Transformation where we saw (cf. Auka Case) that a lack of internal resources favors Transformation thanks to the experts and resources provided by the fintech. Moreover, slack time resources screens most motivated people to engage in the project.

The Fintech

Specificities of this source of knowledge

Fintechs are incredibly open to change and willing to learn from banks. Banks can be both their key customers and potentially their competitors (Auka; Personetics). They are also a source of valuable expertise on the banking sector. This explains why fintechs are keen on closely interacting with banks to get more literate in the sector they want to develop business in (Personetic; Collect AI). This explains also why they can positively invest to adapt themselves to the constraints or requirements of the banks. For instance, Collect AI adjusted its solution to meet Compliance requirements when Fakturoid aligned on the IT security requirements of the Bank. Finally, this clarifies also why some collaboration fail when respective interests are no more aligned (like we observed in Auka and Personetics cases).

A fintech is a complex source of knowledge which brings to the project and the bank much more than technology: individuals, narratives, convictions, brand, experts and network, methodology… For instance, the charismatic figure of the CEO of Auka together with the strong storytelling of the fintech, impacted the relationship: while energizing the bank at the beginning, the personality of the CEO finally bothered the banks representatives. The Personetics brand was appealing and partially balanced the disappointing performances of the team. The Fakuroid brand provided additional legitimacy to the Bank in the small business segment. The cases showed how important the quality of the resources working on the project was (Personetics; Collect AI) and we discussed in the former section how important experts are to transform knowledge. Collect AI connected the bank to the fintech they were working with hence increased the bank connectedness. Finally, in all cases, banks got trained on the agile methodology and tools the fintech conveyed.

We found out that the core knowledge conveyed by Personetics evolved overtime thus introducing the **dynamic aspect of this specific source of knowledge**.

Moreover, fintechs are much more than passive technology providers as they are **change agents raising awareness on rigidity** (mentioned in all cases), **reviving internal power boundaries** (Personetics) and **stimulating / rejuvenating the organization** (Auka). This does not impact the absorption process during the collaboration in question yet lay the ground for better ulterior ones.

Impact of fintech's features on ACAP

The table below synthetizes how the fintechs we analyzed impacted the absorption process. We note that they influenced all the ACAP steps and the following contingency factors: coordination capabilities and socialization capabilities.

Table 35. Review of the observed impacts of fintechs on ACAP process.

	FEATURES OF FINTECH	IMPACTED APAC COMPONENTS	CASES
Knowledge features	Complementarity	Acquire	Collect AI / Auka
	Core / non-core knowledge (dynamic)	Recognize value	Personetics
	Market proven track record (business performances achieved)	Acquire	Fakturoid
	Brand	Acquire	Fakturoid / Personetics
Knowledge transfer	Capacity to pass on knowledge	Acquire	Collect AI
	CeO leadership and Fintech narrative	Acquire	Auka
	Own fintech's ACAP (notably capacity to learn from IT and compliance constraints)	Transformation	Collect AI
Knowledge exploitation	Network	Exploit Socialization capabilities	Collect AI
	Methodology*	Coordination capabilities	All

* For visibility reason, this relationship has not been drawn in each of the visual synthesis of main ACAP components observed.

Cross case analysis regarding ACAP dynamic over time (flow chart analysis)

First finding is that it took never less than 8 months and up to 14 months for all cases to build something concrete out of the absorbed knowledge. **So, collaboration still takes times which is a challenge for fintechs and penalizes collaboration with young startup fintechs that fight for cash.**

- ⇨ The pace of collaboration is a real challenge. Banks shall monitor it with dedicated KPIs in order to remain appealing to the fintech community that will prefer to work with the fastest bank rather than the biggest ones.

Based on the detailed comparison (see table underneath), we observed the following facts.

Firstly, the main drivers for ACAP process are **expertise and resources availability rather than commercial deadlines.** The unavailability of validators is especially the main bottleneck that slow down collaborations. Projects mainly require validations on IT security and Compliance. Unavailability of resources from the fintech do also slow down the collaboration. This only external driver we found was the customers' adoption validation.

- ⇨ As mentioned in our analysis of the resources' availability contingency factor, a "fast track" process and organization should be set-up to ensure reactiveness of these crucial profiles.
- ⇨ Banks shall secure (via selection criteria and even contract) the availability of experts from the fintech.

Secondly, though contractualisation often requires painful preparation work or administrative burden, **contractualisation is not a pre-requisite to start assimilating and even exploring the knowledge.** We even observed it can be smarter for the bank to have assimilated some knowledge to be lay more aware foundations for the collaboration (like when KB needed to align with Auka on the business plan). On the fintech's side, the legal risk of not being fully contractually covered are quite theoretical given the bank will not its image towards the fintech community for limited amount of money at stakes before Exploration phase. On the bank's side, the risk to contractualise too late would occur only if using real customer data or impacting real transactions.

- ⇨ Therefore, contractualisation shall not be a showstopper to start the absorption process.

Thirdly, the analysis of the sequencing of the different ACAP components we observed revealed some differences compared to the sequence proposed by the Todorova and Durisin model and may explain why cases performed better than others. Indeed, in the Auka case, a market research which is an activity related to Recognize the value was performed quite late (after the pilot phase). In the Personetics case, the employee testing was large. Though rightly positioned in time, the effect was not positive due to the fact that the former Recognition of value and Acquisition phases had badly been performed. On the contrary, FOR Collect AI and Fakturoid, a pilot and an MVP (i.e. concrete yet limited exploration of knowledge) virtuously gave birth to another ACAP loop to further absorb the knowledge.

Finally, the flow chart analysis demonstrated that **the most impactful locus of collaboration is the project**.

The entity is mainly involved in validation of the collaboration project's milestones. It is yet poorly involved in the reallocation of resources to the collaboration project though we saw that resources availability is a key driver to move forward in absorbing knowledge.

Finally, the maturity and the participation of the various labs observed were too different from one case to another to draw any definite conclusion regarding their role. Yet, we noted three types of impact: **a lab can increase the visibility of the collaboration** (Auka) - socialization tactics (r13), the lab **provides an environment favorable to knowledge sharing** (Fakturoid) - Assimilation or Transformation activities and **the lab can even deliver the PoC** (Exploitation) project if it is staffed with appropriate and sufficient own resources (Personetics).

- ⇨ The emphasis shall be put on the project. As long as a lab is not powered by sufficient resources, the project shall be properly staffed notably to manage the diffusion of knowledge within the MNC or within the entity. Indeed, we saw that the latter does not systematically take over the large Assimilation of collaboration projects within its organization.

Table 36. Comparison of flow charts' patterns

	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
Main drivers for collaboration pace	IT feasibility and legal validation milestones Availability of Fintech resources.	Resource's availability IT infrastructure	Customer's adoption validation. Organizational infrastructure.	Delivery of the Fintech
Main validation milestones	IT feasibility and legal validation milestones	Compliance with IT security	Compliance milestones. Customer's adoption.	Go decision to perform a PoC. Contractualisation.
Synchronization of contract and operational start	Yes	None	None	Only for building the PoC
Remarkable dependencies or specific ACAP dynamic	Market research after pilot presentation	MVP customers feedbacks to trigger further ACAP loop	Successful pilot to trigger further ACAP loop	Late and large assimilation via employees testing

	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
Main contribution of: - **Entity**	Validation of project's milestones.	Validation of project's milestones.		Validation. Employees testing
- **BU**	Replication opportunity	Internal and external communication		None
- **Open innovation set-up**	Visibility and small budget	Environment	None	Full leadership and execution

Synthesis of main difficulties and enablers of collaboration (RQ3)

This section wraps up the enablers and difficulties out of the analysis of the ACAP and contingency factors relationships.

Table 37. Synthesis of main difficulties and enablers (RQ3)

Research question RQ3: What are the enablers and difficulties of collaborations?	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
What are the <u>enablers</u> of collaborations?				
+ Move in competition and customer's usages triggers absorption process	X			
+ External power relationships to trigger connection with the fintech			X	
+ Support from Management and alignment with the Bank's development strategy		X		
+ Clarity of the business goals and targeted knowledge that is critical to core business of the bank			X	
+ Fintech CEO's leadership and narrative	X			
+ Capacity of the Fintech to pass on knowledge			X	
+ Own Fintech's ACAP			X	
+ Own Fintech's network of fintechs			X	
+ Organizational rigidity triggers the absorption process	X			
+ Organizational Culture (empowerment of people) / Pragmatic culture / A culture fostering "try and error" or "learning by doing"	X		X	
+ Prior internal prototype	X			X
+ Complementarity of knowledge	X		X	

Research question RQ3: What are the enablers and difficulties of collaborations?	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
+ Cross functional teams and expertise, transparency and reactivity / Experts, agile practices and collaborative tools	X	X	X	
+ Leverage of institutionalized governance, involvement of potential opponents			X	
+ Tackling constraints starting with Compliance			X	
+ Open Innovation organizational structure (integration capability / Open IT and data architecture facilitating collaborations and especially Transformation and Exploitation)	X	X	X	
+ Starting with a successful pilot			X	
+ Building an MVP (creating new knowledge and triggering ACAP loops)		X		
+ Socialization through successful KPIs broadcasting			X	
+ External communication towards the ecosystem				
+ Lack of resources for Transformation	X			

Research question RQ3: What are the enablers and difficulties of collaborations?	AUKA	FAKTUROID	COLLECT AI	PERSONETICS
What are the <u>difficulties</u> of collaborations?				
- Lack of resources for Exploitation	X	X		
- Misalignment of goals (highlighted by a business case exercise) affects Exploitation / Weak involvement and buy-in of the business stakeholders	X			X
- Internal power games				X
- Organizational rigidity		X		
- Lack of open IT architecture		X		
- Freezing too early the legal framework			X	
- Pilot not validating the key assumption underlying the targeted business opportunity / a PoC unable to reassure on implementation feasibility nor to appeal additional business sponsors	X			X

7. DISCUSSION

The previous section presented the findings out of a comparison between cases that complements the longitudinal analysis of each case. Both analyses enabled us to challenge the extended ACAP model we proposed out of the literature review.

In this final section, we will come back to the Research Questions and highlight the main take-aways out of the findings that best address our research question and finally that best explain how collaboration work.

The discussion will focus on the main explanatory factors and on the main contribution of the thesis to the ACAP field (and ACAP literature and more especially with the ACAP model of Todorova and Durisin - 2007). In particular, we will revert on two emerging major contingency factors that should enrich the ACAP model for a better understanding of collaboration: the fintech and the availability of resources.

We will derive an enrichment of the ACAP model we proposed to frame our research and detail the main contribution to the existing literature.

Then, as we did along the thesis, we will select the main managerial consequences we draw out of our findings and synthesize them into actionable tools and check list to help managers make the most out of collaborations.

Finally, we will propose new avenues for research.

7.1. THEORETICAL IMPLICATIONS AND CONTRIBUTIONS

To figure out why, though raising, collaborations are still disappointing, we mobilized the ACAP theory to understand how banks and fintechs collaborate. By relying on the **ACAP theoretical framework, we mobilized this knowledge-based theory from the open innovation field and more especially from inbound innovation**. This theory was particularly relevant to rely on because knowledge was effectively at the heart of all the collaboration we analyzed.

We will show hereafter that applying the absorption capacity theory to the analysis of collaborations clarifies the mechanisms at stake yet shall be enriched and refined.

7.1.1. The ACAP process to understand how banks and fintechs collaborate (RQ1).

Globally, collaboration do follow the ACAP process: from Recognizing the value to Acquire the Knowledge then Assimilate/Transform and finally Exploit it. Yet we would like to emphasize hereafter some specificities of collaboration along the ACAP process they follow and that are not sufficiently described or taken into account in the existing literature.

The fintech as a dynamic source of content and process knowledge

Prior and target Knowledge.

As mentioned in previous work, an absorption collaboration process starts by leveraging two inputs: prior knowledge and a source of external knowledge (target Knowledge). **In the case of a collaboration between a bank and a fintech, useful prior knowledge has two main specific origins: prototypes and motivated individuals.** Firstly, prior internal prototypes dealing with a knowledge close or relevant to the targeted one is useful. This enables the bank to know what it does not know that is do say what would be the missing and complementary knowledge. Secondly, motivated individuals convey and diffuse knowledge that would help the bank to get familiar with the targeted knowledge. This knowledge is not just about new technology but also about the associated ecosystem i.e. the fintechs

selling and implementing this technology. Thus, this accelerates the recognition of value phase and increases the socialization capabilities and connectedness of the bank.

Knowledge Source

We found out that the knowledge that all the banks targeted is both a **content and a process knowledge**. A fintech is not just providing a technology but also brings know how on how to integrate or commercialize it (process knowledge). Furthermore, how to manage projects in an agile way or with modern methodologies is also a process knowledge the fintech can diffuse during the collaboration. The distinction between content and process we propose to add in the ACAP model is important because it impacts the selection criteria. This can also explain why banks may be more interested in established fintechs that have credentials. Banks need to be reassured they not just access the technology but also how to implement or commercialize it (content knowledge). This explains why a fintech with a great technology will not make a success if it does not demonstrate on the process side. Therefore, banks and startups (meaning young fintechs) have less chance to collaborate.

Consistent with the literature, we observed that **complementarity of knowledge plays an important role in ACAP**. It is a major criterion for fintech's selection and even a fundamental reason to collaborate.

But we think that knowledge complementarity cannot just remain an input of the ACAP process but should rather be part of another contingency factor to add: the fintech itself (we will dedicate a specific subsection to detail it later in this section). Indeed, the analysis shed light on the fact that **knowledge of the fintech is not a static input but can evolve overtime and then affect the ACAP process**.

The Knowledge Gaps and Business Opportunity as dynamic foundation for absorption process

From our work, the ways bank and fintech connect has no specific impact on the ACAP process.

Recognizing the value is mainly an ability to detect opportunities in the environment (Noblet et al, 2011). Completing the literature review, we then confirm that assessment of the knowledge by detecting a business opportunity is a key activity to recognize the value**.** We even argue that this is the

most important one because it favors all the other steps of the ACAP. **Then, we argue that one of the main reasons why collaboration can fail is the lack of consensus on a viable Business Opportunity**.

We complement existing literature on complementarity of knowledge by looking further at the dynamic equilibrium between knowledge and the Business Opportunity (see figure 13 underneath). **The strength of the collaboration and its chance of success relies on the consistency of the triangle: Knowledge required to seize the Business Opportunity / Prior knowledge / Core knowledge of the fintech** (see figure 13 hereafter)**.** The bank decides to partner if there is a gap between its prior knowledge and the Knowledge required to seize the Business Opportunity (a). The bank screens the fintechs' landscape to see the ones who operate in the knowledge space required to seize the business opportunity (b). And finally, the bank selects the fintech with the most complementary core knowledge (c). Obviously, appetite for collaboration grows if the gap between prior knowledge of the bank and the knowledge of the fintech grows. What is less obvious is that **the bigger such knowledge gaps - between prior knowledge of the bank and the knowledge of the fintech, the more bi-directional knowledge exchange and consequently the richer the collaboration.**

This consistency check shall be performed permanently because the items of the virtuous triangle are dynamic which was not stressed in the previous studies. Indeed, the fintech's core knowledge can evolve when the fintech pivot in its development strategy. Moreover, knowledge sharing between the fintech and the bank and the different absorption loops (from testing, pilots and new solution releases) develop a better understanding of the business opportunity and the associated knowledge required to seize it. Thus, the business opportunity can evolve. Finally, the stock of prior knowledge increases thanks to knowledge absorption loops.

The business opportunity is fundamental to the entire absorption process. The main purpose of the Recognition of value phase is then to identify the business opportunity.

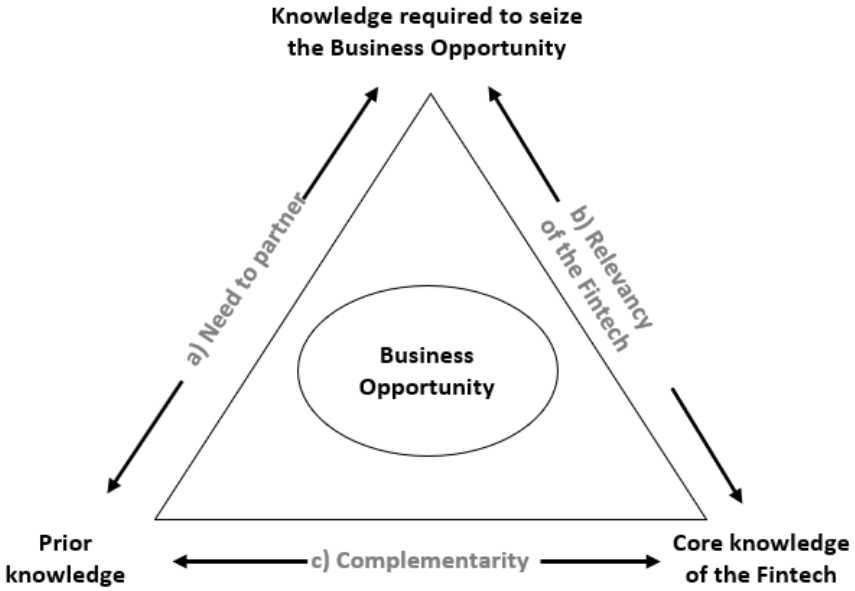
For the Acquisition phase, the main challenge is to get explicit commitment on it to ensure buy-in of stakeholders. We argue **that Acquisition is a key moment where you can challenge the real collaboration intent and objectivize the value effectively recognized to the knowledge. This is the proper time to clarify and manage expectations.** This is also the moment when the level of ambition is set and will be translated into a business plan. The latter embodies the commitment of all the stakeholders both from the bank and from the fintech. Conversely to mainstream thinking, that advises against too much attention paid to business plans and associated ROI, we consider business plan as a necessary medium to ensure alignment of interest between parties and explicit trust in the project.

The Assimilation and Transformation phases will have on one hand, to refine the necessary knowledge

to mobilize or combine so as to seize the business opportunity and, on the other hand, to identify the business underlying assumptions to test to validate the opportunity. **The Exploitation phase is about testing to validate both the knowledge** (does the new solution built fulfill the business opportunity requirements?) **and the assumptions underlying the business opportunity** (does the solution work, is it adopted, and does it bring value?).

Finally, an appropriate governance does not just increase coordination capabilities like for any type of projects but shall regularly ensure the core knowledge of the fintech is still in line with business opportunity to **avoid misalignment of interests**. There is alignment of interest to collaborate if the fintech helps close the gap between on one side, the knowledge that is necessary to seize the business opportunity and, on the other side, the prior knowledge and core business model of the bank. The Governance shall ensure the business opportunity is validated by feedbacks from testing or evolves (ACAP loops). Ultimately, the Governance shall ensure there is still a complementarity of knowledge that justifies the collaboration or that values the effective transfer of knowledge for future projects.

Figure 13. Virtuous collaboration triangle



Constraints as a catalyst for Assimilation and Transformation

Assimilation is mainly about getting familiar with the knowledge and solution of the fintech. As a result of our empirical analysis, we identified two specific activities.

One is the large **diffusion of knowledge when projects leverage employees as pilot** users of the solution that are prototyped or launched.

The second one is an **in-depth assimilation/transformation of knowledge through constraints management**. Banks have a lot of regulatory and technical hard constraints to comply with. Constraints to solve are about compliance with IT security, IT integration or implementation difficulties. This confirms the integration difficulties raises by previous studies (Chesbrough, 2003). At first glance, constraints are slowing down projects and increasing their costs. But looking closely at it, addressing constraints is paradoxically an efficient way to absorb knowledge. Indeed, knowing the potential blocking points of a solution is by itself a key new knowledge that is produced by the project and that are addressed during the Assimilation and Transformation phases. Experiencing and identifying implementation constraints is of value because it is by itself knowledge shared and even new knowledge created. Facing constraints, projects are forced to intensify the exchange of knowledge to combine knowledge and create knowledge to find out how to solve constraints issues. It is knowledge assimilated and transformed. When integrated, this knowledge is exploited and ready for new collaboration. **Therefore, somehow constraints should be welcomed**. However, the **identification of implementation constraints implies bi-directional exchanges of knowledge and absorptive capacity on fintech's side.**

ACAP loops as Exploitation engine to reduce knowledge gap

We confirm the Assimilate and Transform ACAP components increase the stock of prior resource (r2). Yet our empirical research demonstrated that collaborations are characterized by almost systematic **ACAP loops** where the common target solution is split into several pieces to enable progressive implementation. Progressive implementation in terms of functional scope and targeted users. **Refining existing studies, we argue firstly that ACAP loops are rather triggered by the Exploitation of knowledge and secondly that this approach is not just to reduce project execution operational risks but rather to better absorb the fintech's knowledge**.

Building a pilot, a Proof of concept or an MVP are different ways, gradually sophisticated to exploit a slice of the knowledge coming / created from the collaboration. These approaches are pushed by the modern project methodologies fintechs are used to and convey (content knowledge). **Each ACAP does not only increase the stock of prior knowledge and reduce the knowledge gap between the bank and the fintech, but it also orchestrates the contribution of employees and customers to the diffusion of knowledge and the creation of knowledge**. Indeed, employees get acquainted with the solution they test. Customers' feedbacks should be analyzed (Assimilation) to adjust the solution (Transformation) and the Exploitation strategy. Implementation challenges and constraints appears. All off this is new knowledge absorbed for more ambitious future ACAP loops.

Hence, the managerial motto "learning by doing" is not just a pragmatic mindset towards project management. It is a key activity for effective and deep creation and absorption of knowledge, being content or process knowledge. **This justifies why highest ambition regarding Exploitation shall be set as agreed target** and, if the implementation is progressive, it enables valuable KM loops that will effectively deliver successful outcomes. By the way, some contracts (appropriability regime) incentivize for Exploitation.

Projects with the clearest and highest ambitions for their progressive implementation will be ones achieving the most visible outcomes. We contributed to clarify the different ambitions levels in terms of knowledge exploitation strategy to initiate ACAP loops: Pilot, PoC and MVP. The most ambitious ones are riskier to implement yet bear the most learnings because they validate more assumptions underlying the business opportunity. Paradoxically, there is more lasting value in failing an MVP than succeeding in a Pilot.

The specific temporality of collaboration

Thanks to our process flow analysis, we performed a longitudinal analysis that globally confirmed the sequence of phases proposed by existing ACAP models while revealing some specificities.

Firstly, collaborations take never less than 8 months and up to 14 months for all cases to build something concrete out of the absorbed knowledge. This demonstrates the complexity of such projects to which both parties shall be prepared.

Secondly, the process is less sequential than it appears. Acquisition phase somehow overlaps with the Assimilation phase because the fintech and the bank align on objectives for the collaboration that concerns the scope, the planning, ambition, the product roadmap and implementation strategy.

Contractualisation is the formal evidence of acquisition yet the importance of formalizing a contract before starting was driven mainly by culture and regulation We detected that **contractualisation does not condition the start of the downstream phases** and overlaps with them. Rather counter-intuitive, we even found that by setting too early the legal framework, you come up with a contract not sufficiently benefitting the bank.

Finally, we discovered that the pace of collaboration depends on factors that are mainly internal to the collaboration which makes our ACAP process analysis even more relevant to understand how to accelerate them. Indeed, the main drivers for ACAP lead-time are expertise, resources and open innovation IT infrastructures 'availability and rather than commercial deadlines.

7.1.2. The role of dedicated Open Innovation set-ups (RQ2).

MNC banks have invested in Open Innovation set-ups. Therefore, we looked at their role and at the role of the different level of the organization in the absorption process by relying on the process flow chart analysis. Lichtenthaler proposes a multilevel perspective of OI and recommend adopting an integrative view of processes and organizational levers at stakes (Lichtenhaler, 2011). In the research we mapped the main events and their organizational locus (Langley, 1999).

The main finding is that the role of an OI gatekeeper or a lab is not that impactful as long as it has no sufficient delivery resources. Quite easily such set-ups can ease connectedness and provides internal visibility. Completing the literature (Lane and Lubatkin, 1998 ; M. Nieto and P. Quevedo, 2005) such organizational structures hence impact Assimilation. More powerful, it could foster and even equip prototyping activities (that increase the stock of prior knowledge of the bank), but on the condition that it has or provides delivery resources. These finding challenges the view of Mahmoud Jouini S, Duvert C, Esquirol M (2018) who stressed other more complex critical factors (differentiated value proposition for startups, specific process to manage the relationships with the startups, accelerated corporate decision processes and dedicated corporate resources) that happened to be less critical. If innovation labs or even digital factories have no resources to compensate the slack based resources of collaboration projects, they become less useless. Hence, OI set-ups can be totally disintermediated for Recognize the value and Exploitation phases and partially for the other phases. Moreover, we observed no specific role played as "gatekeeper" to "translate" the knowledge for better assimilation (Cohen and Levinthal, 1990).

Looking at other level of analysis, **we argue that the main locus of ACAP is at project level and individual levels**. **The most impactful locus of collaboration is the project, thus confirming the relevancy of our research design**.

At entity level, there are some diffusions of knowledge and validation activities that are key for success of the collaboration but based on the effectiveness of the ACAP dynamic at project level. Nevertheless, impact should be determinant if entities invested in real OI infrastructure that ease exploitation, diffuse agile methodology to increase coordination capabilities and set up. Regarding culture, beyond the overuse notion of "right to fail" culture, entity shall promote innovative projects by ensuring individuals involved in the projects are taking care of (career talent management) and that communication on the project underlines the overall organizational learnings beyond strict projects' economic outcomes.

At MNC or BUs levels, the role is mainly to gather business representatives and experts to further challenge the new knowledge hence contributing to further Assimilation and Transformation activities. Yet we observed no impact on Exploitation in our sample of cases. OI set-ups should facilitate close inbound innovation (replication) and recognition of value at BU level. **Local CEO and the MNC OI setups are the ones that move up the collaboration from one level to another, which was rare and bore weak results.** We argue this can be explained by the fact that is even more complex to reach a consensus on a common Business Opportunity at MNC level that it is at entity level. The quickest way for project to diffuse across the MNC would be to become a local project in another entity rather than a global project at MNCs level.

7.1.3. The difficulties and enablers to implement an ACAP process (RQ3).

To identify enablers and obstacles to absorption, our research reviewed the contingency factors and how they affect the ACAP components. We identified two new emerging factors that were not mentioned in the literature, the **fintech** and **resources availability** and we would like to insist on new or significant impacts of known factors on ACAP components.

IT Open Innovation infrastructures as integration engine and competitive advantage

Organizational structure encompasses pure organizational features including innovation setups like lab that did not significantly impact ACAP process in the cases we studied (see section 7.1.2). Yet Organizational structure also encompasses some know-how and technical infrastructures (Glabiszewski and AL, 2018) we renamed as **open innovation or open banking IT/data infrastructures that did significantly impact absorption process**. Completing the literature, we precise the nature of this impact: availability of OI infrastructure determines the pace of collaboration projects and especially favors the Exploitation, Transformation and even acquisition phases. Clearly, by easing technical integration of third-party technology, Exploitation is accelerated. **Open IT architecture favors Transformation by easily building up on respective knowledge.** The easier it is to add new features, the easier it would be to build up on (i.e. to Transform) the Fintech knowledge. This is particularly pregnant in the rising context of open banking strategies where the bank focuses on creating new knowledge on top of the proven acquired technology rather than capturing the fintech core knowledge. Compared to pure assimilation of the fintech's solution, the value is greater in working on the integrated customer journey and on data exchange to come up with new value-added services (Transformation).
Finally, system integration capabilities can even be a pre-requisite for certain types of collaboration.

Open innovation or open banking IT/data infrastructures are even more important for banks that they provide structural competitive advantages in the most promising domains in financial sector: open banking (e.g. platformization strategy) **and data / artificial intelligence based on value proposition** (e.g.: customization, best customers experience strategies).

Fintechs' new project methodologies as Transformation booster

For banks, working with a fintech implies to implement modern project management methodologies and tools hence aligning on the fintechs' traditional way of working. Then, collaboration projects rely on the multidisciplinary of the teams on both sides, experts and motivated core team members, low formalization, **collaborative tools and agile methodologies at project level (that is a common language) and coordination mode make the joint teamwork efficient**. **These modern project practices boost the coordination and soziabilization capabilities of the bank which in return boost the absorption process.** These methodologies differ from the traditional ones the banks are used to. Management actively can look for different working habits they want to infuse in their organization at some point of time thanks to the collaboration. In any case, working with a fintech rejuvenates project's organization and governance. **This introduced a new bi-directional relationship between coordination capabilities and ACAP components that was not mentioned in previous studies: absorbing knowledge from a fintech improves your coordination capabilities and reciprocally, coordination capabilities favor ACAP**. Specifically, applying intense and interactive working methods (e.g. mainly agile methods) strengthen Assimilation, Transformation and Exploitation activities. Such practices improve most of the operational conditions mentioned in the literature (Lin and al., 2002; Cohen and Levinthal, 1990) to define effective coordination capabilities based on a structure of communication and distribution of expertise. In addition, we consider such **practices as knowledge input of the ACAP process, this content knowledge coming either from the fintech or from prior knowledge of the bank**.

Collaborative tools have specific impact our work contributes to detail. They **both improve the coordination capabilities** (mainly thanks to better communication cf. Chiaroni and al., 2010) **but also constitute informal social integration mechanisms** that are useful to combine knowledge, hence favoring Transformation (Zahra and George, 2002).

Power relationships as an ambivalent contingency factor

Power relationships can play a positive or a negative role on the ACAP process. It does not just trigger the start of the ACAP process and the decision to exploit knowledge (Todorova and Durisin, 2007), **but we found out that it can also hamper the whole ACAP process.**

Firstly, it can be detrimental to the Recognition of value phase. Indeed, the assessment of the business opportunity can be biased by political games hence deeply fragilizing the foundation for the collaboration and the likelihood of success. **Reviving internal power organizational boundaries tensions, collaboration projects can activate two attitudes from opponents.** A passive one which consists of business representatives not committing explicitly to the business case hence not raising attention on a poor business opportunity. An active one which consists in not allocating resources to collaboration projects or lower the level of ambitions regarding first ACAP loop.

Secondly, we argue that power relationships play a bigger role in projects involving fintechs, because **a fintech is a political object that can be subject to power games**.

Governance is key to mitigate the detrimental effect of power relationships by forcing explicit commitment of all key decision makers. Tough mainstream thinking pushes for soft governance with the belief it would better unleash innovation, **we argue that key decisions and milestones shall be governed in a very explicit way at entity level**. Indeed, we observed that the projects that were agile at project level but leveraging existing governance at entity level were the most efficient notably. This confirms the recommendation of Lichtenthaler (2011) to **build on a firm's existing organizational processes and structures yet just for project improving the core business processes of the banks. For more exploratory innovative projects this would penalize resources' allocation.** The importance of the latter is described just after.

Need to reconciliate tension on resources availability

A major finding of the thesis if the critical and ambivalent role of resources availability on the ACAP process. In any types of projects, resources availability is a major contingency factor that affects the speed and quality of delivery. Regarding collaboration projects, the need for adequate and fully dedicated resources is even more acute. Indeed, collaboration with fintechs implies agile methodology that by essence requires full dedication of resources and high responsiveness (regarding delivery and validation). The more resources a project has, the greater the positive effect of the coordination capabilities on Exploitation. Moreover, knowledge assimilation is mechanically wider if more internal resources participate in the project. Therefore, **resources' unavailability does not just hamper agile methodology and pace of project but does also hamper knowledge absorption. Yet, the Management of the banks are consciously allocating extremely limited resources to collaboration projects.** This paradoxical situation has two explanations.

Firstly, Banks are facing resources tension and especially scare resources regarding digital skills, therefore Management prioritizes projects that ensure compliance with regulation or that are core business. Then it is even more difficult for disruptive projects to survive - if they lack delivery resources and management's attention and to absorb new disruptive knowledge.

Secondly, there is a **managerial belief that innovative projects including collaboration ones would benefit from frugality.** We did not observe any empirical evidence confirming this except the ambivalent role of resources availability we stressed in our findings: **a lack of internal resources favors Transformation thanks to the experts and resources provided by the fintech**. **Moreover, slack time-based staffing selects the most motivated and entrepreneurial team members.**

How to reconciliate frugal project virtue and detrimental lack of resources and how to give a chance to most disruptive projects that suffer the most from resources allocation tradeoffs? We suggest fixing the validation bottleneck with a **"fast track" process** that ensures validators are reactive and dedicated to any collaboration project (being close or not from the core business of the bank). Regarding the resources required for Exploitation, banks could **staff Open Innovation set-ups** like labs to provide shared resources on scare competencies. Regarding Transformation, collaboration project shall **welcome as many resources from fintechs as possible**, the risk of higher project costs and dependency being partially offset by the strengthening of the knowledge Transformation.

<u>The fintech as dynamic and active source of knowledge and as a major emerging contingency factor</u>

The richness of the fintechs' impacts on ACAP

Our major finding is that the existing ACAP models do not apprehend the specific nature of the fintech as an extremely specific counterpart and knowledge source impacting the entire ACAP process. Existing studies do not grasp the rich and subtle relationships between the bank and fintech during the knowledge absorption process. We will demonstrate hereafter why we suggest considering **a fintech as no more just than an input of the ACAP process (a knowledge source) but rather as a major contingency factor of the ACAP process.**

Fintechs are a nontraditional source of knowledge whose attributes significantly impact the full ACAP process and some contingency factors.

We classified the fintech's features that impact the ACAP into 3 categories: intrinsic knowledge features, knowledge transfer capabilities features, and knowledge exploitation capabilities features. Firstly, the features related to knowledge impact the Acquisition and Recognition of value steps. It deals with complementarity (confirming the existing literature: Cohen and Levinthal, 1990 ; Lane, Salk & Lyles, 2001) to which we bring three more specific aspects: the evidence that the knowledge has proven its value on the market, that this translated into a brand asset and finally the fact that the knowledge at stake is core or non-core to the fintech. Our research revealed that this later can change overtime which introduces the **dynamic aspect of the fintech as a specific source of knowledge**. The It means Banks shall not only rely on past track records and shall challenge, even during the project, if the knowledge they are interested in is still the core knowledge of the fintech.
Secondly, the features related to knowledge transfer touch upon the intrinsic capabilities of the fintech to deal with knowledge for the benefit of the bank. It corresponds to the capacity of the fintech and its CEO to pass on knowledge: to be willing to and to get organized to explicitly share know-how. It corresponds also to the fintech's ability to integrate the bank constraints thanks to its own absorption capabilities. These features impact the decision to commit (i.e. the Acquisition phase), the richness of bi-directional flows of knowledge and the creation of new ideas (i.e. the Transformation phase). Thirdly, the features related to the knowledge exploitation capabilities deal with the capacity of the fintech to execute collaboration projects. To do so, a fintech can give access to its own network of fintechs (the bank normally has difficulty to connect to) thus positively impacting its socialization

capabilities. The fintech orchestrates the knowledge conveyed by its network for the sake of the project thus positively impacting Exploitation for the project. Finally, as already mentioned the proven agile methodology fintech are used to plays a key role in Transformation.

To sum up, **a fintech is an emerging and major contingency factor that impacts the ACAP process** (mainly Acquisition and Transformation) **and some contingency factors** (coordination capabilities, socialization capabilities) **while suffering from power relationships.** Therefore, selecting and regularly reassessing a fintech is a crucial activity to succeed in collaboration projects.

The fintech as a change agent for the bank organization

Fintechs are much more than passive technology providers as they are **agents of change raising awareness on rigidity**, **reviving internal boundaries tensions,** and **stimulating / rejuvenating the** project's organization and governance and potentially the entire organization. Working with a fintech rejuvenates. **Therefore, a fintech does not only conveys knowledge but acts as an agent for change that will structurally impact the following ACAP contingency factors for future collaboration projects: Organizational Culture, Coordination Capabilities, Organizational structure and power relationships.** During a collaboration, the bank experiences the fintech's culture which contrasts with its own. Working with a fintech points out what an Organization must change in terms of organizational and IT infrastructure rigidities. It spots the organizational rigidity you must reduce to unleash and exploit innovation, innovation coming from internal or external sources. It shows some concrete methods to apply to better deliver innovative projects in the digital age. It improves the open innovation IT/data infrastructures. Finally, a fintech is a political object that is subject to political games but also reveal and uncover them.

The implications are straight forwards. **Firstly, top managers shall use a fintech as a means to transform its Organization. Secondly, fintechs do play and should play an active role in the ACAP process**. For instance, it will pay off for a fintech to invest in passing its knowledge because the collaboration will become more efficient. Similarly, investing to manage the bank's constraints will not just create additional knowledge on the sector and increase the stickiness with the bank, it will also trigger Transformation opportunities.

To sum up, a fintech is a complex source of knowledge which brings to the project and the bank much more than technology. The management of the bank, the project's team members and even the fintech do not totally appreciate the usefulness of a fintech and the richness of its impact on the absorption process and on the bank's Organization. Both parties shall pay an active role: the fintech shall invest in knowledge transfer activities and the bank shall regularly assess the fintech's core knowledge and fully embrace its methodology.

Insufficient selection criteria

The detection of an opportunity starts with the assessment of the fintech and of the associated knowledge - both being intertwined. Indeed, the fintech embodies the knowledge and will fully be part of its exploitation. We discovered that decision criteria are insufficient and not always appropriate to apprehend the complexity of what a fintech conveys. Yet we just demonstrated the complex role and impact of the fintech along the entire ACAP process, therefore, besides knowledge complementarity, the criteria shall be largely enriched to maximize both its positive impacts on knowledge absorption and on the bank's Transformation. Hence, we suggest assessing the three types of features best characterizing the fintech: **Knowledge features, Knowledge transfer and Knowledge exploitation.** In the managerial section below, we will propose a simple check list that smartly complement the traditional grid used by procurement policy to select suppliers.

"Learning by doing" Culture fitting ACAP loops

Academics (Noblet et Al, 2010; Adriansyah, and Zakaria, 2015; Glabiszewski and AL, 2018) indicate Organizational culture has a direct impact on ACAP without further detailing the relationships at stake. What we found out is that a **culture fostering "try and error" or "learning by doing" projects favors quicker implementation, hence Exploitation.** This echoes the systematic ACAP loops we described above.

We also find out that an organizational culture that empowers project team members facilitates absorption activities starting with Acquisition. This echoes the importance of individuals in absorption process we already mentioned.

7.1.4. Learnings and outcomes of a collaboration (RQ4).

Projects' outcomes have long lasting effects both on the entity and on individuals.

Outcomes exceed the strict business performances of the project and structurally lay the foundations for an increase in competitiveness.

On one hand, we confirmed the traditional outcomes mentioned in the literature and applicable at project and even entity levels: performance, innovation and flexibility (Todorova and Durisin, 2007). Yet, on the other hand, **our research shed new light on other structuring assets resulting from collaboration and occurring whether collaborations were successful or not**. They lay the ground for competitive advantage and better efficiency for future collaborations.

At entity level, these new assets are **capabilities to ease integration** with new knowledge which facilitates Exploitation and **awareness to change**. Any collaboration that increased **awareness to make the organization less rigid**, or that improved its **IT and data integration or that are more acquainted with business opportunities assessment and associated decision to abandon projects has gained long term advantages.** The awareness to change and the awareness on specific technologies lay the ground for futures organizational and innovative moves. If projects that directly impacts the business performance are naturally and rightly perceived as successful, others do also have valuables outcomes. Change management type of outcomes are greater if the technology has been presented to a large amount of people who in return develop their technological awareness. Similarly, the more decision makers or the "guardian of the temple" of the regalian and compliance functions.

In addition, any improvements in OI infrastructure and the experience acquired regarding how to collaborate make a bank more **attractive to the fintech community** which increases the competitive advantage of the firm. **Attractiveness towards the fintech community completes the type of outcomes mentioned in previous ACAP models**. Being able to attract the best fintechs is a crucial element in today's network economy and especially open banking environment. The best fintechs are the ones that have the best offer or the best capacity to pass on knowledge.

Finally, this diversity of outcomes interestingly puts into perspectives the potential failure of collaboration projects. So, managers should not underestimate the various outcomes a collaboration and should better mobilize and even celebrate the rich outcomes out of any collaboration whether they demonstrate tangible economic success or not. For instance, by systematizing project post mortem assessments including the "collateral" yet strategic outcomes out of collaborations we mentioned above. By formalizing and even by communicating on them. This will not transform an abandoned project into a fully successful project, yet it will make it operationally useful for the organization.

The table hereafter synthetizes the list of outcomes we propose to enrich based on our empirical study.

Table 38. Proposed enrichments for ACAP outcomes.

COMPETITIVE ADVANTAGE	
Performance	
Innovation	
Flexibility	Modern methodology New Open Innovation infrastructure Skills development on agile methods and innovative project management
Attractivity for fintech	
Readiness for change	Awareness of employees on the technology Awareness on need to reduce internal rigidity Talents' identification

7.1.5. An enriched ACAP model to understand how banks and fintechs collaborate

Based on our research, we propose the model below to better grasp the complexity and specificity of fintech / banks collaboration (see figure 14). The new relationships and contingency factors from our specific context are mentioned in red for academic contributions.

The model integrates the **two emerging new contingency factors**: the Fintech and Resources' Availability.

This visual representation **demonstrates the complexity of an absorption process** which dose require a comprehensive theoretical framework to apprehend. Indeed, it **visually demonstrates the contingency factors that impact the biggest number of ACAP components**. The main ones are in decreasing order: the Coordination Capabilities, the Fintech and the Organizational Structure.
The model also shows the components that are subject to the biggest number of contingency factors. The main ones are in decreasing order: Acquisition, Assimilation and Exploitation phases.

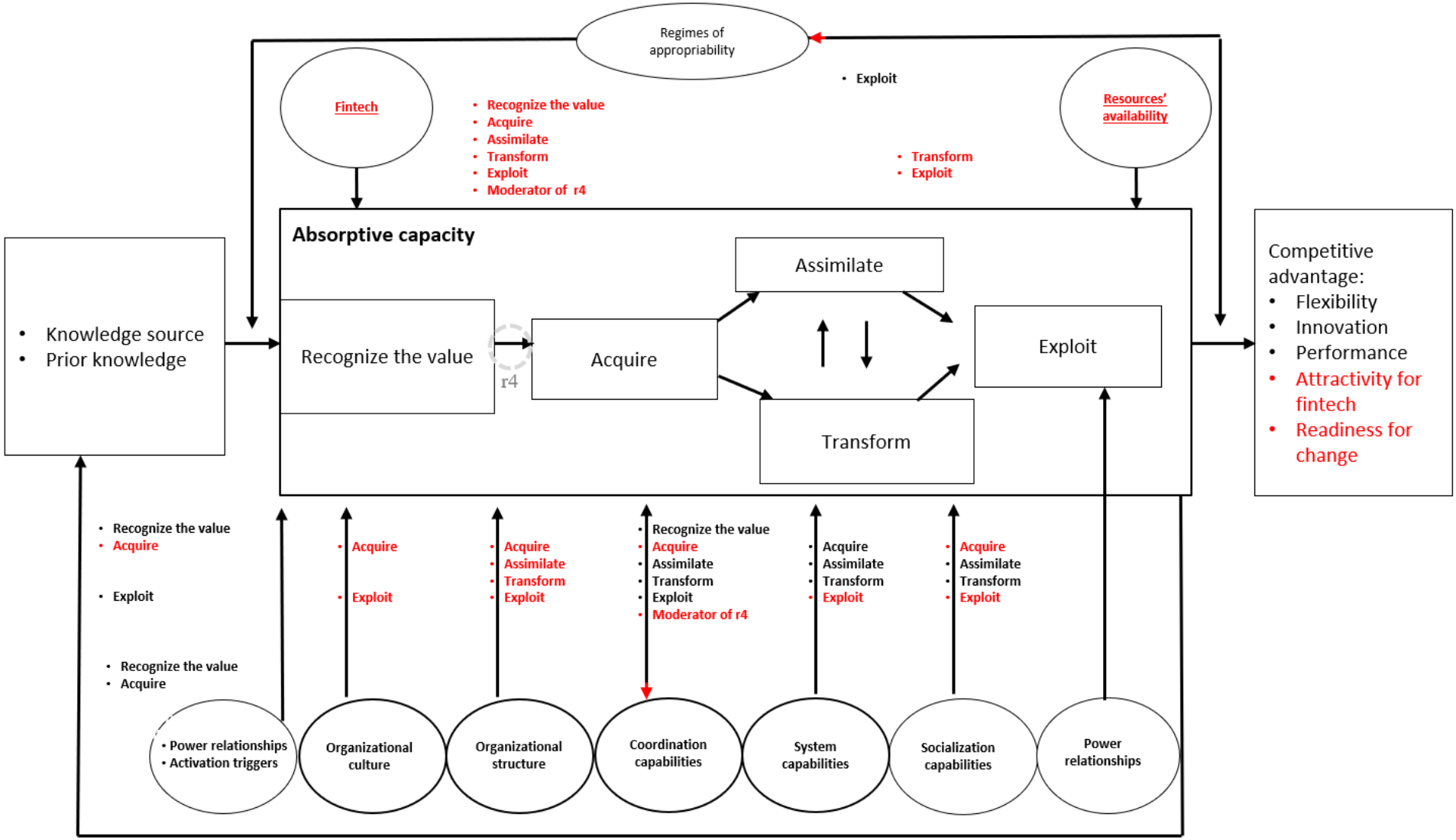
We also positioned the new bilateral relationships we observed: Exploitation on Regime of Appropriability and ACAP on Coordination Capabilities.

Finally, we enriched the outcomes list with two major competitive advantages items. Manager must consider them to avoid underestimating the structuring impact of collaboration: Attractivity towards fintechs and Readiness to change.

The figure below synthetizes the enriched model we propose based on our research with the consolidation of all the relationships we have observed or the ones coming from the literature. For simplification and graphical purpose, we have listed the precise relationships we observed instead of positioning them with arrows**.**

Our humble contributions to the field are mentioned in red when we propose new relationships.

Figure 14. Proposed enrichment of the ACAP model based on the literature review and our research.



Adapted from Todorova, Gergana, et Boris Durisin. « Absorptive Capacity: Valuing a Reconceptualization ». *Academy of Management Review* 32, n° 3 (juillet 2007): 774-86.

In red are the new categories and relationships we propose as academic contributions.

7.1.6. Synthesis of academic contribution

Regarding our research design

We contributed to the field in providing an **additional process and longitudinal study on Open Innovation and ACAP** including the "integration and commercialization" phases that have been less studied (West and Bogers, 2014). By studying fintechs we focus on a certain type of suppliers **complementing existing studies on the innovation potential of suppliers**. All in all, we performed the **first ACAP process and longitudinal in-depth study applied to fintech and bank collaborations.**

Regarding our findings

Overall, all collaborations studied followed the majority of the ACAP process which confirms the relevancy of applying the ACAP lens to the management of collaboration between fintechs and banks. The existing literature is poorly describing the detailed operational activities performed during the absorption process, we systematically listed the main tasks performed.

Nevertheless, we suggest from our research some necessary emerging contingency factors and relationships to add to the model to study collaborations between fintechs and banks.

First one is to consider the **Fintech as a dynamic and active contingency factors** and no more as a specific type of knowledge source i.e. of input for the ACAP process. Second one is to add **Resources' Availability as a significant contingency factor**.

We shed light also on some specific mechanisms like the **knowledge gap and Business virtuous cycle**, and the **ACAP loops.**

We explained how the **temporality of collaboration are driven only by internal factors.**

We demonstrated that the **main locus of collaboration is at project level** challenging the role of organizational set-ups dedicated to open innovation.

7.2. MANAGERIAL CONTRIBUTION AND PROPOSITIONS

Completing the different implications that we draw along each case analysis, this section consolidates the main managerial consequences of our findings.

There is a paradox. Banks are all following ACAP activities during collaboration projects, yet they are not fully aware of the knowledge transfers' challenges. Then by not being aware enough and by not getting organized specifically to manage it during and after the collaboration, banks do not make the most of their collaboration**. Hence, managers also underestimate the role of some difficulties and enablers** they should consider or invest in if they want to thrive in the digital age. The detailed analysis of the process and contingency factors helps managers understand how to manage collaboration and avoid disappointments. We suggest the following managerial consequences of our findings:

Celebrate collaboration projects whatever their short-term results.

- ⇨ The effective outcomes that go far beyond the strict business or project management criteria shall be better valued and capitalized on over time. Collaborations are not just new solution delivery but change agents. Poor commercial results should be mitigated by good process transfer.
- ⇨ Team members diffuse knowledge overtime and shall be leveraged.
- ⇨ The increased stock of knowledge should be better valued and shared notably when it comes to generic / structural knowledge that can be re-used in a large number of future projects.

Unleash the absorption capacity of Individuals and recruit them in collaboration projects.

- ⇨ First is to value motivated individuals who are instrumental in capturing and diffusing relevant prior knowledge when it comes to innovative collaboration initiatives. Labs can be a key coordination capability to welcome expertise of passionate people to facilitate the development of internal prototypes.
- ⇨ Value the experience of individuals who participate to innovative (collaboration) projects for instance by requiring this type of experience in talents' identification or development process.

Create or leverage an existing Governance that ensures explicit commitment on Business Opportunity.

- ⇨ Regularly assess the Business Opportunity. There is no interest has such to perform innovation watch and to look at fintechs if the bank is not clear on the Business Opportunity to refer to.
- ⇨ Given at the core of every collaboration lays a Business Opportunity and given that a fintech not just conveys knowledge but acts as an agent for change, it is crucial that collaboration projects are supervised at board level and ensure the explicit commitment of business representatives to validate the business opportunity. Governance is key to mitigate the detrimental effect of power relationships. The governance of the project shall ensure transparent and regular alignment of interests and expectations.
- ⇨ A transversal governance shall also ensure the explicit point of view of the business representatives on the business opportunity pursued and ensure their commitment. This is necessary to mitigate the risk of political games jeopardizing the robustness of the business opportunity.
- ⇨ Goals' setting must be translated into a business plan on which business representatives and regalian function commit or react on to avoid misalignment of expectations and to collect constraints to feed Assimilation/Transformation activities.
- ⇨ In terms of practices observed to recognize the value, we found interesting to integrate BU initiatives in benchmarking tasks, to involve business and different expertise in meeting the fintech and finally to work early on the business case and on the appropriability regime principles, those being explicit translation of the expected value.

Select properly the fintech and then fully leverage its specificities.

- ⇨ Consistent with what banks are looking for, fintechs shall be assessed according to their complementarity of knowledge both in terms of content and process.
- ⇨ Ability to transfer knowledge must be also integrated in the criteria to select the fintech. This will push both side on getting better organized to manage knowledge transfers. The proposed table hereafter completes the traditional procurement view to assess a third party by providing a knowledge absorption perspective to select a fintech.

Table 39. A knowledge absorption perspective grid to select a fintech.

FEATURES OF FINTECH	
Knowledge features	Knowledge Complementarity both in terms of content and process Does the fintech work on topics that will close the gap between what the bank knows and what is required to seize the business opportunity?
	Core / non-core knowledge Is the targeted knowledge still the knowledge the fintech invest the most in?
	Market proven track record Has the targeted knowledge been translated into market success or competitive advantage?
	Brand Does the targeted knowledge enabled the fintech to become legitimate in the market?
Knowledge transfer	Capacity to pass on knowledge Is the fintech willing to invest time and experts to transfer the targeted knowledge? Is there any collaboration track record in terms of past collaboration with a Corporate?
	CeO leadership and Fintech narrative Would the development story and purpose of the fintech appeal internal opinion leaders and fit bank's culture? Would the CEO ?
	Own fintech's ACAP (notably capacity to learn from IT and compliance constraints) How willing is the fintech to invest in customizing its product to the requirements of the banking sector? Quid for the specific requirements of the bank?
Knowledge exploitation	Network What are the technology partners the fintech can easily mobilize / has already worked with ?
	Methodology How can the fintech train and equip the bank's team member regarding its project's management & product development practices and tools?

Embrace the modern methodologies and support coming from the fintech.

- ⇨ Knowledge transfers are better performed if the team embraces the working habits and tools of the fintech. For efficient work with the Fintech, there should be an alignment of project methodology, level of staffing and communication/collaborative tools.
- ⇨ Fintechs are good at managing ACAP loops, meaning designing and delivering MVPs and, most important of all measuring and analyzing them. In particular, a bank shall involve the fintech into the digital marketing strategy and into the customers' feedbacks analysis.
- ⇨ Finally, the fintech shall play an active role in the collaboration and we argue that to fully unleash the power of fintech, the bank organization shall be ready to fully embrace the experts and the advice (content knowledge) of the fintechs. The more you let fintech taking over the design, measurement, analysis and promotion (e.g.: campaign management) of the MVP, the more fruitful the collaboration. Welcome (and pay) as many experts, resources or partners from / the fintech as possible, it will increase the knowledge transfers and lower tension on resources.

Welcome constraints.

- ⇨ Though counter-intuitive, collaboration projects should early welcome the Banks constraints as they are pre-requisites for exploitation and because they stimulate Transformation hence creative activities.
- ⇨ On the bank side, it implies to have a clear vision on the very key compliance pre-requisite to fulfill and to communicate it. It means also to on-board compliance as soon as possible in the project.
- ⇨ Commercially, successful fintechs may be the ones that anticipate these pre-requites in their product development.

Build rapidly and with ambition.

- ⇨ Build your own prototype internally to gather feedbacks (additional knowledge) and potential business sponsors to make the future collaboration more fruitful.
- ⇨ The earlier you assimilate, the better your contractualise and the better you design a relevant pilot/MVP.
- ⇨ It is better to have started to absorb the knowledge to contractualise. By better knowing knowledge gap with the fintech you define a more relevant regime of appropriability.

- ⇨ The highest ambition in terms of exploitation the richer the ACAP loops and the more business assumptions you can validate or value you can demonstrate.
- ⇨ The best testing strategy to target, focus and communicate on is to launch an MVP. Yet the project has to get organized to analyses customer's feedbacks to make for full benefit of the next iterations (ACAP loops).

Invest in open innovation infrastructures and set-ups.

- ⇨ A bank should invest in Open Innovation set ups. In priority being in terms of infrastructure allowing easier data and IT integration (Open IT infrastructures, API platform…) or being any dedicated organization that can share scare digital resources and mobilize means to support collaborations.
- ⇨ Labs should then be active in fostering and equipping internal prototyping activities to increase the stock of knowledge of the bank.
- ⇨ To sum up, operationally, it means that instead of poorly investing in Labs or innovation cells, banks should rather invest in OI infrastructures (open IT systems and data architectures), train people on agile methods and integrate collaboration projects in talent career path.
- ⇨ Regarding the needs of expertise, IT infrastructure, skilled resources and freedom to investigate new business models, there is room for OI set-up to develop new services.

Settle the resources' allocation tension with a "fast-track" process and organization.

- ⇨ Resources will be allocated to projects that are the most in line with the strategy of the bank. Either the manager can demonstrate it or it will be necessary to show tangible returns with low investments or there would be a huge value in relying on a lab with its own resources.
- ⇨ Slack time has its limits and there could be other ways to attract and select motivated people. We can imagine a permanent pool of talented people who can be staffed on such project as part of their career development (specific training or assessment center track for talents).
- ⇨ "Fast track" validation process shall be set-up to ensure validator are dedicated to a collaboration project and reactive.

7.3. LIMITS OF THE RESEARCH

In the ACAP literature, we have not found any work considering the specific nature of the fintech counterpart as a specific source of knowledge and even less as a contingency factor. Nevertheless, complementary studies could look at the literature on the broader field of Alliances or Cross-Organizational cooperation research area to confirm this gap.

Our research dealt mainly with a single type of sourcing modality: the supplier mode which is the most widespread. It did not contemplate acquisition nor JV type of collaboration.

Finally, we adopted mainly a bank perspective with few interviews conducted with the fintech. A deeper focus on fintech may have completed our analysis and shed light on what fintech require to better transfer knowledge to banks.

7.4. AVENUE FOR FUTURE RESEARCH

Some additional research could further enrich our study both in term of methodology and in terms of content.

<u>In terms of methodology.</u>

Our research could be further developed by extending the cases to other the types of collaboration.

For instance, complementary research could deal with **new sourcing modalities** like acquisition or co-construction modes rather than the supplier mode that dominated in our study and that reflects the majority of effective collaborations in the industry.

Additional studies could also include **younger fintech (ie. young start-ups)** whose knowledge is more on technology than on market proven process know-how and whose bargain power with banks are relatively weak. This could bring some interesting deep dives in what we called the OI setups or delivery engines (labs, incubators, accelerators, …) that are more often used to accompany such startups. Yet without underestimating a priori the impact of such collaboration (notably regarding Assimilation of

new technologies), the trend in the industry is to rely more and more on established Fintech rather than on young startups to effectively Exploit or implement knowledge.

Additional research could test our findings in other industries: we explored the collaboration within the banking sector considering that this sector is an extreme case for collaboration because it cumulates high need to partner to innovate, high organizational rigidity and high technology environment. Therefore, this research should be extended to other sectors and especially industrial ones to see how such players collaborate with startups or tech providers.

Other research could complete and deepen our macro multi-level analysis. Firstly, a detailed analysis at individuals' level could nicely enhance our analysis. Secondly, we grounded our study in local project within subsidiaries of an MNC bank. It could be interesting to take the perspective of the MNC in perform complementary multi-level analysis to see how an MNC get organized to perform ACAP process (innovation watch for entities, business opportunity portfolio management, diffusion of knowledge within the MNC organization …) at its level and how it interacts with BUs on that matter (impact of broadcasting a local project, of subsidizing resources, …). In general, performing additional multi-level analysis on a larger sample of collaborations and Innovation setups (labs or any other organizational innovation engine or catalyst) would be beneficial to refine conclusions regarding their effective role in collaboration.

Finally, our research was qualitative. We further detailed some operational activities underlying the ACAP process. This would further lay the ground for additional operationalization of the ACAP concept and enable to perform **complementary quantitative studies** to better apprehend the relationships we qualitatively described.

In terms of content.

We postulated that describing how collaborations work was a necessary first step to deal with the complexity of collaboration between banks and fintechs. Now that we contributed to this basic understanding, there are numerous questions to be addressed to further guide practitioners.

Firstly, we worked on "how" Fintechs and Banks collaborate, which gave us some insights on **why fintechs and banks collaborate**. Dedicated research that would focus on understanding the rationales and motivations to engage in such collaboration would be valuable notably to see how managers are aware of them and behave according to them. Secondly, additional research could **investigate the outcomes of collaboration and provide insights into the ways in which to measure** the impact on performances. Thirdly, we generically mentioned "agile" working practices that improved the coordination capabilities. Additional works focusing on **Agile methodology** and theory would further clarify and detail the benefits of such practices on collaborations' activities.

8. CONCLUSION

In 2021, there is still an intense debate on the frustrating situation of rising yet still disappointing collaboration between fintechs and banks.

Mobilizing a knowledge perspective to analyze collaboration turned out to be very meaningful. It led to some humble academic contribution regarding how to implement absorptive capacity. It led also to concrete managerial implications regarding how to manage collaboration projects.

To paraphrase Cohen and Levinthal, we saw that “absorptive capacities are a byproduct of collaborations” but also that conversely, banks need absorptive capacities to make the most of their collaboration with fintechs.

Our results suggested an enriched and more specific theoretical model to address the specificities of the collaborations between banks and fintechs. Both play an active role in the success or failure of a collaboration. Both should benefit from our model that confirms lots of the ACAP previous works while refining some key relationships between its components.

Based on these new insights, we hope that managers may have better tools to avoid disappointment in their collaboration journey and to make the most out of their collaboration.

Moreover, our research lays interesting avenue for complementary future research notably quantitative ones to further validate the renewed ACAP model we propose.

Finally, the enriched ACAP model we propose to use to review collaboration mirrors the complexity of such projects. This complexity implies a lot of diversity and uncertainty regarding the paths that a collaboration can follow. We hope our work will provides some helpful hints to navigate in the rough yet potentially fruitful sea of collaborations between banks and fintechs.

9. LIST OF FIGURES

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11. BIBLIOGRAPHY

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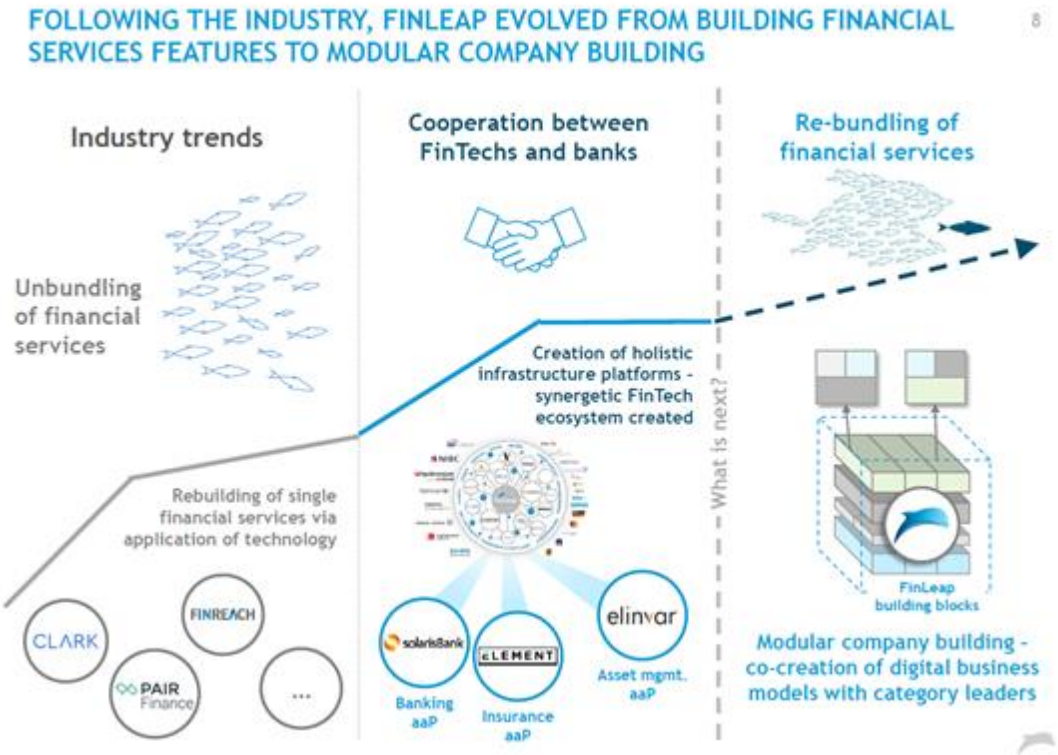
12. APPENDIX

12.1. EUROPEAN BANKING AUTHORITY DEFINITION FOR FINANCIAL SERVICE TYPE/CLUSTER TARGETED BY FINTECHS[44].

Credit, deposit, and capital raising services (Cluster A)	**A1** Taking deposits; **A2** Taking other repayable funds (i.e. funds other than deposits); **A3** Lending, including, inter alia, consumer credit, credit agreements relating to immovable property, factoring, with or without recourse, financing of commercial transactions (including forfeiting); **A4** Financial leasing; **A5** Guarantees and commitments; **A6** Credit intermediation under Article 4(5) of Directive 2014/17/EU (MCD); **A7** Money broking; **A8** Any other financial services of a kind within in this cluster
Payments, clearing and settlement services (Cluster B)	**B1** Provision of payment accounts; **B2** Services enabling cash to be placed on a payment account as well as all the operations required for operating a payment account; **B3** Services enabling cash withdrawals from a payment account as well as all the operations required for operating a payment account; **B4** Execution of direct debits including one-off direct debits; **B5** Execution of payment transactions through a payment card or a similar device; **B6** Execution of credit transfers; **B7** Issuing of payment instruments; **B8** Acquiring of payment transactions; **B9** Money remittance; **B10** Issuing and administering means of payment other than those referred to in Article 4(3) of Directive 2007/64/EU (e.g. travellers' cheques and bankers' drafts); **B11** Services to initiate payment orders at the request of the payment service user with respect to a payment account held with another payment service provider; **B12** Services to provide consolidated information on one or more payment accounts held by the payment service user with another payment services provider; **B13** Operation of a payment system; **B14** Ancillary services to payment and/or e-money services (Article 16(1)(a) of PSD); **B15** Issuance of e-money; **B16** Distribution of e-money; **B17** Redemption of e-money; **B18** Currency exchange; **B19** Any other financial services of a kind within this cluster
Investment services/Investment management services (Cluster C)	**C1** Trading for own account or for account of customers in any of the items referred to in point 7 of Annex I to Directive 2013/36/EU; **C2** Participation in securities issues and provision of services relating to such issues; **C3** Advice to undertakings on capital structure, industrial strategy etc. (e.g. as referred to in point 9 of Annex I to Directive 2013/36/EU); **C4** Portfolio management and advice; **C5** Safekeeping and administration of securities; **C6** Safe custody services; **C7** Advisory services (e.g. under Article 7 of Directive 2014/17/EU); **C8** Any other financial services of a kind within this cluster
Other financial-related activities (Cluster D)	**D1** Credit reference services (e.g. as referred to in point 13 of Annex I to Directive 2013/36/EU); **D2** Comparison services; **D3** Compliance services related to know your customer/AML; **D4** Compliance services – other; **D5** Any other services of a kind within this cluster

[44] Source: Discussion Paper on the EBA's approach to financial technology (FinTech). 4 August 2017. file:///C:/Users/A305164/Desktop/EBA%20Discussion%20Paper%20on%20Fintech%20(EBA-DP-2017-02).pdf

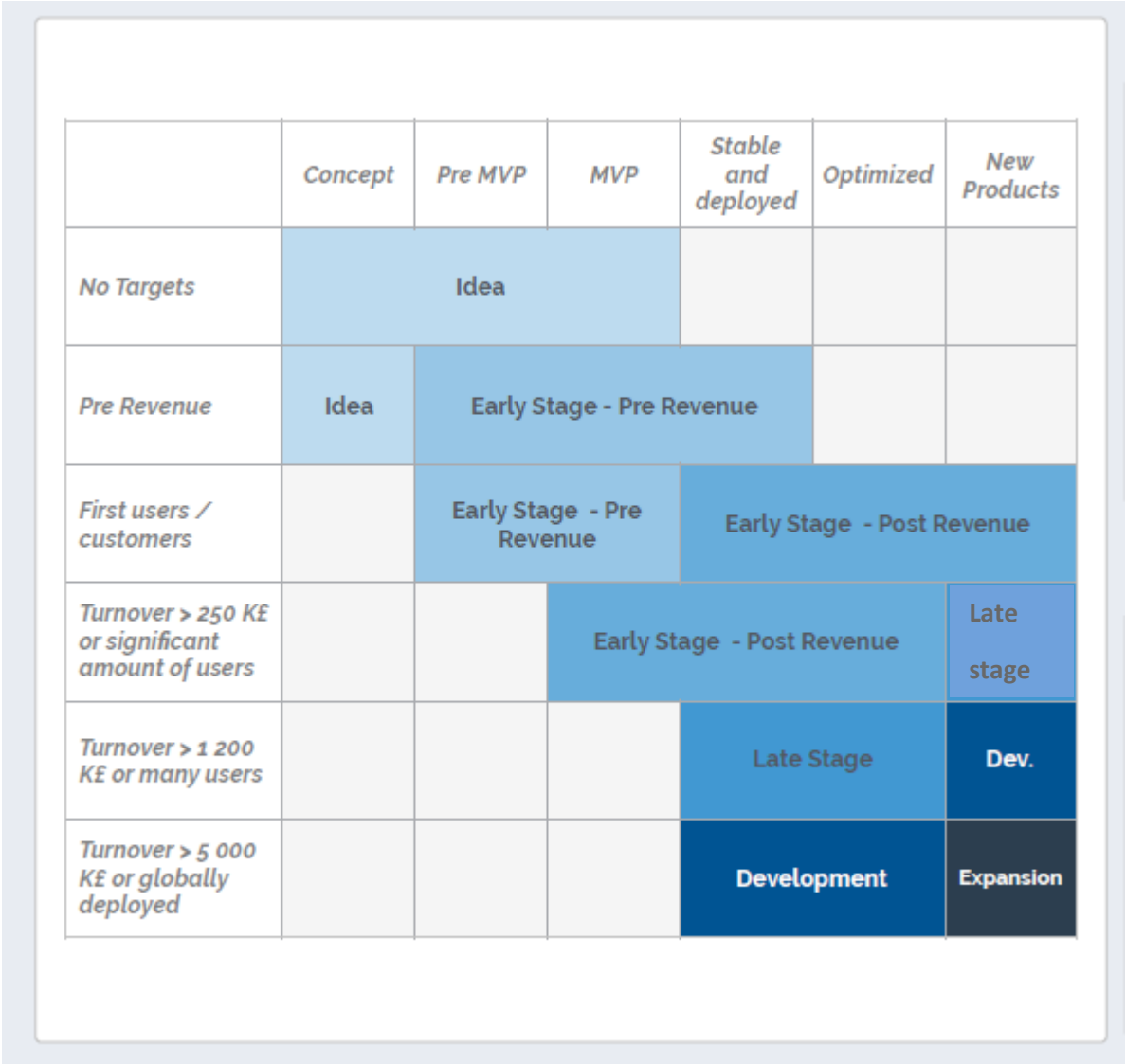
12.2. VISION OF A LEADING EUROPEAN FINTECH BUILDER ON COLLABORATION TREND IN THE INDUSTRY[45].



Oversimplified Consulting view of support for implementation and collaboration process

[45] FinLeap has a proven track record in building FinTech companies with focus on B2B technology with already >€400m of net value created in 3 years.

12.3. EXAMPLES OF FINTECH SEGMENTATION, ASSESSMENT AND RELATIONSHIPS FOLLOW-UP TOOLS



Source: “early metrics” study

12.4. SYNTHETIC VIEW OF PRIOR ACAP OPERATIONALIZATION INTENTS

Table 40. Composition of ACAP dimensions in past research - Chauvet 2014

Dimensions	Components	Themes	Main authors
Acquisition	Prior knowledge	Knowledge repositories, experience of R&D department, last qualification	Szulanski (1996); Autio et al. (2000); Van Wijk et al. (2001); Zahra & George (2002)
	Prior investments	Risk tolerance, CEO support, R&D investments	Cohen & Levinthal (1990); Mowery et al. (1996); Kim (1998); Lahti & Beyerlein (2000); Zahra & George (2002)
	Commitment to acquiring, sharing knowledge	Recognizing value, speed and commitment	Cohen & Levinthal (1990); Zahra & George (2002); Jansen et al. (2005); Lane et al. (2006); Liao et al. (2007); Todorova & Durisin (2007); Lichtenthaler (2009); Flatten et al. (2011)
Assimilation	Knowledge understanding	Interpretation, formalization, comprehension	Cohen & Levinthal (1990); Dodgson (1993); Szulanski (1996); Lane & Lubatkin (1998); Bontis et al. (2002); Jansen et al. (2005); Matusik & Heeley (2005); Todorova & Durisin (2007); Lichtenthaler (2009)
Transformation	Knowledge conversion	Recodification, questioning	Szulanski (1996); Kim (1998); Gruenfeld et al. (2000); Collins & Smith (2006); Liao et al. (2007); Lichtenthaler (2009); Flatten et al. (2011)
	Knowledge internalization	Integration	Szulanski (1996); Bontis et al. (2002); Jansen et al. (2005); Lichtenthaler (2009); Flatten et al. (2011)
Exploitation	Knowledge use & implementation	Knowledge intensity, harvesting resources, core competencies	Cohen & Levinthal (1990); Dodgson (1993); Lane & Lubatkin (1998); Autio et al. (2000); Lane et al. (2006)

Source: Chauvet, Vincent. "Absorptive Capacity: Scale Development and Implications for Future Research." *Management International / International Management / Gestión Internacional* 19, no. 1 (Fall2014 2014): 113-129. *Business*.

Table 41. Les dimensions de la capacité d'absorption ; une revue de littérature - Noblet & Simon2000

Dimensions	Composants	Thèmes	Auteurs
Acquisition	Investissements préalables	Tolérance au risque Soutien du dirigeant Formation Investissement R&D	Cohen et Levinthal (1990); Song et Parry (1993); Mowery, Oxley et Silverman (1996); Kim (1998); Kavan, Saunders et Nelson (1999); Giroud (2000); Lahti et Beyerlein (2000); Zahra et George (2002)
	Connaissances préalables	Répertoires de connaissance Intensité en connaissance Expérience du département R&D Dernier diplôme des employés	Song et Parry (1993); Dyer (1996); Davenport, De Long et Beers (1998); Autio, Sapienza et Almeida (2000); Salk et Brannen (2000); Zahra et George (2002)
	Motivation à rassembler des connaissances	Intensité Observation Vitesse	Cohen et Levinthal (1990); Mohr et Spekman (1994); Stork et Hill (2000); Szulanski (2000); Zahra et George (2002)
	Direction du savoir	Circulation des connaissances	
Assimilation	Absorption Compréhension	Interprétation Compréhension Formalisation	Cohen et Levinthal (1990); Dodgson (1993); Szulanski (1996, 2000); Kim (1998); Lane et Lubatkin (1998); Gruenfeld, Martorana et Fan (2000)

Dimensions	Composants	Thèmes	Auteurs
Transformation	Internalisation Conversion	Recodification Remise en question Adaptabilité	Kim (1998); Gruenfeld, Martorana et Fan (2000); Salk et Brannen (2000)
Exploitation	Utilisation Mise en place	Engagement de ressources Compétences clefs	Cohen et Levinthal (1990); Dodgson (1993); Szulanski (1996, 2000); Kim (1998); Lane et Lubatkin (1998); Gruenfeld, Martorana et Fan (2000)

Source: Noblet, Jean-Pierre, et Éric Simon. « Capacité d'absorption : revue de littérature, opérationnalisation et exploration ». Absorbing Capacity : A Review of the Literature, Operationalisation and Exploration. Gestion 2000 27, no 6 (11 décembre 2010): 59 74.

Table 42. Les dimensions de la capacité d'absorption et variables caractéristiques.

- Noblet & Simon 2010

Dimensions	Thèmes dominants	Variables caractéristiques
Acquisition	Reconnaître et comprendre la nouvelle connaissance externe Valoriser et acquérir la connaissance externe	Sources des Connaissances préalables Nature des connaissances externes Type de connaissances nouvelles Investissements précédents Expériences préalables Acquisition de licences Accords contractuels Alliances et autre JV ou relations inter-organisationnelles Motivations des acteurs Langage commun et partagé Intensité de la R&D Familiarité avec les problèmes organisationnels Turn-over personnel Participation à la prise de décision l'habileté à détecter les opportunités dans l'environnement (expectation formation) Position de la firme dans le réseau
Assimilation	Assimiler la connaissance externe et sa valeur Absorber la connaissance externe	Routinisation Capacités de coordination Turn-over personnel Nombre de brevets Nombre de communautés de recherche et/ou de pratique Soutien du management

Dimensions	Thèmes dominants	Variables caractéristiques
Transformation	Transformer en développant des routines Combiner les connaissances existantes avec des connaissances assimilées Additionner ou supprimer des connaissances, interpréter différemment Assimiler la connaissance externe Internaliser et convertir l'information	Développement de nouveaux produits Diversification Routines de création de connaissances Nombre d'idées nouvelles
Exploitation	Appliquer la connaissance externe assimilée Atteindre des objectifs organisationnels Créer de nouvelles connaissances par incorporation de connaissances acquises et transformées	Nombre de brevets déposés Nombre de nouveaux produits Systèmes de protection

Source: Noblet, Jean-Pierre, et Éric Simon. « Capacité d'absorption : revue de littérature, opérationnalisation et exploration ». Absorbing Capacity : A Review of the Literature, Operationalisation and Exploration. Gestion 2000 27, no 6 (11th of December 2010): 59 74

Table 43. Multidimensional measure of ACAP - Flatten et al. (2011)

Dimensions	Items	Source (items are based on)
Acquire	Our management emphasizes the exchange of information and experience with companies within the same industry.	Auster and Choo (1993), Veugelers and Cassiman (1999), Wilkens et al. (2004)
	Our management engages in joint research projects with companies and research institutions beyond the industry.	Jansen et al. (2005), Laursen and Salter (2006)
	A periodical meeting with external experts within our industry for the accumulation of relevant information goes without saying in our company.	Auster and Choo (1993), Daft et al. (1988), Fosfuri and Tribo´ (2008), Jones et al. (2001), Sidhu et al. (2007)
	The search for relevant information concerning our industry is every-day business in our company.	Daft et al. (1988), Jansen et al. (2005), Wilkens et al. (2004)
	Our management motivates the employees to use information sources within our industry.	Sidhu et al. (2007), Veugelers and Cassiman (1999)
	In our company it is appreciated when employees procure information from other industries as well.	Auster and Choo (1993), Jansen et al. (2005), Veugelers and Cassiman (1999)
	Our management expects that the employees deal with information beyond our industry.	Jansen et al. (2005), Laursen and Salter (2006)
Assimilate	In our company ideas and concepts are communicated cross-departmental.	Shu, Wong, and Lee (2005)
	Our management emphasizes cross-departmental support to solve problems.	Schmidt (2005)
	Our company uses tools (e.g., intranet, internal studies/reports) to spread knowledge in the whole organization.	Bontis, Crossan, and Hulland (2002)
	In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments.	Bontis et al. (2002), Hock-Hai et al. (2006), Tiwana and McLean (2005), Vorhies and Harker (2000)

Dimensions	Items	Source (items are based on)
	Our management demands periodical crossdepartmental meetings to interchange new developments, problems, and achievements.	Farrell (2000), Hult et al. (2004), Kohli et al. (1993), Pavlou and El Sawy (2006), Vorhies and Harker (2000)
	Our employees of diverse departments get along well, when communicating with each other on a cross-departmental basis.	Ko, Kirsch, and King (2005)
	For projects our management supports temporary exchange of personnel between departments.	Schmidt (2005)
	In our company there is informal contact between employees of all levels and departments.	Shu et al. (2005)
	Our management emphasizes a shared lingo for intra-corporate communication.	Huber (1991), Hult et al. (2004), Ko et al. (2005), Szulanski (1996)
	In our company employees are conscious about who possesses special skills and knowledge and for who certain information is of interest.	Espinosa et al. (2007), Pavlou and El Sawy (2006), Szulanski (1996)
	Our employees share their knowledge, their information and their experience willingly with their colleagues	Gee Woo and Young-Gul (2002), Liao (2006), Liao et al. (2007), Lin (2007), Soonhee and Hyangsoo (2006)
	Our management is a good role model regarding the distribution of knowledge.	Lu et al. (2006), Szulanski (1996)
Transform	Our employees have the ability to structure and use collected knowledge.	Liao et al. (2007)
	Our management emphasizes the systematic reuse of insights out of past projects.	Bontis et al. (2002), Hock-Hai et al. (2006)
	Our company policy encourages our employees to engage in further training and continuous learning.	Hock-Hai et al. (2006), Nevis and DiBella (1995)
	Our employees are used to absorbing new knowledge as well as to prepare it for further purposes and making it available.	Collins and Smith (2006), Jansen et al. (2005), Pavlou and El Sawy (2006)

Dimensions	Items	Source (items are based on)
	Our employees successfully link existing knowledge with new insights.	Pavlou and El Sawy (2006)
	Our employees cleverly transform information from internal and external sources into valuable knowledge for our company.	Tiwana and McLean (2005)
	Our management encourages employees to combine ideas cross-departmentally.	Collins and Smith (2006)
	Our management thinks that our learning capabilities are a competitive advantage for our company.	Farrell (2000), Hult et al. (2004), Teo et al. (2006)
	Our company owns tools to enhance knowledge that secures the companys competitiveness.	Hock-Hai et al. (2006)
	Our employees are able to apply new knowledge in their practical work.	Ettlie and Pavlou (2006)
	Our management encourages employees to generate knowledge.	Bontis et al. (2002)
	Our management provides employees with enough scope for development to use the aggregated information for experimenting with alternative solution possibilities.	Expert interview
Exploit	Our company launches innovative products/services promptly with regard to its research.	Liao (2006)
	Our management supports the development of prototypes.	Nambisan, Agarwal, and Tanniru (1999)
	Our company strives to convert innovative ideas into patents.	Expert interview
	Our company regularly reconsiders technologies and adapts them in accordance with new knowledge.	Expert interview
	Our company has the ability to work more effectively by adopting new technologies.	Expert interview

Source: Flatten, Tessa C., Andreas Engelen, Shaker A. Zahra, and Malte Brettel. “A Measure of Absorptive Capacity: Scale Development and Validation.” *European Management Journal* 29, no. 2 (April 2011): 98–116

Table 44. Measures of absorptive capacity - M. Nieto, P. Quevedo - 2005

ACAP components	Measures
Communication with the **outside environment**	. The firm's own staff systematically undertake technological awareness surveys **. The firm conducts frequent market research so as to be aware of customer needs** . Licensing is a method we often use to obtain technology. We have developed new products and/or processes in collaboration with other firms . The R&D budget is spent on subcontracted research teams from outside the firm **. The firm is well aware of the technologies being developed by competitors** . The firm has become a technology supplier to other firms in its sector . The firm normally goes to other bodies (consultants, universities) to find out about fresh opportunities for introducing new products
Level of know-how and experience **in the organization**	. **Most of our staff are highly skilled and qualified** **. We invest a great deal in training** . We innovate by improving competitors' products and processes . Most of the time we are ahead of our competitors in developing and launching new products **. We have the capacity to adapt others' technologies** . We innovate as the result of R&D carried out within our own firm **. The firm has a capacity for technological development** allowing us to introduce onto the market innovations which are completely novel on a worldwide scale . We have considerable capacity for technological development

ACAP components	Measures
Diversity and overlaps in the knowledge structure	. The firm's production activities are concentrated in one single locality The firm's organization includes a large number of managerial posts . In comparison with other firms, ours has a large number of sections within each management level . The level of co-ordination between the various activities carried out in our firm is very high . The firm has **staff with a wide range of** training and educational backgrounds . Payment for R&D employees in the firm is linked to the contribution they make to innovation **. The firm specializes in a small number of technologies** . Development projects for new products are carried out by multidisciplinary teams
Strategic positioning/posture	. Achieving maximum product quality . **Efforts aimed at developing new products** . Improving existing products . Efforts to maintain and improve the firm's brand image . **Efforts aimed at reducing costs** . Price is a fundamental factor . Market share . Noteworthy economies of scale

*in bold are the significant factors influencing success in innovating.

Given, there is no standard measurement permitting operational use of the variable absorptive capacity. Variables have been built by the authors on the basis of identification of the principal factors having an influence, whether positive or negative, over accumulation of this capacity.

The information collected about each of these indicators was related to a variable representing the success achieved in innovating, measured on the basis of the percentage new products constitute of the total sales by the company.

Table 45. Pour une opérationnalisation multidimensionnelle de l'ACAP - Dubouloz & Bocquet – 2013

(for a multidimensional operationalization of ACAP)

Dimensions de l'ACAP	Composants	Citations de Cohen et Levinthal (1989, 1990, 1994)	Mesures possibles
Reconnaître la valeur	Connaissances préalables	« Sans un socle préalable de connaissances dans un domaine particulier, une entreprise ne peut pas être en mesure d'en acquérir des nouvelles » (1994, p. 236)	Cumul des évènements expérimentés et pratiques correspondantes (Lenox et King, 2004)
	Structures de communication	L'ACAP dépend « de la structure de communication entre l'environnement externe et l'organisation » (1990, p. 132)	Infrastructures ICT (Chiaroni *et al.*, 2010)
Assimiler	Connaissances préalables	« Les connaissances préalables permettent *l'assimilation* et l'exploitation de nouvelles connaissances » (1990, p. 136)	Cumul des évènements expérimentés et pratiques correspondantes (Lenox et King, 2004)
	Spécialistes compétents	« Pour assimiler certaines catégories de connaissances complexes, il est nécessaire qu'il y ait des employés, spécialistes… compétents dans leur domaine » (1990, p. 135)	Présence de spécialistes compétents dans leur domaine (Cohen et Levinthal, 1990)
	Structure organique	« La structure organique est plus adaptée à l'ACAP » (1990, p.132)	Décentralisation (Lane et Lubatkin, 1998)
	Stock de connaissances des employés	« Le personnel doit avoir un niveau de connaissance suffisant et pertinent » (1990, p. 132) « L'ACAP dépend des liens à l'intérieur d'une mosaïque de capacités individuelles » (1990, p. 133)	Niveau de formation des employés (Escribano *et al.*, 2009 ; Kostopoulos *et al.*, 2011)
	R&D	« La R&D favorise les capacités *d'assimilation* et d'exploitation des connaissances de l'entreprise » (1989, p. 21)	Intensité de la R&D ou dépenses en R&D (Cohen et Levinthal, 1989, 1990, 1994)

	Structures de communication	L'ACAP repose sur « les structures de communication au sein des unités de l'entreprise » (1990, p. 132)	Infrastructures d'information et de communication (IC) (Chiaroni *et al.,* 2010)
Appliquer	Connaissances préalables	« Les connaissances préalables permettent l'assimilation *et l'exploitation* de nouvelles connaissances » (1990, p. 136)	Cumul des évènements expérimentés et pratiques correspondantes (Lenox et King, 2004)
	R&D	« Les activités R&D contribuent à l'ACAP » (1990, p. 137) ; « La R&D favorise les capacités d'assimilation et *d'exploitation* des connaissances de l'entreprise » (1989, p. 21)	Intensité de la R&D ou dépenses en R&D (Cohen et Levinthal, 1989, 1990, 1994)

Source: Dubouloz, Sandra, et Rachel Bocquet. « Innovation organisationnelle ». More openness for more organizational innovation. 39, no 235 (8 septembre 2013): 129-47

Table 46. Effects of elements of ACAP on absorption of process innovation in financial companies – Glabiszewski and Al. - 2018

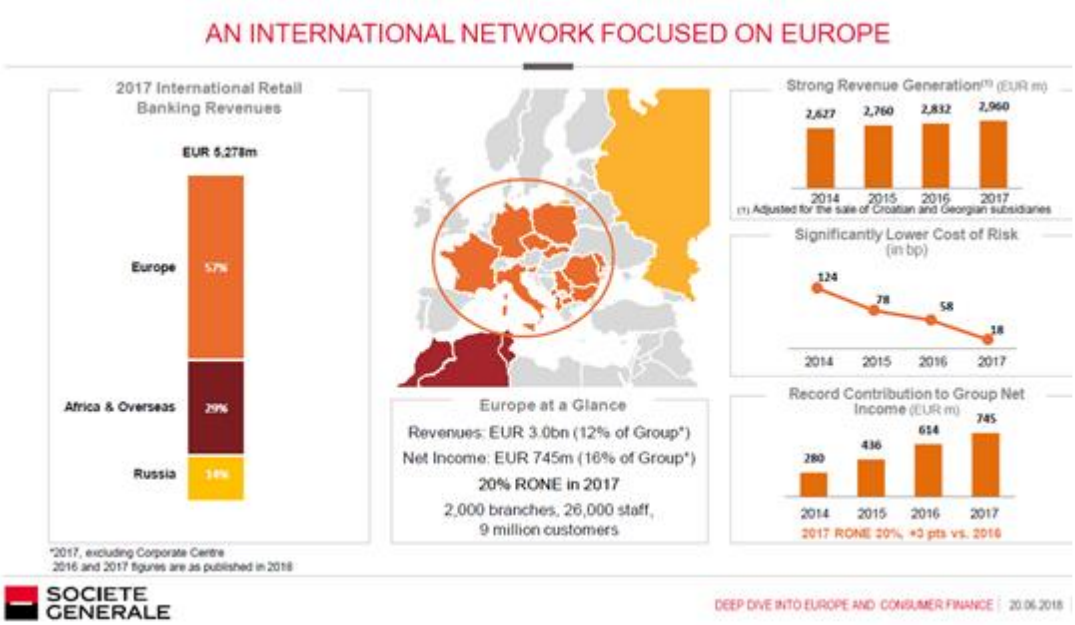
Table 2 | Correlations between the degree of development of absorptive capacities of financial companies and the effects of the absorption of process innovations.

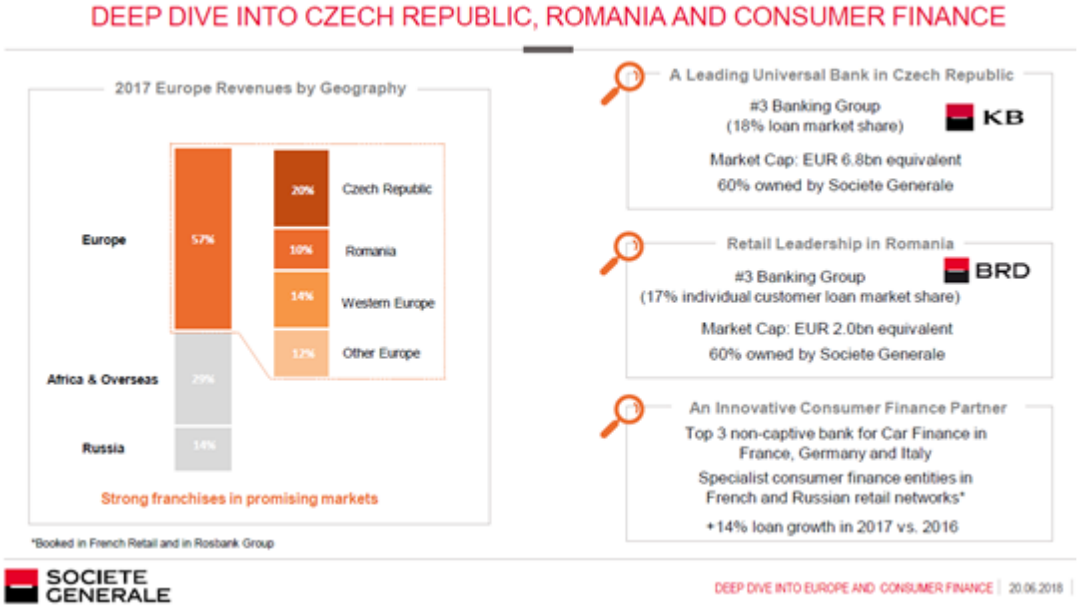
No.	Elements of absorptive capacities	Total effectiveness
		r
Personal absorptive capacities		**0.68†**
1	employees' experience in the area of the absorption of process innovations	0.71†
2	motivation to introduce innovative changes, in particular technological ones	0.71†
3	entrepreneurial attitudes of employees	0.68†
4	employees' aptitude for learning	0.65†
5	interpersonal skills of employees	0.62†
6	employees' aptitude for communicating with other employees	0.59†
7	knowledge and technical skills of employees	0.58†
8	openness and readiness to absorb new knowledge	0.56†
Organizational absorptive capacities		**0.60†**
1	pro-innovation motivational system (providing incentives to undertake innovative activity)	0.67†
2	pro-innovative recruitment system (promoting employees' qualifications in the field of innovative activity)	0.65†
3	pro-innovative organizational culture (focused on inspiring and making innovative changes)	0.65†
4	pro-innovative training system (raising qualifications in the field of innovative activity)	0.64†
5	pro-innovative employee evaluation system (providing assessments of innovative activity)	0.62†
6	know-how and technological infrastructure	0.59†
7	multiple and positive relations with entities from the sector environment	0.46***
8	an efficient flow of intraorganizational communication	0.43***

Note: *** - significant at the 0.01 level; † - significant at the 0.001 level

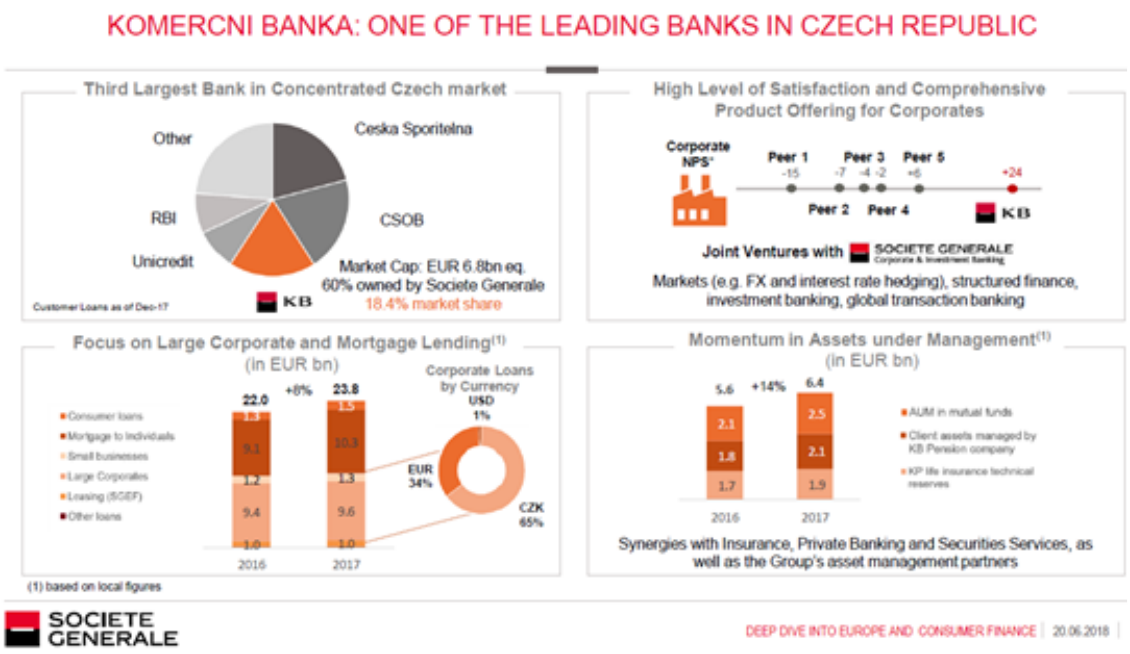
Source: Glabiszewski, W., Grego-Planer, D., Liczmańska-Kopcewicz, K., Zastempowski, M. « Key elements of the protechnological absorptive capacity of financial companies in Poland ». Central European business review. Volume 7, Number 2, 2018.

12.5. DESCRIPTION OF EURO (EUROPE) BUSINESS UNITS



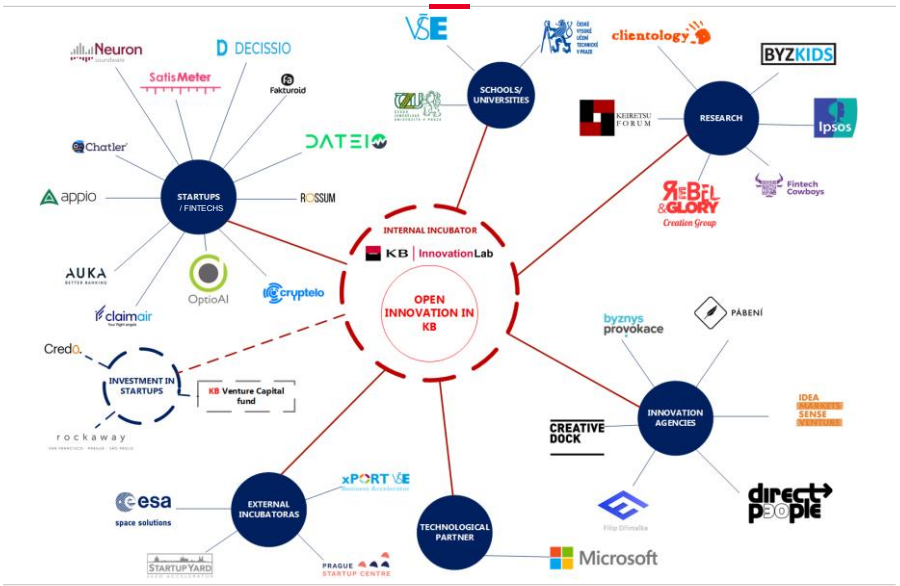


12.6. DESCRIPTION OF KOMERCNI BANKA AND ITS INNOVATION JOURNEY

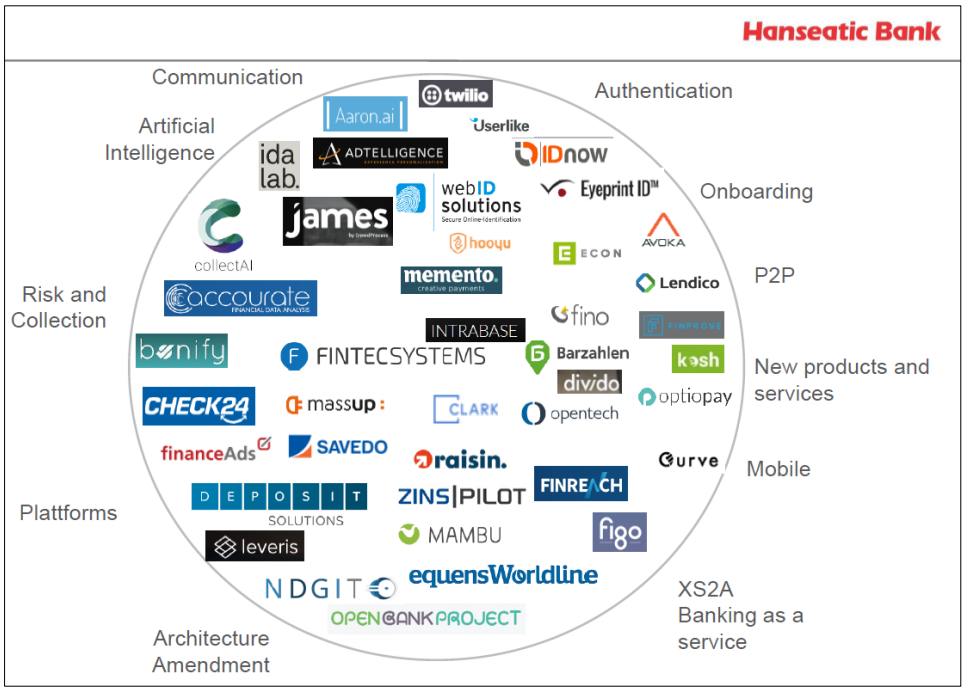


MAJOR MILESTONES OF INNO-ECOSYSTEM IN KB

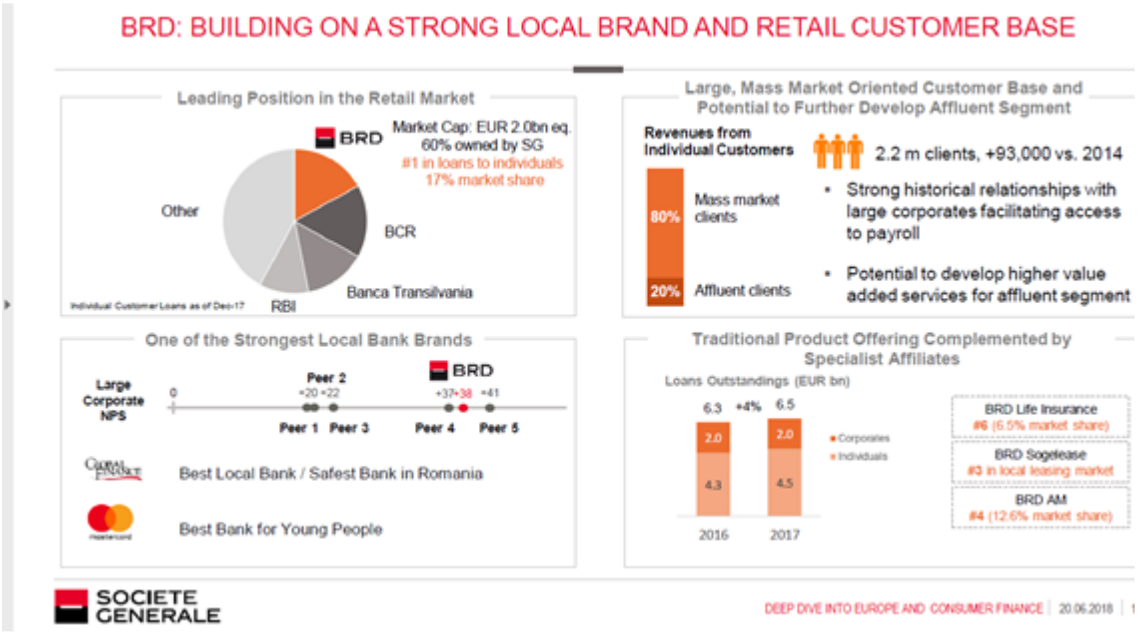
WE ARE OPENED...



12.7. HANSEATIC BANK FINTECH ECOSYSTEMS AND STRUCTURED SOURCING APPROACH



12.8. DESCRIPTION OF BRD AND ITS INNOVATION JOURNEY



12.9. FOCUS INTERVIEW GUIDE

Final version as of August 2018

CONTEXT

- Previous Knowledge (KM) and related experience
- KM to acquire (KM recognition)
- Business opportunity at stake
- Specific triggers or political environment to move on this topic
- Decision to partner and the collaboration mode that was chosen
- Partners selection process and connection (KM source)
- Initial objective of the project and collaboration intent form the sponsor and the project
- The teams (type of skills / profile; full time or not)
    - The Bank
    - The Fintech

FINTECH

- Maturity
- Key features and metrics
- Value proposition and technology
- Potential innovation magnitude

COLLABORATION JOURNEY - Project process flow chart (story line):

- The governance:
    - How did you get organized to manage the collaboration (e.g.: project methodology like agile; joint meeting, clarity of goals, specific on-boarding of the Fintech, collaborative tools, location etc.…)
    - How did you get organized to monitor and decide on the delivery along the time?
    - Finally, what was specific to a collaboration project compared to a traditional or agile project?
    - How has these initiatives been financed?

- Dates for main activities, decisions or specific inputs/triggers; specific achievements / delivery / outputs.
- Any conflicts and associated remediation?
- Knowledge acquisition / assimilation:
    - How did you get organized to manage and decide on the acquisition and diffusion of KM along the time?
    - What do you have understood along the way (notably at each main milestones/ delivery e.g. POC, MVP etc.)
    - Did you ask the Fintech for any clarification or further explanations and conversely?
    - Did you diffuse this KM beyond your project, did you make any REX out of it?
    - Which legal framework have you implemented to own the acquired or developed in common knowledge (e.g. patent)?
- Knowledge transformation:
    - Did you have any difficulty to understand the KM supplied by the Fintech?
    - What have you been obliged to explain further internally
    - What KM you have added to the KM you acquired
- Knowledge exploitation
    - How did you integrate the KM and the solution within your operating model (IT, Data, organization…)?
    - Did you set-up any specific legal framework to ease integration or replicability (e.g.: master agreement)?
- Conversely how did you potentially get organized to share your knowledge with the Fintech?
- What was the role and usefulness of the different OI set-ups at each level (project, entity, SG Group):
    - External innovation ecosystems (e.g.: incubators, VCS…)
    - Internal labs
    - Innovation functions
    - others

STEPPING BACK

- Outcomes of the collaboration?
- Main difficulties / enablers to meet initial goal, to deliver and acquire the KM of the Fintech?
- Your learnings regarding:
    - The KM you acquired, you improved / modified / newly produced along the time. (modalities, proof of effective appropriation and how you got organized to acquire it)
    - Assessment of the collaboration (did you achieve your initial goals? Did you achieve other unexpected benefits) and Key Success Factor to make the most of collaboration
    - If you were to do it again would you do it differently?
    - Are you better prepared to innovate and collaborate with third party now?
- What surprised you most during this collaboration?
- Based on this experience, what would be the key criteria to select a partner?
- What did you learn of which acquired knowledge will have an impact beyond and after the project?

WHAT'S NEXT FOR THE PROJECT AND THE COLLABORATION?

AVAILABLE ADDITIONNAL DATA. Type of existing documents to forward:

- Project's charter or any project's description doc (description of planning, of the team, governance etc.…)
- Key mails
- Project review minutes or Decision logs
- Steercos
- Assessment of the Fintech
- Contract with the Fintech
- Project KPIs
- Any material describing the Fintech (number of employees, turnover, business model…)

12.10. DETAILED DATA SOURCE DESCRIPTION PER CASE

Table 47. Data source for the Auka case

Type of Data	Date	Specific purpose / use
Primary data		
2 focus Interviews with Project leader and a business analyst of the project	01-2 /08/2018	Focus on joint team detailed functioning and planning
1 focus interview with the Bank Project leader (business team leader)	03/08/2018	Understand the case and capture of data at project level
Focus interview with head of lab & innovation and head of digital channel	09/03/2018	Understand the case and capture of data at organizational level notably regarding learnings and outcomes. Understand power and organizational dynamics. Understand historical background to the project.
Group interview in KB with Head of Marketing, Head of Digital channel, Head of Open Banking and Head of Innovation lab	09/03/2018	Understand how the organization supported the project
Presentation of the return of experience by the head of lab & Innovation at an external innovation events	04/2018	Getting the main learnings and difficulties out of the case and contrasting it with other experience of KB

Type of Data	Date	Specific purpose / use
Round table on payment with the CEO of Auka in front of the heads of marketing and innovation functions of the entities of the Region	06/2018	Observing the way the partner can share knowledge with the different entities of the banks and express needs to scale up
Unformal discussions with Auka CEO	04 and 06/ 2018	Sharing about the role difficulties from the Fintech point of view point of view in collaborating. Sharing about the di-directional flow of knowledge between the entities of the bank and the Fintech
Unformal discussions with the headquarter marketing function on Auka collaboration	06/2018	Identify opportunities and difficulties at HQ level to support the collaboration and the scaling up of the Fintech
Complementary focus interview with the Bank Project leader (business team leader)	07+08/2018	Complement data and share process project flow chart.
Presentation of the new payment scheme proposed by AUKA	09/2018	Observe how the Fintech transfers knowledge while selling its products.
Secondary data		
Project charter	March 2018	Planning and explicit milestones
Auka implementation Plan	03/2018	Review implementation plan: planning of Pilot and expected deployment in 2018

Type of Data	Date	Specific purpose / use
Detailed planning	08/06/2018	Review Auka detailed Pilot planning
Backlog	N/A	Review of the backlog of tasks used during the project that leveraged collaborative tools
Auka website https://www.auka.io/about-auka/	N/A	Gather general info on the Fintech and its positioning
Social networks (Twitter and Linked in) Auka account		Public point of view on collaboration. Know how public positioning.
Transaction Flow (Auka deliverable)	N/A	Understand the solution value added. Review a concrete example of formalized knowledge transfer
Auka PoC	TBC	Review description of Goals and scope of the Pilot / PoC
Ipsos for KB – Quantitative research Ipsos Pro KB – Qualitative research	June 2018	Review of a transfer of knowledge from the Fintech through contribution to quantitative report of research on Interest in the Auka Pay app and qualitative research on attractiveness of Auka Pay app among merchants.
Business case Excel Porovnani BC	N/A	Understand ambition and the way it is shared
Merchant persons	N/A	List of targeted merchants for launching

Type of Data	Date	Specific purpose / use
NDA signed by Auka	17/10/2017	Detail of NDA signed by Auka
Procurement letter	17/10/2017	Review of details of offer (PoC) from Auka to KB including description of the Fintech, of the board and management members, of financial statements indicators and of the scope of the Poc / pilot: Internal stakeholders at the Bank - up to 100 users and 3 merchants in the office buildings of the Bank).
Software as a service (SAAS) agreement for the Pilot	TBC	Review the most demanding document from project leader's point of view to meet KB IT requirements (Agreement for PoC delivery between Auka and KB). Review of IP rights
One pager – template Auka Kobra	N/A	Understand Fintech offer: One-pager presentation of Auka's solution and project
2 internal communications on the Group intranet on the project	06+07/2018	Observe the how the entity diffused / promoted the project and the collaboration within the Bank
Review of mails between Auka and the Bank to discuss opportunities for additional partnerships	06-09/2018	Identify opportunities and difficulties at HQ level to support the collaboration and the scaling up of the Fintech

Type of Data	Date	Specific purpose / use
Auka emails on a EURO sharing event in Belgrade.	05 to 06/2018 06 to 09/2018	Observation on preparation of Auka and collaboration broadcasting at BU level. Mails to answer SG's interrogations regarding the main implementation difficulty: the close loop aspect of the solution (on-boarding of non-customers) and description of the new solution they came up with

Table 48. Data source for the Fakturoid case

Type of Data	Date	Specific purpose / use
Primary data		
Interviews of head of Open banking in KB		Understand project journey and associated business opportunity within the Open banking development strategy.
Focus interview with head of lab & innovation and head of digital channel	10/03/2018	Understand the case and capture of data at organizational level notably regarding learnings and outcomes. Understand power and organizational dynamics. Understand historical background to the project
Interview with CEO of Fakturoid, Head of SME segment and communication department		Triangulate info regarding the feedbacks on the collaboration journey and outcomes
Presentation of the return of experience by the head of lab & Innovation at an external innovation event	04/2018	Getting the main learnings and difficulties out of the case and contrasting it with other experience of KB
Secondary data		
Project presentation	12/2017	Understand the project planning, deliverables and business case indication
Project submission files for BU and Group awards	04/2018	Observe how an entity broadcasts and markets its

Type of Data	Date	Specific purpose / use
		initiatives within a rewarding process: the BU and Group Innovation awards
KB Open banking strategy	04/2018	Understand the Open banking strategy of the entity
KB lab activity report	10/2017	Understand lab services range and effective support to innovation project for the entity
Performance report after innovation commercial launch	07/2018	Observe how innovation performances are monitored
Intranet and LinkedIn communication	08/2018	Observe how an initiative is promoted internally and externally to strengthen the entity and the Groupe image
Innovation external innovation watch	09/2018	Observe how the collaboration is perceived by the market

Table 49. Data source for the Collect AI case

Type of Data	Date	Specific purpose / use
Primary data		
Interview with head of Marketing and innovation	08/2017	Understand: - HB innovation strategy and ecosystem. - Collect AI project
Interview with head of collection	3/08/2018	Understand Collect AI project
Interview with head of project	24/08/2018	Understand Collect AI project
Interview with Collect AI management and head of project on Collect AI side	09/2018	Getting to know the Fintech and development strategy. Get some feedbacks from Fintech's perspective on collaboration and expected next steps.
Interview with collection managers from the project and a collection expert from HQ	31/07/2018	Understand / challenge the true performance and project's deliverables of the project. Observe how the HQ assesses a pilot based initiatives and how HQ gets organized to replicate initiatives
Unformal discussion with Collect AI startup sales representatives at Money 20-20	06/2018	Cross check deployment information. Get insights regarding collaboration feeling and required next steps
Mails on preparation of project broadcasting within	03/2018	Observe how the entity broadcasts its project within the BU and its

Type of Data	Date	Specific purpose / use
the BU (audience: entity CEOs) + unformal discussions during CEO seminar + HB pitch		entities and the difficulties the entity faces. Observe how the knowledge is conveyed to CEOs.
Mails and discussions on HQ collection experts assessing the solution Workshop with HB and the Fintech to in depth assess the solution and the project for potential replication	06-07/2018	Investigate how the HQ: - and experts assess and challenge a Fintech solution - supports the scaling up of a Fintech Observe the assimilation process at BU level.
Informal discussion during presentation of Collect AI during a Data community seminar.	06/2018	Observe adoption / understanding by a community of experts. Observe how the knowledge is conveyed.
Informal discussion between an internal collection tool providers and the project team	09/2018	Observe how knowledge diffuse at Group level between experts
Discussion and submission form regarding the BU and Group innovation awards	06/2018	Observe the communication strategy to market the collaboration

Type of Data	Date	Specific purpose / use
Secondary data		
Presentations of the strategy of the entity (audience: supervision and HQE management)	07/2017 09/2017	Business presentation and review. Understand the link between business strategy and open innovation strategy.
Project workshops' and project reporting materials from steering Committee	03/2018	Project organization incl. joint project team Project planning and project assessment incl. project management issues. KPIs on project's performance Understand the project governance and planning.
"Business review" minutes (part of the project governance)	07/2018	Example of the project governance output. Data on the planning.
Contracts with the Fintech	N/A	Analyze the two legal frameworks chosen to manage the pilot phase and then the deployment phase
Press release regarding Hanseatic bank collaboration with Collect AI at Money 20-20, a major international innovation event we attended[46]	06/2018	External communication on collaboration and associated outcomes Observe how partners jointly communicate on their partnership in the market.

[46] https://www.crowdfundinsider.com/2018/06/134443-digital-receivables-company-collectai-partners-with-hanseatic-bank/

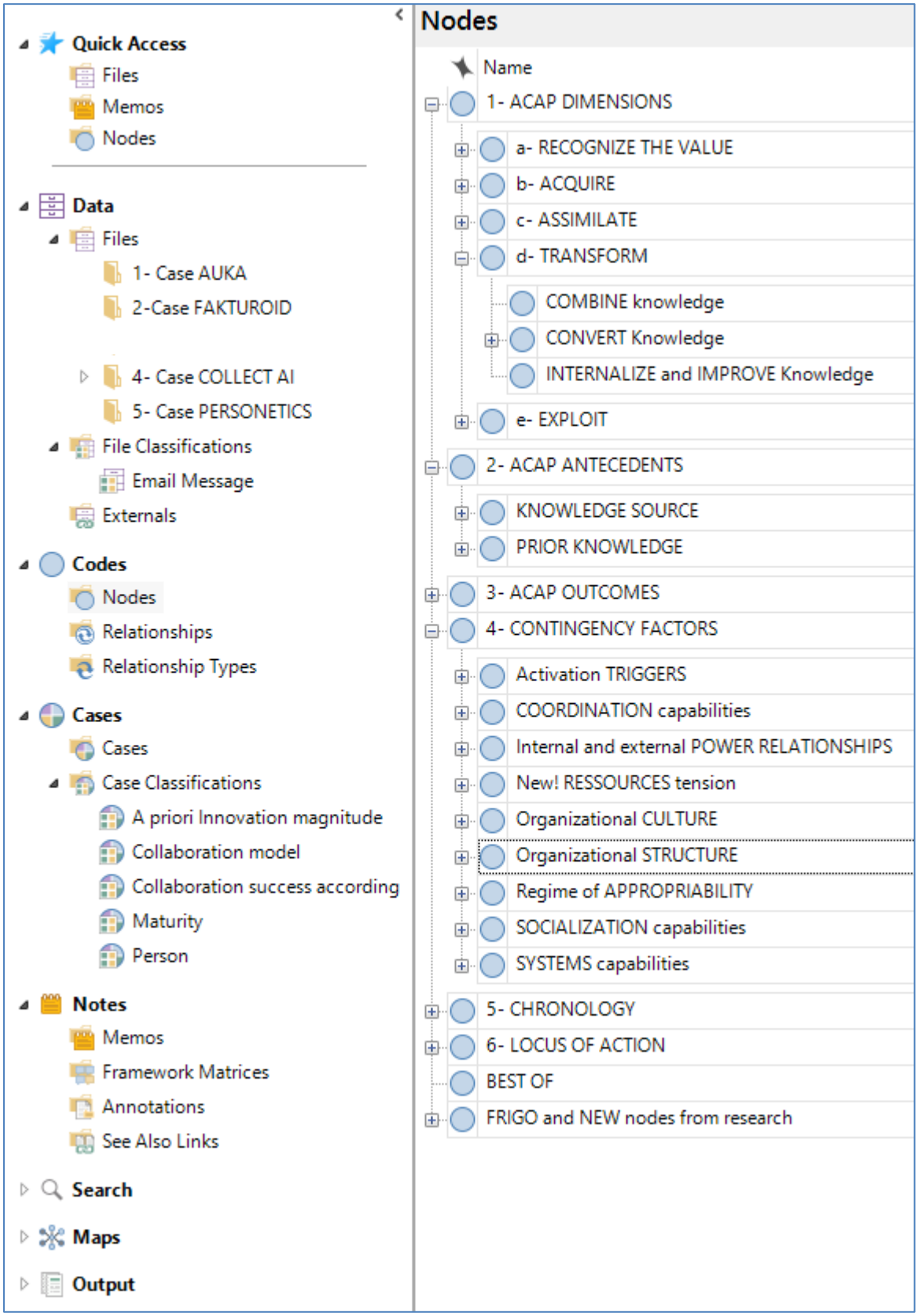
Type of Data	Date	Specific purpose / use
Mail and informal discussion on the support of the German Lab	04/2018	Observe the role of a Group innovation set-up in the sourcing of fintechs and assessment of Collect AI for potential investment
Mail on the willing from HB CEO to involve the BU and the Group in getting support	04/2018	Observe the communication strategy from entity pushing for visibility and Group support incl. equity financing. Observe how the entity presents the value added and the knowledge conveyed by the Fintech (assimilation?)
Presentation document from the Fintech	03/2018	Observe how the Fintech presents its knowledge and collaboration options
Mails and Minutes of HQ analysis on the project effective status and Fintech's effective value proposition	04/2018	Observe how the HQ and central expert try to understand and assess the local project and the Fintech

Table 50. Data source for the Personetics case

Type of Data	Date	Specific purpose / use
Primary data		
Focus interview with head of lab and collaboration project completed by additional information sent just after the interview	08/2017	Review the collaboration project, the timeline and the fintech
Focus interview with head of Lab and collaboration project	09/2018	Further discuss planning and knowledge transfers. Benefit from a more reflexive view from the interviewee one year after 1st interview. Triangulate with initial interview
Focus interview with the Fintech head of Sales	09/2018	Triangulate information and discuss change of positioning of the Fintech
Secondary data		
Docs describing the fintech + marketing materials	N/A	Understand the fintech and its positioning
Agreements for POC's launch First Proposal and Statement of Work	09/11/2016 16/10/2016	Understand the project governance, responsibilities split and planning
Email conversation between BRD and Personetics on issues and problems to solve on the Bot.	March 2017	Understand conflict on delivery quality: - Email "*BRD Bot / Issues log on Trello*"
	April 2017	- Email "*BRD Report*". Email conversation on report and analysis

Type of Data	Date	Specific purpose / use
		provided by Personetics + discussion about some issues remaining
	April 2017	- Email regarding tests and feedbacks analysis/reports. Email "*BRD Facebook Chatbot*"
	24/04/2017	- Email "*Fwd: BRD Report*"
	23/04/2017	- Excel file "*User report analysis*" Analysis report with questions/responses the bot did not understood
	June 2017	- Email discussion between BRD and Personetics on other issues to fix and next steps. Email "*BRD chat bot follow up and next steps*"
Report with the entire flow script	24/04/2017	Understand the solution.
BRD Facebook Messenger Chatbot Pilot Results	20/07/2017	Understand the pilot results
EMail "*Personetics - Presentation & next steps*"	07/2016	Analyze how a HQ (central marketing team) broadcasts and market the Fintech to entities

12.11. NVIVO CODES' STRUCTURE



12.12. VISUAL DESCRIPTIONS OF THE FINTECHS STUDIED

AUKA

Person-to-Person Payments
Read more

Digital Cash Payments
Read more

Pre-order Payments
Read more

eCOM Payments
Read more

Point-of-sale Payments (POS)
Read more

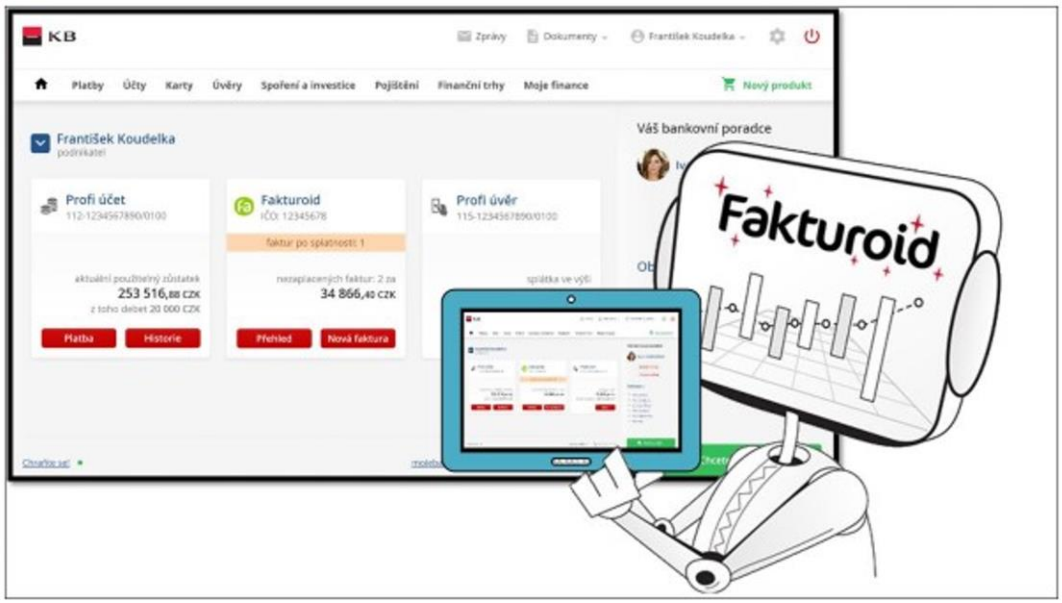
Invoice Payments
Read more

Third Party App Payments
Read more

Identity
Read more

Aquiring
Read more

Fakturoid



collectAI

collectAI supports Bonprix in its Dunning Process

1.Communication

Dialogue via digital channels such as SMS and email to ensure reachability & reduce costs

2. Landing Page

Landing Page for summarising details and as a feedback channel for service centre

3. Payment

Integration via bank and direct transfer, more payment methods planned

personetics