

# Consumers' fears about open banking: How banks can overcome them?

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## **Abstract**

Open banking (OB) relies on the opening of banks' information systems and sharing customer data with third parties. Open models are clearly beneficial for customers, as well as for banks, but a number of challenges arise from the use of open data that could undermine consumer trust and confidence. This study aims to determine how digital native woman perceive OB, which are their fears, whether there is a difference between those who already use an account aggregator and those who do not, and how banks can encourage consumers in the change toward OB to improve consumer trust. To study perceptions and fears of OB, a primary survey was conducted among 556 digital native women, using structured questionnaires. A post-qualitative study with the director of OB services at Crédit Mutuel Arkéa France was conducted to discuss the managerial implications. The results show that OB impacts the trust customers have in their bank, whether they use an aggregator or not. Most consumers are against their data being accessible to companies unrelated to their banks, which clearly demonstrates their stance against data sharing. Analysis of these results leads us to offer different recommendations, especially to help banks begin to leverage these open frameworks to set a foundation for trusted innovation.

**Keywords:** Open Banking, Payment Services Directive (PSD2), Consumer Trust, Banking Innovation.

## **INTRODUCTION**

Banking services are facing enormous pressure to transform from the traditional banking model to an innovative model to cater to the needs of their tech-savvy customers. The latest version of the Payment Services Directive (PSD2), implemented in 2018 across Europe, and the open banking (OB) initiative in the United Kingdom are pushing for the creation of an OB environment through an application programming interface (API). OB is a fintech innovation and it involves “a collaborative model in which the banking data is shared through APIs between two or more unaffiliated parties to deliver enhanced capabilities to the marketplace” (Brodsky and Oakes, 2017) In other words, OB relies on the opening of banks’ information systems and sharing customer data with third parties. Thus, third parties can now access bank customers, increasing competition and disrupting the business model of incumbent banking players. Additionally, OB modifies the ways in which banking products and services can be created and offered to customers, involving a paradigm shift in consumer behavior (Romanova et al. 2018).

Since banking is a very conservative industry, disruption emerging from changes in customer behavior and the use of technology has come later to the banking sector than to most other sectors (Blakstad & Allen, 2018). The factors propelling banks toward OB are the quest for new business models, regulatory changes, competitive pressure, the threat from fintech, and digital ecosystems such as Apple, Google, Facebook, and Amazon (Fintech Futures, 2018). There are many advantages to banks’ adoption of OB technology, such as becoming more customer-centric by providing a better customer experience, cost reduction, and higher revenues (Gartner, 2018). OB enables business ecosystems to build new apps, products and services; match buyers and sellers; and create new business models (Romanova et al. 2018) OB allows banks to add new data for their own services and to create new services via APIs and partnerships. APIs can also be used as a marketing tool through partnerships with fintechs.

The possibility of sharing data with third parties could help banks provide better customer service, but the question still remains: are consumers ready to embrace the era of OB? More specifically, our research aims to determine consumers’ fears about OB, whether there is a difference between people who already use an account aggregator and those who do not, and how banks can encourage consumers in this change. Trust is of paramount importance to banks. If trust in banks is declining, it is important to determine how banks can boost consumer trust and confidence. The present study implemented a quantitative study with 556 digital native woman and a post-qualitative study with the director of OB services at Crédit Mutuel Arkéa, France. An online questionnaire was set up using Survey Monkey software and univariate and bivariate analyses were conducted. The results of our quantitative study were then presented to the director of OB at Crédit Mutuel Arkéa services and the managerial implications were discussed.

## **LITERATURE REVIEW**

### **Regulatory context**

The regulatory framework for payment services in the European Economic Area, PSD2, was instituted in January 2018 and it follows the original PSD of 2009. The aim of PSD2 is to expand the level of integration and efficiency in the market, promoting competition in an environment in which new players, such as fintech startups, and a new generation of payment products and services are emerging. Another key aim of PSD2 is to increase the level of consumer protection through the use of strong customer authentication principles. A key

provision of PSD2 therefore aims to increase innovation in the sector and thus provide greater transparency, security, and quality of service, as well as lower prices for users.

To encourage further competition, PSD2 requires banks to provide access to their customers' accounts to nonbanks. This means that banks need to entirely review the way they provide access to and process customer data, and a more open approach to working with other banks and third-party providers could enable them to find new opportunities. According to Open Data Institute and Fingleton (2019), the narrow focus of OB limits banks' potential to boost competition in the financial sector, for example, by helping customers find better savings account interest rates or cheaper mortgages. Extending OB to these other financial products would drive further innovation and improve consumer outcomes. It is clear that open models are beneficial: they create new sources of value by unlocking creativity and knowledge to improve the customer experience, provide new revenue streams, and develop a sustainable service model for underserved markets. PSD2 should thus be a catalyst for a wave of innovation, competition, and customer-focused services (Gomber et al., 2018; Jackson 2018; Romanova et al., 2018).

### **Consumer trust**

The banking sector has long been characterized by lack of innovation (Basso et al., 2018). The banking industry's inability to keep up with innovations in other technology-reliant industries means that it has also fallen behind in terms of customer expectations. With the introduction of PSD2, fintechs now have a significant opportunity to increase competition and innovation pressure on traditional banking players (Drasch et al., 2018; Dapp, 2015; Milian et al., 2019). By assessing gaps in functionality and banking services, PSD2 could provide an opportunity for fintechs to develop innovative services that can be competitively offered to their users (Cortet et al. 2016; Zalan & Toufaily, 2017).

All of this represents a huge challenge for banks. For some authors, however, despite the increasing competitive pressure exerted by fintechs, banks still hold many advantages over them. Banks have a tremendous competitive advantage because of their built-in customer trust (Dhar & Stein; 2017), wealth of customer data (Brodsky & Oakes; 2017), and great market experience (Zalan & Toufaily; 2017). In addition, personal data protection and risk management practices in the context of cybersecurity are another key competitive advantage for banking services (Bratasanu, 2017). Considering that, for the last several years, banks have been criticized for slow innovation, they can now use their inherent trust and safety as a strongpoint to increase their pace of innovation. As financial services go digital, banks have a great opportunity to use customer trust to grow revenue.

Although this change is creating many opportunities, questions arise for banks in terms of how to use technology to improve consumer trust. Until now, banks have been the sole trusted custodian of customer data information, and regulations are now requiring them to open their data and let everyone look around. Although banks already use APIs for data exchange within their own systems and with established partners, the use of open APIs with third parties is yet another issue banks are facing.

The financial sector is often described as a trust business (Guiso, Sapienza & Zingales, 2004). A high degree of confidence in banks is a core determinant of financial system effectiveness (Mylonakis, 2009). In a competitive banking era, customers are one of the most valuable assets for banks (Sekhon et al., 2014). A positive relation between trust and satisfaction in the financial sector has been empirically verified in several studies (Geyskens et al., 1999; Chakravarty et al., 1997). Customers trust that their bank will hold their money and that they will be able to withdraw it at any time; therefore, they believe that their money is safe with a bank. Because trust is so important, financial institutions are required to follow higher standards of compliance and control than in other sectors.

However, as consumer behaviors and expectations are shifting, the important question arises of whether customers trust banks with their data as well as their money. According to Accenture (2017), younger people do not trust traditional banks as much as they trust new fintech companies. With this in mind, the biggest driver of banking customer loyalty is customers' ability to trust their bank to protect both their personal information and their money. Consumers need to feel their bank is trustworthy. Data security is therefore an important pillar for establishing trust with customers and securing their loyalty.

## **METHODOLOGY**

This study was carried out in two distinct phases that successively combined quantitative and qualitative approaches.

- 1) The questionnaire was constructed first based on the literature review. Then, pre-testing of the questionnaire was done in two phases: 1) face-to-face interviews with three users of online banking applications, and face-to-face interviews with three managers working on OB. At the end of each phase, the questions and items were modified while taking their comments into account. At the end of the second pre-test, and in the absence of additional remarks from the managers, the questionnaire was ready for release. Our questionnaire was divided into three parts: the first related to the respondent's profile data, in the second part we wanted to know the consumers habits and preferences in terms of banking application used, the third part was devoted to OB to know : approval of OB, how consumers perceive it, which are the fears about OB, data security requirement, if enhanced security can reduce consumer fears about OB, who do consumer trust in terms of data security, and if OB will impact the consumers 'trust in their banks. The questionnaire was placed online in 2019, using Survey Monkey's software. The questionnaire was posted on the personal Instagram accounts of 1,300 users with diverse interests and profiles, ranging from 15 to 39 years old, as well as on LinkedIn and Facebook. A total of 845 questionnaires were collected, 289 of which were incomplete and therefore discarded. We thus conducted univariate and bivariate analyses on the results of 556 questionnaires. The profile of sample respondents according to socio-professional categories is presented in Appendix 1. All respondents were using online banking applications. However, 89 % of respondent were used the applications of their own banks and 11 % of them were used aggregators (8 % Bankin' and 3 % Linxo). We used PASW Statistics 18 (formerly SPSS Statistics) to analyze the data. Once the univariate analysis was completed, the initial results were supplemented with those of a bivariate analysis to verify the dependence relation between variables.
2. A post-qualitative study was then carried out to explain the results and discuss the managerial implications. The results of our quantitative study were presented to the director of OB services at Crédit Mutuel Arkéa,<sup>1</sup> which became involved with OB in 2019 because of PSD2. The OB personnel at Crédit Mutuel Arkéa consist of 12 people. First, we asked the director to comment on each answer and, second, how to implement OB. The discussions lasted about one hour. The verbatims cited below are from these interview.

## **RESULTS**

OB is based on the opening of data banking to companies besides traditional banks. Our results (Appendix 2) show that most digital native woman are against having their data being made accessible to companies outside of their banks. That is, they are generally against data sharing, which is one of the pillars of the OB model. Even if this new banking model is attracting

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<sup>1</sup> Crédit Mutuel Arkéa is a cooperative and mutual bancassurance group in France. It employs 10538 employees at 01/01/2020.

consumer curiosity, few are embracing the advantages of OB and some are even apprehensive about it (Appendix 3). Consumers have a strong need for data transparency and demand explanations of why and how their data are used, what data are collected, and with whom the data are shared (Appendix 5). In addition, despite attractive options, aggregators are barely appealing to consumers (only 4%) who prefer the security of using their own bank's applications (96 %).

### **Approval of OB: Users of traditional banking applications versus users of aggregators**

We want to determine whether the users of aggregators or those who prefer using aggregators are more open to OB than users of traditional banking applications. We conduct two analysis of variance (ANOVA) tests. The first one is between whether the user approves of OB, measured by a four-item Likert scale (absolutely, rather yes, rather not and not at all) and the type of application preferred, measured by the response to the question "Do you prefer your bank's application or an account aggregator?" The second ANOVA test is between whether users approve of OB and whether they have been using an aggregator lately.

The results of both tests are significant (Table I & II): we find a difference between traditional banking application users and those who prefer or are already using aggregators. Our analysis shows that consumers who already use an account aggregator or prefer using one are more supportive of open data. Having already used an application outside their banks, they are likely to be more familiar with data sharing. On the contrary, consumers who use their bank's application mostly do not favor and are unfamiliar with open data. This finding suggests that OB is more likely to impact consumers who use traditional banking applications than those who use aggregators, the latter being already in favor of open data.

### **Consumer fears about OB**

We have not found a dominant fear. Consumers feel threatened by multiple factors (Appendix 4) : the security of their data, their data being shared with external organizations, their data being used for advertising purposes, privacy protection, and, finally, data control. However, about their data, the most important for the consumers is the risk of bank account information being hacked. The second most important factor is the use of consumers' information (address, telephone number, email) or documents without prior consent. These results provide two additional insights. First, despite banks' giving consumers the potential to control their data, consumers are still concerned about the risk of being hacked, and therefore the security of their data is a priority. Second, control of their data is less important than preventing the use of their data without prior agreement and data confidentiality.

Our results show that consumers generally consider data security to be the most important factor (Appendix 6) when they are using a banking application, far more important than a fast user interface or range of options. Therefore, consumers are more likely to consider data security before the user interface, application features, and account management when choosing services and offers. But who do consumer trust in terms of data security? The main players in consumer trust in France are the French Supervisory Authority (*Commission nationale de l'informatique et des libertés*, henceforth CNIL) and the banks (Appendix 7). Consumers trust CNIL to protect their personal data and documents from being exploited; they also consider banks to be trustworthy, but distrust them slightly more (28% versus 23% for CNIL). Aggregators do not generate trust, and consumers mostly distrust them (59% responded would rather not trust aggregators and 23% do not trust them at all). This result suggests that aggregators are not considered trustworthy, and consumers do not consider them reliable when it comes to data security, which is probably one of the reasons why consumers prefer to use their bank's applications.

### **Data security requirement**

We want to determine whether consumers who use aggregators are less trusting compared to those who use a traditional banking application. We conduct an ANOVA test between the data security requirement, measured on a four-item Likert scale, and the type of application preferred, measured by the item “Do you prefer your bank’s application or an account aggregator?” Our analysis shows that the type of application used does affect the data security requirement. This result suggests the aggregator consumer is not less trustful. The data security requirement is felt equally by both banking application users and aggregator users.

Furthermore, we want to determine whether the bank’s use of enhanced security can reduce consumer fears about OB and increase their approval of it. Our results (Table IV) show a weak correlation (0,048) between enhanced security and approval of OB. The security authentication doesn’t impact the will of consumers to accept open data and OB, whether they use an aggregator or not.

### **Will OB influence consumers’ trust in their banks?**

Our previous results show that consumers prefer to use their bank’s applications and do not trust aggregators. We now want to determine if OB will impact the consumers’ trust in their banks. Our results (Appendix 8) show that the survey respondents mostly thought OB will impact the trust they have with their bank. In addition, we believe this impact to be more significant for users of traditional banking applications compared to aggregator users, where the former are more attached to their banks and not accustomed to sharing data.

We conduct two ANOVA tests. The first one is between the impact of OB on the trust consumers have in their banks, measured by a four-item Likert scale (absolutely, rather yes, rather not and not at all) and the type of application they prefer, measured by the response to the question: “Do you prefer your bank’s application or an account aggregator?” The second ANOVA test is between the impact of OB on the trust consumers have in their banks and whether they used an aggregator lately. The results of both tests are nonsignificant (Table V and VI); we thus find no difference between traditional banking application users and aggregator users. OB will therefore impact the trust relationship between customers and their bank, whether they use an aggregator or not. As stated in the methodology, the results of this research were presented to the director of OB services at Crédit Mutuel Arkéa for comments and to discuss the managerial implications.

## **DISCUSSION AND MANAGERIAL IMPLICATIONS**

This study provides valuable insights and important implications for banks managers, as well as policymakers. Despite previous research suggesting that OB can be beneficial for consumers in the long run (Doderlein, 2018; Romanaov et al, 2018), our research shows that few consumers see the advantages of OB. Although OB stands to benefit end users, as well as foster innovation, most consumers are against data being accessible to companies unrelated to their banks, clearly demonstrating their aversion to data sharing. This article highlights that consumers consider the security of their data to be the most important factor when using an application. In addition, they are concerned about multiple factors, including their data being used for advertising purposes, data security, their data being shared with external organizations, privacy protection, and, finally, control over their data. How, then, can banks help consumers overcome their fears and encourage them to accept OB?

Our discussion with the director of OB services at Crédit Mutuel Arkéa reveals some trends.

First, consumers are not well informed about OB:

*“I work on OB and I feel like everyone knows about it, but I’m not sure that the communication is reaching the end user”.*

Hence, we believe that banks can make consumers feel their data are secure by offering transparency. Thus, banks and aggregators must clearly explain what OB is about to their customers. This can be done via information campaigns, newsletters, conferences, and so on. Banks and aggregators must inform their customers, in a manner surpassing regulatory requirements, charters, and public commitments, about a) which data (e.g., transactions, card numbers) will be used, b) how the data will be used and why, c) who will have control over and benefit from the data, and d) how the data are stored. Finally, data security requires the creation of internal data management services, to enable their operation in a secure and particularly controlled environment. Furthermore, data security will be handled by a chief data officer and through written policies and procedures.

Second, consumers are becoming more open to data exchange in return for better offers and services:

*“The objective of OB is not to just to be open, but to open up in uses that will facilitate and improve the customer’s life. For me, customers can overcome their fears if they see the benefits. For example, by accessing consumer banking data, a bank will see right away if a consumer has the borrowing capacity and can immediately offer the consumer the best rate.... the consumer can upload the necessary documents in a single click”.*

Third, bank strategies should be progressive:

*“We first develop only certain applications. We start first with business to business, with e-commerce players first. Once some consumers—sure, they are early adopters—adopt the concept, they will be the leaders and show others that open banking works”.*

One of the aims of PSD2 is to increase the level of consumer protection through strong customer authentication principles. However, the director interviewed during the post-qualitative study do not believe this is enough: such authentication must be combined with a consent management menu. Banks must provide a consent management menu with accurate information so that customers can decide how their data will be used. Customers should be able to easily cancel or refuse the sharing of their data.

The director further suggests unique user authentication for consumers and regret the great segmentation of the banking sector, with no interconnectivity between banks.

*“In the OB universe, there are actors who have the ability to manage unique identities, but the banking sector is highly segmented, and this culture of interconnectivity does not exist among banks. There are no standards and no interconnectivity according to standards”.*

Despite the high stakes involved in unique user authentication, this development will not happen in the short run, because this decision depends on politics:

*“I have doubts that this will happen in Europe, because a real European dynamic is required to create unique identifiers. It depends on the will of the governments and the will of the banks as well. If we do not go toward standards in this sector, the risk is that Google, Apple, Facebook, and Amazon will stand in for user identity, simplifying the identification path”.*

In addition, the director feels that the OB technology should be extremely easy to use for consumers to accept OB. This recommendation is in line with previous research showing that perceived ease of use is one of the predictors of perceived value for OB (Morgan-Thomas and Veloutsou, 2013; Martins et al., 2014).

Another objective of this study is to examine whether OB influences the trust relationship between consumers and their bank. Previous research has concluded that trust provides a competitive advantage and is a differentiating factor for banks (Dhar and Stein, 2017; Zalan and Toufaily, 2017). Our investigation empirically shows that OB impacts the trust relationship between consumers and banks. This result did not surprise the managers, who explain it in terms of multiple factors. On the one hand, the trust is not static, but an evolving concept:

*“The relationship of trust is not the one that was, nor will it remain what it is today. Before, the bank had control of the relationship. It was very complicated to change banks and we were in a position of strength in relation to the customer. Today, it is very different. Customers will stay with us because they know we fit their needs. Instead, banks must seek new business with their competitors’ products and maintain customer trust, rather than keeping consumers at all costs, with products that do not match, that will not satisfy consumers, and, ultimately, banks will lose their trust”.*

On the other hand, the nature of trust itself is changing. It is no longer based on the same variables:

*“Today, either the bank becomes a service provider or offers, for example, only attractive credit rates. This is the biggest risk, because we will be one of the pawns in the market. Or the bank constructs a complete customer journey, from relocation, to what school is good for my children, and so on. We will gain credibility in this process, and can propose items of interest to the customer and offer the services of others. This would have a surprising effect, in the sense that the consumer will say: I went to their site. Not only did they offer me a complete customer journey, but also credit from another bank because it was better for me.*

*We are moving toward greater specialization in the customer journey. Find out what’s best and put it on one platform. Banks must either offer a complete customer journey to consumers who request it or be specialized to be present in those of others”.*

Furthermore, the director states that OB will change the nature of competition itself in the banking sector and blur the boundaries between players:

*“We are no longer in a classic form of competition. I work with other banks on PSD2 and I do not consider that we are competing. We are competing with other players. Competition has shifted to other players. With fintech, for example: I do not see them as competitors, because we have to work together”.*

Stronger cooperation seems to be more important, since consumers do not trust aggregators and fintech firms. Indeed, one of our findings is that consumers do not consider aggregators as reliable in terms of data security. As the director states,

*“It will be up to the banks to provide that legitimacy to fintech as well. We have no choice. The strength of fintech is that it is offering very specialized services that you have to look for it to integrate it into something more global”.*

Hence, to overcome this distrust toward aggregators, different forms of cooperation could be considered, as suggested by Drasch et al. (2018), leading to greater cooperation between traditional banks and fintech (Doderlein, 2018; Lado et al, 1997; Lee et Shin, 2018). In addition, if a data problem occurs at the level of aggregators, the bank will be held accountable, since it holds the data source. Therefore, banks need to organize campaigns to raise awareness of aggregators and fintech firms.

All these changes as the banking sector moves from “full control of everything to no longer controlling what banks present to the customer: the graphical interface and as banks become software publishers ” also require internal changes for banks:

*“It’s a big change for a traditional bank, very expensive. We are training people on APIs. It requires the information technology and business teams to work together”.*

## **LIMITATIONS AND FUTURE RESEARCH DIRECTIONS**

There exist many studies on new banking technologies, such as mobile banking and Internet banking; however, this is one of the first study on consumer perceptions to investigate the intention to use OB technology and the way banks can boost consumer trust and confidence in this development. This study has a few limitations, however. Occupational diversity is low, since the sample includes mainly students and employees, the majority of whom are 20 to 29



years old. This research is also geographically limited to the French context. Comparative studies to understand customers' perceptions in the context of OB in other economies could be conducted in the future to provide valuable insights. Finally, our study focuses only on consumers' perception and fears of OB. Future research could determine how OB technology affects the bank business model.

### **GENERAL CONCLUSION**

Banks can benefit from PSD2 in terms of establishing strategies that will provide definite advantages over the competition (Romanova et al. 2018). However, this study concludes that consumers do not want their data to be accessible to external companies. This puts pressure on banks to step up their use of technology and their ability to provide secured account access, while also delivering a full range of services. The "trusted agent" status that incumbents currently enjoy will remain a competitive advantage in the future market, but it must establish trust and confidence among consumers in terms of OB (Dhar and Stein; 2017).

Given the key role of trust in banks, banks can begin to leverage open frameworks to set a foundation for trusted innovation. As final insight, we note that our work contributes to a better understanding of customers' perceptions of OB. Customers need to feel that their bank is trustworthy. Banks should ensure that customer data are shared in a safe and secure manner with third parties. Our results show that the stronger the user authentication, the more consumers are likely to accept open data and OB. However, the manager interviewed during the post-qualitative study does not believe this to be enough: such authentication must be combined with a consent management menu. In addition, OB technology needs to be extremely easy to use for consumers to accept it.

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## Appendices : Tables

Table I. ANOVA test between approval of OB and preference between a bank application and an account aggregator

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5,543	1	5,543	11,639	,001
Within Groups	263,858	554	,476		
Total	269,401	555			

Table II. ANOVA test between approval of OB and use of either a bank application or an account aggregator

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4,978	2	2,489	5,205	,006
Within Groups	264,423	553	,478		
Total	269,401	555			

Table III. ANOVA test between the data security requirement and the preference between a bank application and an account aggregator

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	,110	1	,110	1,534	,216
Within Groups	39,565	554	,071		
Total	39,674	555			

Table IV. Correlation test between enhanced security and approval of OB

		Enhanced security	Approval to OB
Enhanced security	Pearson's coefficient	1	,048
	Sig. (bilateral)		,255
	N	556	556
Approval to OB	Pearson's coefficient	,048	1
	Sig. (bilateral)	,255	
	N	556	556

Table V. ANOVA test between the impact of OB and preference between a bank application and an account aggregator

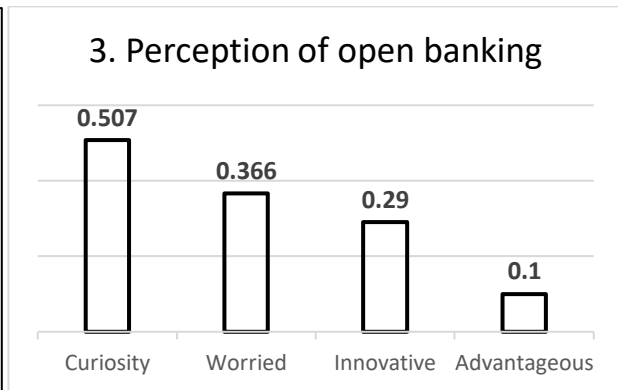
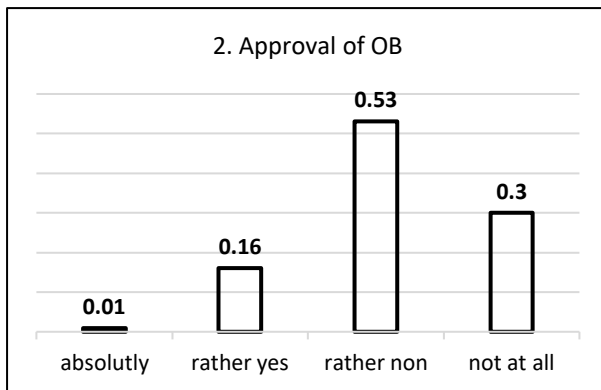
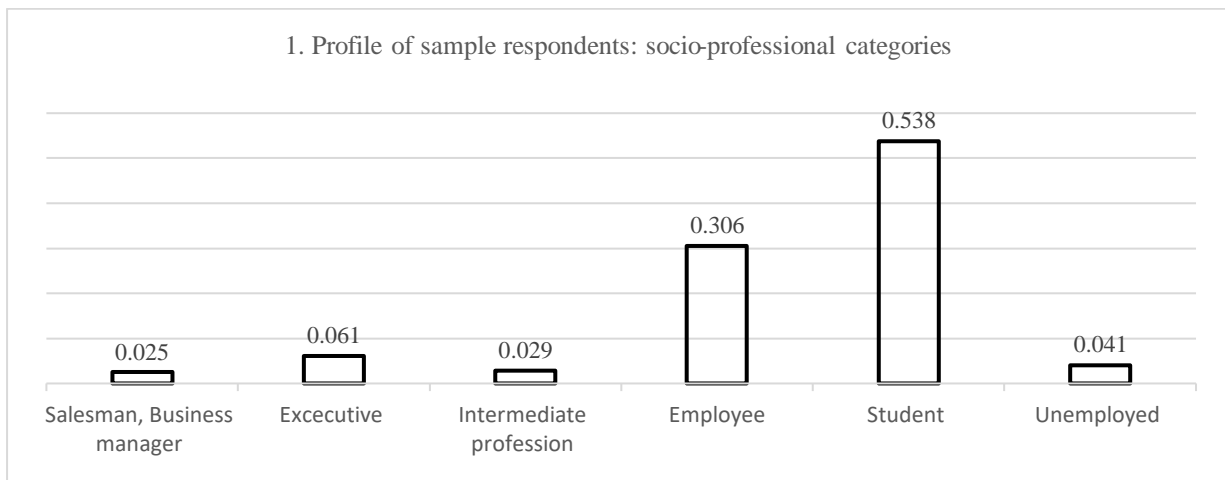
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1,212	1	1,212	2,106	,147

Within Groups	318,860	554	,576		
Total	320,072	555			

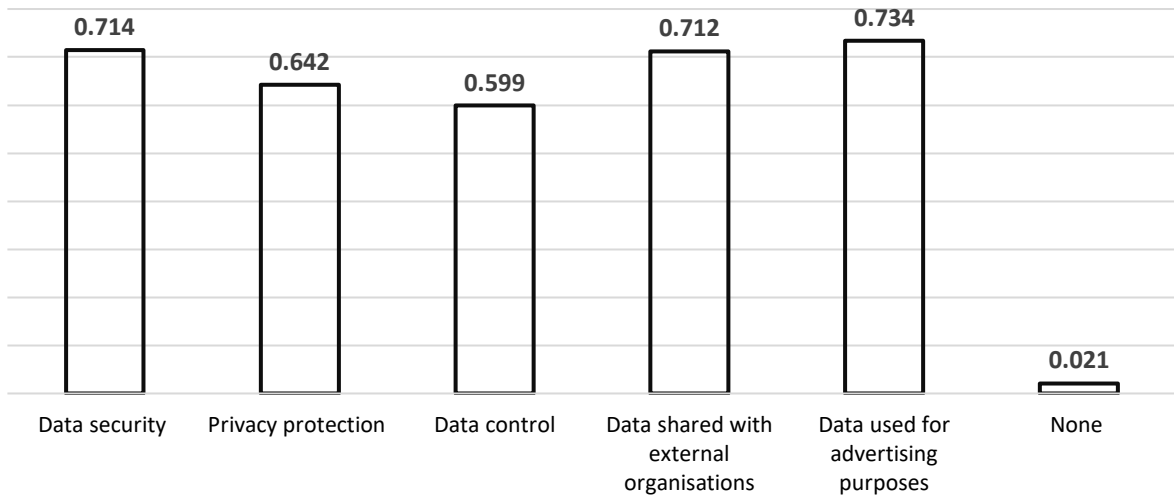
Table VI. ANOVA test between the impact of OB and the use of a bank application or an account aggregator

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	,159	2	,080	,138	,872
Within Groups	319,913	553	,579		
Total	320,072	555			

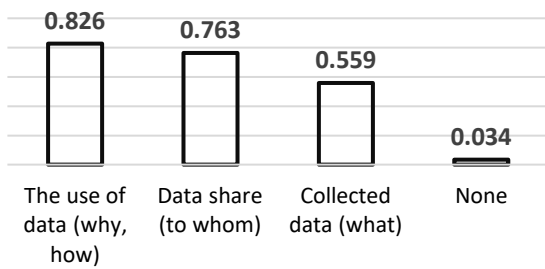
### Appendices: Descriptive analysis



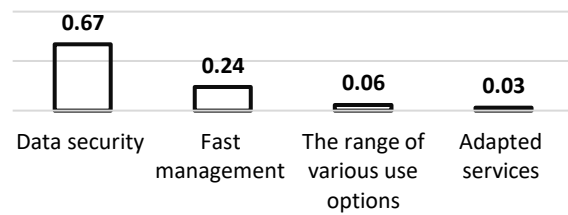
#### 4. Consumers fears about OB



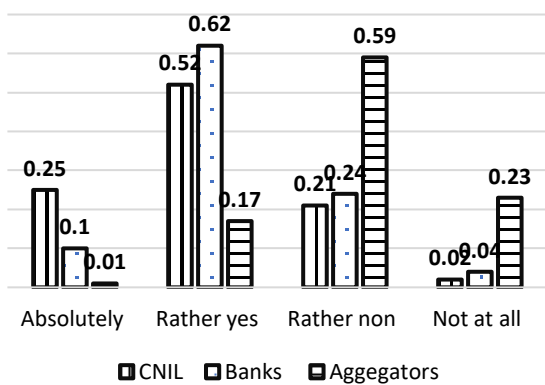
#### 5. Need for data transparency: Explanations



#### 6. Consumers using banking application most important factor



#### 7. Who do consumer trust in terms of data security ?



#### 8. OB will influence the trust you have in your bank (s)

