Why do organisations fail when building platforms?

An exploratory study of Dutch banks in the context of platformisation

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Preface

Abstract

Platform organisations are nothing new in the world. However, due to some of the latest success stories of few largest ones, the idea of platformisation has gotten tremendous amount of traction and popularity among organisations across all industries. Nevertheless, building a successful platform organisation is extremely hard and thus platform builders keep failing at an alarming rate. Given this situation, a specific stream of research has developed, devoting its attention towards identifying the reasons of why some of these platform builders suceed and why some of them fail. However, despite the fact that this research has been developing its insights for over a decade, the number of platforms failing is not dropping. For that reason, this thesis looks at the case of Dutch banks in the current open banking environment, which has due to the latest regulatory changes been experiencing significant rise in platform strategies being taken to practice. After interviewing both banking and consulting professionals and identifying most important challenges that Dutch banks are going through, a theoretical model reflecting these challenges and interdependencies among them has been built. Indeed, it's these interdependencies which are presented as a main contribution of this thesis, highlighting their importance to the success of platformisation actions as they transfer positive or negative effects from one identified dimension to another. This advances the currrent literature by showcasing the link between why a platform building organisation can follow previous research recommendations but might nevertheless not succeed and at the same time enables the platform builders to make better informed decisions in their platformisation efforts.

Key words: platform organisations, building platforms, platform failure, banking platform, open banking

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1 Introduction

There is a persistent and ever rising interest of management studies in the topic of plaform organisations (Thomas, Autio & Gann, 2014). While some early papers have focused on definition of these types of organisations (Eisenmann, Parker & Van Alstyne, 2006), latest decade has brought papers studying specific dynamics around how these businesses function (Gawer & Cusumano, 2014; Van Alstyne, Parker & Choudary, 2016) and most recently focused on intricacies around how to successfully build one (Cennamo & Santaló, 2015; Hensmans, 2019, Mancha, Gordon & Stoddard, 2019). Taken together as an individual body of literature, this work has set important groundworks for understading of these organisations and separating them from other streams of research.

However, a large portion of especially latest literature focused on successful building of platform organisations has generated conclusions that can be hard to put into practice or specific context with a successful result. What is more, where these recommendations can be especially challenging for management practitioners is when thinking about the range of potential and unwanted consequences that might follow the implementation. Additionally, while often times inspired or based on historical failures of platform organisations, these research insights usually forget to address their own limitations and gaps worth avoiding when following these recommendations. Thus, while educating managers about most common threats and principles that accompany building of platform organisations, this literature stream remains simplistic and does not provide a reliable guide for successful execution when pursuing a platform strategy.

Therefore, the purpose of this thesis is to fill this literature gap by advancing the theory on building of platform organisations by answering the following research question:

Why do organisations fail in platformisation despite the presence of recommendations from platform building research?

Furthermore, given the attractiveness of platform organisations and latest regulatory developments in banking industry, the era of banking oligopolies is on a decline, being slowly replaced by a new era of platformisation opportunities among banks. While this shift has not gained a mainstream popularity among Europian banks yet, research has preceded general practice with the idea of "Bank-as-a-platform" (Zachariadis & Ozcan, 2016) already spurring the interest of academics. Indeed, transforming bank into a platform is a large and challenging

step forward but nevertheless, this idea has hit a fertile ground as there already are early-adopter banks that have started their transformation towards many options that platformisation offers (Gozman, Hedman & Olsen, 2018). Therefore, given the trend of banking platformisation in recent years reaching Netherlands, the environment of Dutch banks presents an early opportunity to study these platformisation efforts. Lastly, since the concept of "Bank-as-a-platform" was until now implemented by very few other Europian banks, this leaves Dutch banks prone to experience variety of platformisation challenges, which makes this environment especially fitting to answer the thesis research question.

2 Literature Review

Throughout the past two decades the concept of platform has experienced a dramatic growth of attention within the management research (Thomas, Autio & Gann, 2014) resulting in many theoretically different streams of understanding. Thus, in order to correctly define "platform" for the purposes of this thesis, it is necessary to conceptualise it within the appropriate context of academic literature.

2.1 *Conceptualising platforms in the context of ecosystems*

The origins of the term "platform" can first be found in papers from engineering domain of product family literature with basis in sectors such as automotive (Nobeoka & Cusumano, 1997), computing (Meyer & Dalal, 2002) or consumer power tools (Meyer & Lehnerd, 1997). Nevertheless, a much more structured definition of what platforms are comes almost two decades later constructed by Evans & Gawer (2016), who categorise platforms into several distinct categories. Firstly, "transaction platforms" based on *"facilitation of transactions between different users, buyers or suppliers",* secondly "innovation platforms" depicted as a *"foundation on top of which other firms develop complementary technologies, products or services"* and thirdly, "integrated platforms" that are *"both a transaction platform and innovation platform"* (Evans & Gawer, 2016, p. 9).

Between its quite unstructured origins in engineering journals and being recently much more researched and defined, the concept of platforms has throughout the years spread into other streams of academic literature. This can be best visualised from the works of Thomas, Autio & Gann (2014) in their systematic platform literature review, where they split the platform research into four separate categories based on their theoretical underpinnings and contexts in which the word "platform" is used. Out of four identified platform streams, namely

(1) Organizational, (2) Product Family, (3) Market Intermediary and (4) Platform Ecosystem stream (Thomas, Autio & Gann, 2014), the last two are of the highest relevance for this study.

The importance of the Market Intermediary stream lies in its depiction of platforms as so called "two" or "multi-sided markets" (Rochet & Tirole, 2003, 2006; Gawer, 2009), where two or more parties are able to interact in a transaction, which is based on the connection provided by one intermediary party, often referred to as a platform (Armstrong, 2006), under the assumption of that intermediary platform not holding any possession or ownership over the contents of that very transaction (Hagiu & Yoffie, 2009). As a common real-life example for this type of company we can use the likes of Amazon, Apple or Uber who all operate in different types of industries however are all based on *"bringing together producers and consumers in high-value exchanges"* (Van Alstyne, Parker & Choudary, 2016, p.2) Additionally, in support of Thomas, Autio & Gann's (2014) definition of the Market Intermediary Stream is also Gawer's (2014) framework, which proposes a split of platform literature into two theoretical perspectives, first described as *"economical"*, focused on competition in platforms and based on above-mentioned double-sided markets, and second described as *"engineering"* perspective, looking at innovation aspect of platforms which in this case are viewed as technological architectures.

Expanding on the Market Intermediary Stream is the stream of Platform Ecosystems, which in addition to other streams *"explicitly recognises the importance of the resulting industrial community and surrounding ecosystem to the success of the platform"* (Thomas, Autio & Gann, 2014, p.205). This research stream, primarily based in sectors of information technology or computing was initiated by the works of Gawer & Cusumano (2002), Gawer & Henderson (2007) or Eisenmann, Parker & Van Alstyne (2011) and attempts to bring the understanding of platforms into a higher level context of organizational networks. It no longer looks at the platform from a singular perspective of a matchmaker subject facilitating a transaction among two separate parties, but instead envisions the platform as a *"hub or a central point of control within a technology-based business system"* (Thomas, Autio & Gann, 2014, p.204). Closely related to this stream of research and extending on these views are also the conclusions of Gawer (2014), who based on the different widths of scope of the analysis classifies technological platforms into three levels (1) Internal, (2) Supply Chain and in the broadest view (3) Industry platform, which is based on the notion of industry ecosystems consisting of platform leaders and complementors. Additionally, a newly occurring difference of described "Industry platforms" to previous lines of thought regarding platforms is also how

the control of these platforms is no longer solely in hands of the platform originator or leader but also in hands of platform complementors (Gawer & Cusumano, 2008). However, most relevant for the definition of Platform Ecosystems within this thesis are (1) Gawer's (2014) unifying observation of how different platforms across different literature streams can in fact be unified into *"various manifestations of an underlying similar phenomenon"* and (2) her definition of technological platforms seen as *"evolving organizations that (a) federate and coordinate constitutive agents who can innovate and compete, (b) create value by generating and harnessing economies of scope in supply or/and in demand, and (c) entail a technological architecture that is modular and composed of a core and a periphery"*(p.1240).

However, as a later response to Gawer's unifying observations around Industry Platforms and Platform Ecosystems comes the literature stream represented by the works of McIntyre & Srinivasan (2017) and Jacobides, Cennamo & Gawer (2018) who notice an increasingly frequently occurring flaw of authors not differentiating enough among constructs such as platforms, networks, alliances within the context of ecosystems. As Jacobides, Cennamo & Gawer (2018) put it, these authors, especially in relation to "ecosystems", have taken them *"as a given and examined them from the perspective of a given theory"* (p.2259). A big contribution to correct this flaw within the ecosystem literature was made by Adner (2017) who in his work presented a structured approach for a correct conceptualisation of ecosystems in relation to other construct such as platforms, which are most relevant for this thesis. In his examination of these relationships, Adner (2017) clearly defines the ecosystem as *"the alignment structure of the multilateral set of partners that need to interact in order for a focal value proposition to materialize"* (2017, p.42). He then proceeds to draw a line between ecosystems and platforms, based on his differentiating observation that for the platforms *"Interdependence is not always platform based. Whereas platforms are concerned with the governance of interfaces, ecosystems are concerned with the structure of the interdependence"* (Adner, 2017, p.54). Additionally, differences drawn in Adner's (2017) work are based on the platform as best envisioned by the microchip manufacturer company Intel and defined by the works of Gawer & Cusumano (2002) and Parker, Van Alstyne & Choudary (2016).

Building on top of Adner's ecosystem interdependencies (2017) is the subsequent line of research from Shipilov & Gawer (2020) who similarly to Jacobides, Cennamo & Gawer (2018) add and highlight the importance of *"complementarities"* acting along previously defined ecosystem interdependencies. As Shipilov & Gawer (2020) argue, *"interdependencies in general and complementarities in particular are drivers of both alliance formation and of*

relationships within ecosystems" (p.116). Along the same lines, for Jacobides, Cennamo & Gawer (2018), these complementarities act as a main binding element for the existence of an ecosystem, which they define as *"a set of actors with varying degrees of multilateral, nongeneric complementarities that are not fully hierarchically controlled"* (p.2264). The reason why these multilateral and nongeneric complementarities play an important role for the understanding of not only ecosystems, but in this thesis also platform dynamics, is the very connection that they represent among the parties involved in these concepts. Firstly, to explain the connection, these *"Multilateral complementarities arise when the value of the output of one organization depends on the value of other organizations"* (Shipilov & Gawer, 2020, p.94). And secondly, to explain the occurrence of parties also engaged in platforms, these very complementarities can be extended to a lower level of *"sets of roles that link different parties together – for example hubs, suppliers or different types of complementors"* (Jacobides, Cennamo & Gawer, 2018, p.2265), which are all actors that we have previously defined as occurring in platforms as well (Thomas, Autio & Gann, 2014; Gawer, 2014).

Finally, to sum up past research into one comprehensive description of what platforms are referred to as in this thesis, I define platform as: *"an organisation with the underlying characteristic of the two-sided market, that facilitates transactions among its users (firms or individuals), while allowing for development of additional functionalities, on top of the platform, by these users"*. Additionally, most important characteristics which are attributed to a platform in this thesis are architecture composed of a core and a periphery, multilateral complementarities among platform users and network effects, which will be described in the following section.

2.2 Benefits of successful platformisation

As already mentioned, the platformisation trend of businesses is occurring across different industries ranging from travel (Uber), through electronics (Apple) to retail (Amazon) (Van Alstyne, Parker, Choudary, 2016). There is a significant stream of academic literature, of which a good representation can be found within the field of open innovation, represented by the work of Bogers et al. (2017) who attribute this rise in popularity of platforms mainly to the digitisation that *"emerges as an important enabling factor […] as it supports the connectivity between diverse actors"* (p.17). However, while digitisation certainly plays an important role, the following paragrahs detail another crucial phenomenon that has popularised the rise of platforms, especially because of the benefits it brings to the most successful ones. Thus, to make a connection with the research question, these benefits can be so potent that they have become

the main drivers for why organisations are willing to deal with all platformisation challenges in the first place.

This phenomenon of the *"network effects"* initially named as *"network externalities"* can first be dated to early Political Economy articles of Katz & Shapiro (1985; 1986; 1994), who define these essentially as the positive increase of one users membership value caused by another user joining and enlarging the overall network. Due to the width of contexts where these effects can be applied, network effects later transferred also into Industrial Organizations work of Church & Gandal (1992) or Chou & Shy (1990), from which they were picked up and thoroughly examined by Rysman (2009) in relation to the topic of "two-sided markets" (Parker & Van Alstyne, 2000; Rochet & Tirole, 2003, 2006). Rysman (2009) saw the importance of these effects as so crucial to this stream of literature that he argued that *"the literature on two-sided markets could be seen as a subset of the literature on network effects"* (p.127). Looking at platforms, which are often closely associated with or even referred to as "two or multi-sided markets" (Rochet & Tirole, 2003, 2006, Evans, 2003), Gawer (2014) makes the next step and concludes with the logical assumption of attributing the existence of network effects as essential to multi-sided platforms as well (p.1240). Along similar lines are also Eisenmann, Parker & Van Alstyne's (2006) early conclusions, who, in relation to platforms and based on whether the platform value for a given user increases with the new joining user on a different or same side of the platform, differentiate among two types of network effects: (1) same-side network effects and (2) cross-side network effects. Indeed, network effect assumptions were later taken over by Evans & Gawer (2016) in their Global Survey of Platform Enterprises and discovered as manifesting in all defined "Platform Types", which were already described (p. 14).

What makes the platform network effects so appealing that it drives organisations to withstand many challenges and failures of the platformisation is the "virtuous feedback loop", which Van Alstyne, Parker & Choudary (2016) characterise as a rising scale of the business, which *"generates more value, which attracts more participants, which generates more value"* (p.59). Or simpler put, *"there are increasing incentives for more firms and users to adopt a platform and join the ecosystem as more users and complementors join"* (Gawer & Cusumano, 2014, p. 417). Additionally, what is especially striking and causing organisations to go after the platform model is the immense scalability of this virtuous feedback loop that can eventually manifest itself as a monopoly in the market or as Eisenmann, Parker & Van Alstyne (2006) called it, "winner-takes-all" scenario. Along the same lines, the danger but also opportunity which this scalable loop entails is *"when a platform enters a pipeline firm's market, the*

platform almost always wins" (Van Alstyne, Parker & Choudary, 2016, p.58). This can best be showcased by a real world example from mobile-phones manufacturer industry which was by 2015 singlehandedly overtaken by Apple's iPhone which *"generated 92% of global profits, while all but one of the former incumbents made no profit at all"* (Van Alstyne, Parker & Choudary, 2016, p.54).

To conclude this section, network effects are an inseparable characteristic of platforms defined as positive increase of one user's membership value caused by another user joining and enlarging the overall network. Nonetheless, the main interest of this chapter for these effects lays within the virtuous feedback loops that enable great platform scalability and can in some cases enact winner-takes-all scenarios in the market. As already mentioned, banks are losing their oligopolies and therefore, the opportunity of successful platform strategy presents unique way to regain that position back. This is a powerful driver which gives support to why banks are willing to engage in the risky platformisation strategies and face many challenges that this decision brings. Indeed, there are many challenges to platformisation, one of which is the high probability of failure (Cennamo & Santaló, 2015). Therefore, the next section will provide more details to what the literature has so far uncovered about the challenges that platformisation creates and ways about how to succeed in overcoming these.

2.3 Introduction to the research on building of platforms

After defining platforms within the context of ecosystems extended by main drivers behind the strive for successful adoption of platforms, this chapter of literature review summarises the insights, which the platform literature has to time gathered on successful building of platforms and management of challenges that organisations may encounter when doing so.

Here it's important to add that as the main body of platform literature is still evolving (Thomas, Autio & Gann, 2014), trying to clearly define the correct contextual usage of the "platform" concept (Adner, 2017) and most recently also attempting to split itself from different literature streams (Shipilov & Gawer, 2020), the particular perspective of research into successful platform building and associated challenges is still underrepresented. Nonetheless, this research is finding its groundworks as there is a visible rise in concentration of platform papers, which focus primarily on analysing un-/successful cases of companies building platforms and deriving associated lessons from these historical failures or much rarer successes. Moreover, given the fact that there is a plateau of factors at play, e.g. previously defined two-

sided market mechanics, user complementarities or new competition rules of network effects, it is not a surprise that *"For every successful platform, there are many more that struggle or simply don't make it"* (Alstyne, Parker & Choudary, 2016, p.2), which consequently also perfectly explains why this research approach has emerged. As suggested, this emerging literature stream can be split into two groups of papers, providing lessons on either (1) how to succeed or (2) how not to fail as a platform building organisation.

Beginning with the first group, one of the earliest examples is Gawer & Cusumano's (2002) analysis of Intel, Microsoft and Cisco companies, where they provide a "Four-Lever Framework" for successful platform strategy. While this framework builds on how these companies managed to deal with challenges such as internal conflicts of interest, complementor competition or external innovation pressures, it provides rather a four-option strategical guide for becoming a platform leader (Gawer & Cusumano, 2002) than a comprehensive approach for overcoming these challenges. Along very similar lines is also Gawer & Cusumano's (2008) next paper on platform leadership, addressing the so called "platform-leader wannabes", to whom they propose a selection of two strategies: (a) coring and (b) tipping. Both strategies are again based on the occurrence of challenges such as appropriation of the architecture design, correct interface design choice or intellectual property rights disclosures (Gawer & Cusumano, 2008). On the other hand, Gawer & Cusumano (2008) indirectly underline the need for new approach by acknowledging the importance of decision making when faced with apparently interrelated two-sided strategy options, e.g. "*failure to decide early on between a product or platform strategy can result in dangerous strategic confusion"* (p.29). Indeed, decision making is also at the core of Eisenmann, Parker & Van Alstyne's (2006) work where they draw up strategies for two-sided markets based on three types of challenges in pricing, winner-takes-all competition and envelopment. Similarly situated, however turning slightly away from platform leadership is also Boudreau & Hagiu's (2009) work on the role of multi-sided platforms using non-price instruments when regulating the access to the platforms, or Tiwana, Konsynski & Bush's (2010) *"framework for understanding platform-based ecosystems"*. Looking at the approaches taken in these papers, all are nudging the topic of building platforms successfully by essentially providing a guide on dealing with context specific challenges. To make a connection here, there is a clearly visible trend of how these authors position their papers and present research contributions. For the majority of these papers, after taking into account identified challenges, conclusions are drawn in a form of an often simplified multistep guide for success in a given area. Indeed, this trend of presenting "x-step guides for success" has also

been picked up in the most recent decade of platform research, that has brought literature specifically focused on creation, scaling and leadership in platform organisations. Ranging from Cusumano's (2010) *"Six enduring principles"* to withstand uncertainty, through Gawer's (2011) 7-step checklist on how to establish a platform, to latest work of Hensmans (2019) explaining how to sustain a position of leadership with a matrix for building a platform portfolio. The one apparent thing, which all these papers have in common is the contribution being presented as a x-step guide which on a first look seems as a practical simplification of past platform successes, however, as will be later argued, might not be so useful for application in practice after all.

Continuing with the second identified category of literature are papers looking at (2) how not to fail as a platform building organisation (Cennamo & Santaló, 2015; Van Alstyne, Parker & Choudary, 2016; Yoffie, Gawer & Cusumano, 2019; Mancha, Gordon & Stoddard, 2019). As Cennamo & Santaló (2015) point out, platform *"strategies are hard to execute well – and are prone to several common pitfalls"* (p.12). In their paper, Cennamo & Santaló (2015) follow historical development of several businesses which attempted to build a platform business model, however failed to do so, from which they draw up explanations for these mistakes and categorise them into three distinguishable "Platform Traps". Resembling this type of approach are also conclusions of Van Alstyne, Parker & Choudary (2016) or Yoffie, Gawer & Cusumano (2019), who comparably, based on past experiences of nowadays famous platforms, identify and put forward most critical mistakes that these companies came across when scaling up their businesses. Lastly, presenting a combined approach and building on top of these papers is the work of Mancha, Gordon & Stoddard (2019) who not only elaborate on *"seven mistakes when launching and scaling digital platforms"* (p.3) but at the same time propose a specific model of *"digital platform strategies for platform businesses"* (p.2). Lastly, for better understanding, the following Table 1 gives a representation of two identified categories with individual examples of described research papers and their contributions.

Group	Authors	Contribution
(1)	Gawer & Cusumano (2002)	Becoming a platform leader - Four Lever Framework
(1)	Gawer & Cusumano (2008)	Becoming a platform leader – Two strategies: Coring & Tipping
(1)	Eisenmann, Parker & Van Alstyne (2006)	Three strategies for Two-Sided Markets
(1)	Boudreau & Hagiu (2009)	Usage of non-price instruments when regulating access
(1)	Tiwana, Konsynski & Bush (2010)	Multistep Framework for understanding platform-based ecosystems
(1)	Cusumano (2010)	Six enduring principles
(1)	Gawer (2011)	Establishing a platform– Seven step checklist for managers
(1)	Hensmans (2019)	A new matrix for building platform portfolios
(2)	Cennamo & Santalo (2015)	Three platform traps to avoid
(2)	Van Alstyne, Parker & Choudary (2016)	Six reasons platforms fail
(2)	Yoffie, Gawer & Cusumano (2019)	Four common mistakes why platforms fail
(2)	Mancha, Gordon & Stoddard (2019)	Seven mistakes when launching and scaling digital platform & Four digital platform strategies for platform businesses

Table 1: Literature summary

To conclude, there are two things which are apparent from the reviewed literature. Firstly, it's visible that whether the first group answers the question of how to *successfully* build a platform, or whether the second group answers the question of how *not to fail* when building a platform, both of these present two sides of one problem, that can be described as how to build a platform organisation correctly. Secondly, as was illustrated by many examples, vast majority of identified literature presents a so called "x-step guide for success", simplifying its contributions into several guiding principles for managers to implement when building a platform. Finally, to show a singular identified gap in the literature, this thesis presents two insights from some of the latest platform papers: *"Creating a successful platform business is not so easy. […] The problem is that platforms fail at an alarming rate"* (Yoffie, Gawer & Cusumano, 2019) and *"For every successful platform, there are many more that struggle or simply don't make it"* (Alstyne, Parker & Choudary, 2016, p.2). Considering these, how is possible that even though there are many both old and new, apparently simple, practical and easy to understand guides to both success and avoiding of failures, that in current practice, majority of platform building organisations simply fail in this process. Clearly, there is a gap in the literature as this situation presents a logical contradiction to what these papers attempt to achieve and suggests that while new papers keep piling up additional measures to these "x-step

guides for success", there must be other yet unidentified elements at play which all of these studies have missed or disregarded.

2.4 Situating banks into the context of platforms

In order to get a better picture of how banks fit into the context of platforms, it is necessary to first understand the new concept of "open banking", which was in recent years a potent source of innovation that could have the power to transform the financial industry as we currently know it. Open banking can be explained in various contexts with an emphasis on different features, however for this thesis it'll be defined as: *"a banking practice that provides third-party financial service providers open access to consumer banking, transaction, and other financial data from banks and non-bank financial institutions through the use of application programming interfaces (APIs)"* (Chappelow, 2019). Whereas not portraying the entire concept but enabling open-banking and laying at the core of this concept are two pieces of regulation: *"European Payment Services Directive 2 (PSD2)"* (European Commission, 2015) and supplementing *"Regulatory Technical Standards for strong customer authentication and common and secure open standards of communication (RTS)"* (European Commission, 2017).

Without going into unnecessary detail and to provide a clear link of these regulations towards the platform context, it's important to simplify and look at the outcomes which these regulations had on the financial industry. Accordingly, the PSD2 with its requirements regarding the *"Access to accounts (XS2A)"* for newly defined *"Payment Initiation (PIS)"* and *"Account Information Services (AIS)"* (European Commission, 2015) has accelerated the digital transformation of banks by *"forcing banks to open up consumer payment accounts for appropriately licensed, innovative (bank and non-bank fintech) service providers"* (Cortet, Rijks & Nijland, 2016, p.13). The acceleration of this banks "opening-up process" is based on already mentioned Application Programming Interfaces (APIs), which are nothing new for platforms and have already in the past decade *"allowed organisations that hold large amounts of data to become platforms for third party innovation"* (Guibaud, 2016, p.8). To explain how APIs are relevant for platforms on a specific example, *"Google, Twitter and Facebook offer APIs to third parties, and in the payment space PayPal has pioneered open APIs since 2010, spawning a whole new ecosystem"* (Guibaud, 2016, p.8).

As is evident from these cases, APIs are an important contributing factor for the technical construction of a platform, which Zachariadis & Ozcan (2016) take one step further by proposing the use of APIs as an opportunity to implement the concept of a platform business

model in banking, which they call *"Banking-as-a-Platform"* (p.10). Along the same lines is Mansfield-Devine (2016), who also touches on how APIs could enable new banking business models by allowing *"new players to come into the field"* (p.8). Additionally, to strengthen the viability of the platform business models within banking, Omarini (2018) in her work presents a platform focused strategical set of actions to create a "Bank of Tomorrow". She also later extends on her research with a similarly situated paper exploring the emergence of platform models in banking, simultaneously acknowledging the "Banking-as-a-Platform Model" (Zachariadis & Ozcan, 2016) in a comparison with the case of BBVA banks transformation efforts (Omarini, 2018).

As the previous paragraphs have displayed, the banking platform business model is slowly starting to gain popularity within not only the academic literature (Zachariadis & Ozcan, 2016; Cortet, Rijks & Nijland, 2016; Omarini, 2018) but also directly among banks operating within the open banking environment. So far, there are not many examples of banks that actually implemented the platform[1], nevertheless in this case, the literature has preceded the market by drawing out basic sets of roles of how banks can position themselves in the open banking environment (Gozman, Hedman & Olsen, 2018; Folcia & Firnges, 2017). Sharing a common structure made out of four quadrants, both of these papers define a model of four separate roles which banks can choose to play based on their openness in terms of: (1) Distribution & Service Creation (Gozman, Hedman & Olsen, 2018) and (2) Data Openness & Added value to bank propositions (Folcia & Firnges, 2017). To summarise all eight proposed options from these models, the main factor of differentiation, which can be identified among specific roles in these models, is the banks attitude towards the compliance with the regulation. Based on this high-level observation, there can be two main strategical approaches taken by banks: (1) either remain at the lowest level of compliance and fill the role of "Integrator" (Gozman, Hedman & Olsen, 2018, p.7) or (2) move beyond compliance and choose from one of the platform based models with/without the aggregation option, spanning up to the most open tipping point role of the "Bank-as-a-Platform-Aggregator" (Folcia & Firnges, 2017, p.4).

[1] However, there are some banks who did transform themselves, such examples are: Fidor Bank (https://www.fidor.de) in Germany or Banca Sella (https://www.sella.it) in Italy

3 Methodology

3.1 Research design

"Qualitative research studies things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them" (Lincoln & Denzin, 2000, p.165). For this thesis, based on Snape & Spencer's (2003) depiction of epistemology as being about how we can understand and find out (research) the world, and also based on Orlikowski & Baroudi's (1991) categorisation of epistemologies, an interpretative research design, which seeks to *"understand the context of an information system and the process whereby the information system influences and is influenced by the context"* (Walsham, 1995, p.389), will be used. Following this interpretative design philosophy, the Dutch banks are considered as the information system which is influenced by the platform business model and platform ecosystem context, based on recent regulatory shifts caused by the PSD2 regulation.

For this study, interpretative research design was selected based on the following three reasons. First, there still are little to none actual bank platforms. Second, interpretative design fits this context as understanding of meanings and facts is hard to differentiate. And third, fitting Myers' (2019) interpretivism assumptions, in this research *"data are not detachable from theory, for what counts as data is determined in the light of some theoretical interpretation, and facts themselves have to be reconstructed in the light of interpretation"* (p.47). Additionally, as was illustrated in the literature review section, platform building literature is still underrepresented and not acknowledged as an individual stream. Also, given the nature of the proposed literature gap, exploratory study design is appropriate, as it is *"particularly useful if you wish to clarify your understanding of a problem, such as if you are unsure of the precise nature of the problem"* (Saunders, Lewis & Thornhill, 2009, p.139). Since exploratory research design usually involves certain amount of flexibility, the final direction of this thesis might diverge as a result of the process of data collection and analysis, allowing for a certain degree of interpretation.

Following the work of Glaser & Strauss (1967) and Strauss & Corbin (1990), a grounded theory study design based on interviews was selected for this thesis. Since in the most part the focus of this thesis is to answer "how" and "why" questions, as inspired by Yin's (2003) work, grounded theory design is particularly helpful for research to explain and describe the behaviour of the subjects, with the emphasis upon developing and building of a theory

(Goulding, 2002). Additionally, in this thesis, actions of Dutch banks in response to PSD2 regulation and platformisation pressures are studied, with the emphasis on considering collected data *"at a conceptual level in order to draw conclusions which contain theoretical insights"* (Saunders, Lewis & Thornhill, 2009, p.149). And lastly, following Suddaby's (2006) recommendations when considering Dutch banks in the context of platformisation and effective PSD2 regulation, attention is laid on following an interpretative process involving a degree of creativity, instead of a logico-deductive one, which often can lead to "methodological slurring".

3.2 Research context

This thesis research is situated in the context of Dutch banking industry. Given the fact that platformisation is a complex issue, usually requiring a significant amount of resources, focus on the largest banks within the Dutch sector was laid. Currently, there are 3 large banks which dominate the banking sector of Netherlands: ING, Rabobank and ABN Amro[2], representing together over 80% of Total Assets of the industry. This seemingly oligopolistic structure, characteristic of banking industry across the entire EU, has become a target of interest for European regulators, whose first step to address this inequality came in 2015 in the form of Payments Service Directive (PSD2) regulation (European Commission, 2015). The main goal of the PSD2 was to even out the playing field of banking and as a result is still deemed by many experts to *"spur a much larger Open Banking movement"* (KPMG, 2020) among banks than ever before. The idea behind open banking is to offer banks a great opportunity to *"partner and collaborate with third-party players (TPPs) and FinTechs to roll out more consumer-friendly offers, to develop new customer insights and loyalty programs, and to disrupt their own markets"* (Capgemini, 2017, p.2). As the definition suggests, at the core of open banking are the APIs, which represent the glue that enables the link between TPPs and data within *"incumbents' proprietary software or web services to give them the ability to focus on customer-facing, front-end activities within the value chain"* (Vaidya, 2019).

While this new shift in banking clearly presents an opportunity to connect with new players and let them integrate on top of banks platform, it also opens the oligopolistic structure and forces banks to hand the access to customer data to licensed third-party providers (TPPs) (European Commission, 2017). Splitting the access based on two types of APIs, namely PISP (Payment Initiation Service Provider) and AISP (Account Information Service Provider), also

[2] Retrieved from: https://www.banken.nl/bankensector/marktaandeel

referred to as Access-to-Accounts (XS2A) (European Commission, 2017), banks are now exposed to a selection of roles they can choose to play within the context of open banking (Gozman, Hedman & Olsen, 2018). Of particular interest within this thesis are the roles that banks can take in the context of platforms (KPMG, 2018), as these bring a completely new set of challenges that banks will have to endure (Gozman, Hedman & Olsen, 2018).

3.3 Data collection and sampling

Based on Saunders, Lewis & Thornhill's (2009) recommendation, for this thesis data collection the technique of triangulation was used in order to *"ensure that the data are telling you what you think they are telling you"* (p.146). The process was as follows. First, academic, banking and consultancy literature was gathered and analysed in order to identify what the current challenges within the European open banking environment are. Second, an interview outline was constructed based on identified risks. Third, semi-structured interviews were conducted in order to (1) verify the validity of gathered risks and (2) to identify the actions and response strategies of Dutch banks associated with these risks.

In order to gather literature for the first phase of the data collection, a search for publicly available literature was conducted based on keywords such as: *open banking, PSD2, platform, security, API, RTS* in different variations and combinations with keywords such as: *challenges, risks, issues, vulnerabilities.* After analysing the gathered literature; identified findings were categorised into four separate groups, around which the Interview Outline was then constructed (see Appendix A).

For this thesis, in-depth, semi-structured interviews are used as a primary data source. In-depth interviews allow the interview participants to express their individual past experiences and current perceptions about the world as they view it around them (Robson, 2002). Because of that, but also because in-depth interviews are based on the assumption that the researcher is attempting to find and explore new or yet undiscovered insights (Robson, 2002), in-depth interviews are preferable for exploratory studies. Additionally, *"semi-structured interviews may also be used in relation to an exploratory study"* (Saunders, Lewis & Thornhill, 2009, p.322) as they are characteristic of being more lenient towards occasional question order changes or omitting of questions based on the interview flow. Since exploratory studies are trying to describe yet not well understood subjects and are typically based on "what" and "how" questions (Yin, 2003), both of these approaches serve in support of this thesis research design.

To ensure consistency, each interview follows the same topics, however as Patton (2002) suggests for exploratory studies, researcher is *"free to explore, probe and ask questions that will elucidate and illuminate a particular subject"* (p. 343) within a given topic. Indeed, while discussed topics never changed for the interviews, Strauss & Corbin's (1990) "grounded theory approach" was applied by sequential revisions and adjustments to the specific questions asked during the interviews on the basis of previous question "success rates", i.e. how relevant, long, complex and practical the interviewee answers were.

Table 2 gives an overview for interviewee professional profiles and approximate durations of all conducted interviews.

Interview	Current job title	Current organization	Past interviewee professional background	Duration
1.	Innovation Driver/Manager - Open Banking Team	Bank A	Banking	91 minutes
2.	Innovation Manager	Bank B	Banking	75 minutes
3.	Product Owner	Bank B	Banking & Consulting	67 minutes
4.	Platform business model and innovation strategy consultant	Bank A	Banking & Consulting	68 minutes
5.	FinTech consultant	Bank A	Banking & Consulting	79 minutes
6.	Director - Banking	Consultancy A	Consulting	64 minutes
7.	Manager - Financial Services	Consultancy B	Banking & Consulting	88 minutes
8.	Programme Director	Bank A	Banking	40 minutes
9.	Senior Manager - Innovation	KPMG	Consulting	45 minutes
10.	Consultant - Innovation	KPMG	Consulting	56 minutes
11.	Manager - Innovation	KPMG	Consulting	66 minutes
12.	Product Owner API & Open Banking	Bank C	Banking	68 minutes
13.	Head Product	Bank D	Banking	44 minutes

Table 2: Interviewee professional profiles

For this thesis, altogether 13 interviews were conducted with interviewees from either banking or management consulting organisations. Each interviewee has relevant knowledge of the Dutch banks as part of the PSD2 regulated open banking environment, with past professional experience in either banking, management consulting or both. Because of the COVID-19 crisis, majority of interviewees were approached through colleagues from place of thesis researchers work (KPMG N.V.), direct recommendations, or LinkedIn keyword searches such as *"open banking"* and *"PSD2"*. Furthermore, all interviews were conducted as an online conference call, recorded and later transcribed with the help of computer software. Additionally, in order to *"respect and protect the people who actively consent to be studied"* (Payne & Payne, 2004, p.66), all transcripts were anonymised, making sure that no connection between the interviewee and transcript could be made.

3.4 Data analysis

For the data analysis within this thesis, approaches from the works of Strauss & Corbin (1990) and Gioia, Corley & Hamilton (2013) were applied. First, as in Strauss & Corbin's (1990) grounded theory approach, open coding or in other words *"breaking down, examining, comparing, conceptualizing and categorizing data"* (p.61), of all gathered interview transcripts was performed. To achieve this, qualitative data analysis software Atlas.ti 8 was used to first assign specific distinguishable topics or "codes" to individual words, sentences or transcript paragraphs. Second, all generated first-order codes were then continuously re-adjusted and re-categorized until a better saturation of codes was achieved. Third, all remaining identified codes and underlaying quotations were visualized within the "Networks" module of the Atlas.ti 8 software to better envision the overarching groups among the codes in order to then be able to draw and re-adjust interrelations among the codes.

In the second part of the data analysis, an overall *"data structure"* of the interviews was constructed (Gioia, Corley & Hamilton, 2013). To do this, *"2nd order analysis"* was performed on the notion of *"asking whether the emerging themes suggest concepts that might help us describe and explain the phenomena we are observing"* (Gioia et al., p.20). Following this, once the second order analysis has concluded specific array of *"2nd order themes"*, final distillation of these themes was performed to identify the overall *"aggregate dimensions"* of findings (Gioia et al., p.20). And finally, once all first order codes, second order themes and aggregate dimensions were set, overarching data structure providing *"a graphic representation of how we progressed from raw data to terms and themes in conducting the analysis"* (Gioia et al., p.20) was constructed (see Figure 1).

4 Results

In this chapter, findings of all 13 conducted interviews will be elaborated based on the categorisation presented in the following Gioia scheme (Figure 1). First, grounded in interviews, introduction of the context around the situation in Dutch open banking will be described and second, individual findings will be presented. Additionally, while results describe the identified findings, majority of supporting interviewee quotes was placed in the Appendix B, always identifiable by specific number in the brackets next to the text.

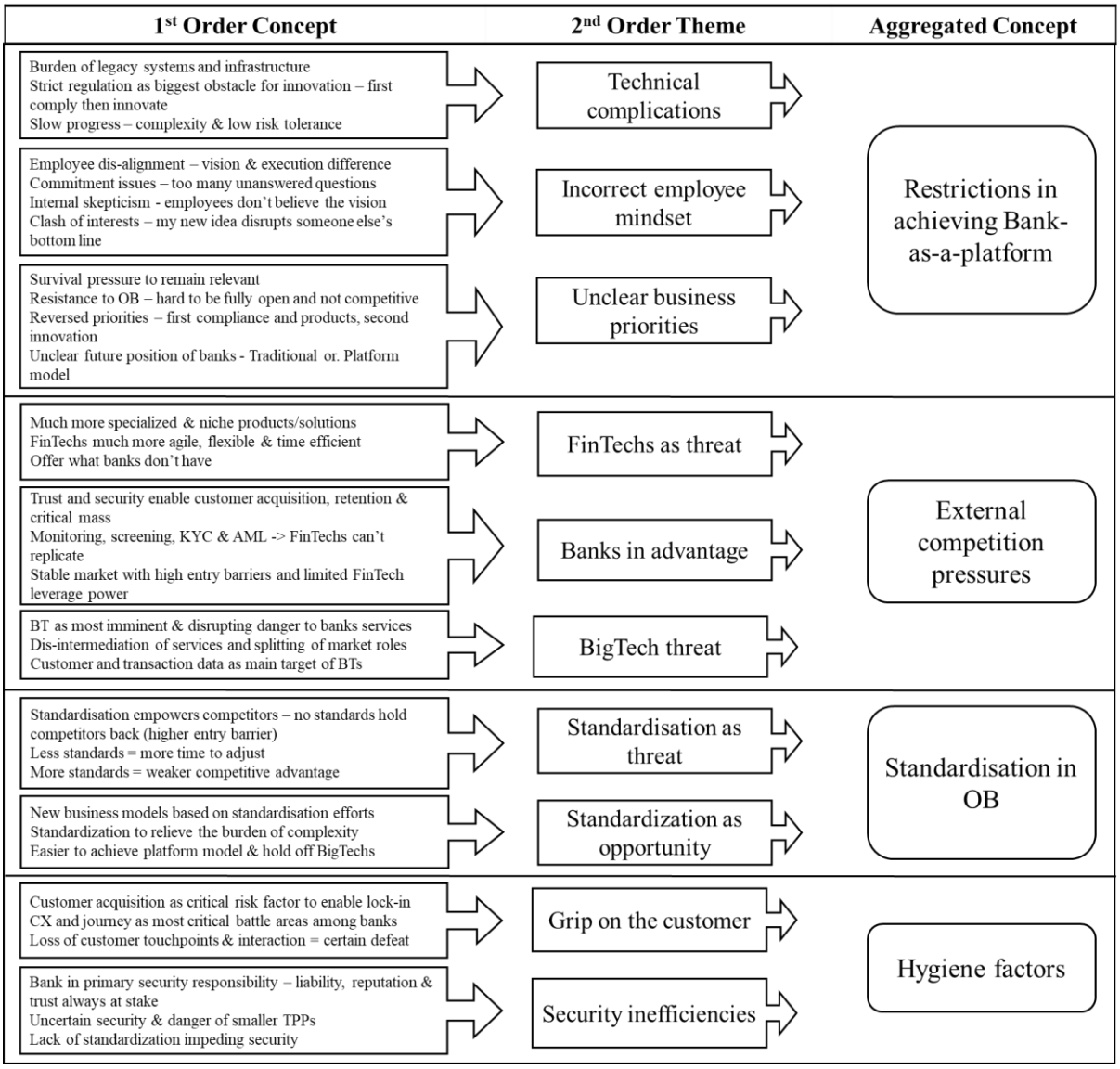

Figure 1: Gioia scheme

4.1 Platformisation of banks

Before getting into the specific findings identifiable from the data structure, it's important to introduce the reader to the general context of the newfound conclusions and to elaborate on the situation which has emerged among the banks in the current open banking, PSD2 influenced environment.

Overall, if there was one word which would best characterise the state of the Dutch banking industry at this time, it would be "uncertainty". The attention of banks is being pulled towards multiple directions and every decision made is very individualistic, context specific or as Interviewee 9 has put it: *"I think, within the banks generally, there are quite a lot of differences on how banks are reacting to this PSD2 regulation"*. However, there has been a clearly identifiable shift of how banks are looking at the introduced changes. While first, banks *"looked at it as more like a compliancy topic"* with *"all kinds of banks that were struggling to be compliant* (p.c. Interviewee 12), nowadays banks are more open minded and opportunity driven, also described by another interviewee as *"looking at what opportunities do arise, one from PSD2, from the regulation, and two, what opportunities arise just in general and how we can reach this open state of banking"* (p.c. Interviewee 1).

Nevertheless, as the open banking concept is starting to mature, the uncertainty comes into play for all the banks. At this time, there seems to be no clear strategic direction, which Dutch banks on the aggregate level would consider as a correct way to move forward:

"It's really, really difficult prisoner's dilemma there. So, you want to be […] the first one who sets big steps and then become a winner, on the other hand, you don't want to set big steps which are in the wrong direction. And the third thing is that, if you set big steps, you're basically perhaps eating your current business model and your current revenues. So, do you dare to take that step?" (p.c. Interviewee 11)

The open banking environment is certainly new and involves many potential risks, however there is one very distinct industry phenomenon, that the interviews have been able to confirm, that is the platformisation of the banking industry. While the current literature (see Literature Review section) just nudges this assumption, conducted interviews have revealed that this shift has already been acted upon among some of the banks: *"It's going toward platformisation, because the attitude of my client was that you have to move with the market developments and the platformisation is one of the key objectives*" (p.c. Interviewee 7). However, even though platformisation directly or indirectly affects everyone involved in open banking, even here a

line can be drawn between approaches of the larger and smaller scaled banks. While larger banks have already made the first steps, as depicted by Interviewee 6, *"I mean, there is one bank, […], that has made no secret about it, that it wants to pursue a platform strategy*" or Interviewee 3 *"[…] we are not choosing being a passive compliant, we also want to utilize the platform, monetize it"*, smaller banks are undecided, some even against the platformisation: *"So, I think it's completely the wrong way around to say, we have a balance sheet, we're going to turn ourselves into a platform. […] That's completely the wrong way around"* (p.c. Interviewee 13).

4.2 Restrictions in achieving Bank-as-a-platform

After establishing that the effect of platformisation is indeed taking place among the Dutch banks, this chapter looks at what restrictions these banks are experiencing in making a successful shift towards what could one day be described as Bank-as-a-platform. In total, there were three second-order themes of restrictions identified: "Technical complications", "Incorrect employee mindset" and "Unclear business priorities".

4.2.1 Technical complications

Starting with the theme of "Technical complications", it is clear that all Dutch banks nowadays understand that pro-activity and innovation focus are laying at the centre of what is needed to be successful in open banking. Whether it means to simply just be ambitious: *"so the ambition is to be active and reactive to to these markets […] and each vertical has within itself a number of initiatives that are going on to utilize PSD2 in some shape or form*" (p.c. Interviewee 2) or actually taking the hard path of being first in bringing new initiatives to the market: *"So that might not have been the ideal journey but yet we were the first ones, we were the ones opening up the markets to that end and learning from that"* the question of well-timed proactivity is always essential.

As was already suggested, along the same line of importance is also the topic of innovation in banking, which was in many forms and shapes mentioned by almost every interviewee. As an example, describing the importance of innovation and how banks organise around it, Interviewee 2 describes: *"Absolutely. Absolutely. And both within all of the departments of the bank, there are numbers of teams working on innovation"* However, it's here, in banks efforts to innovate, where the first practical challenge of regulation **(1)** comes in play the most: *"Regulation is the biggest hinderance to developing this aggressive type of innovation."* (p.c. Interviewee 1). Even though the PSD2 regulation came into effect already a

few years back, the combination of strict regulation and high market fines for not being compliant is holding banks back and made banks' *"risk tolerance and the risk appetite, very, very low"* (p.c. Interviewee 2). To make a connection here to how this impacts the banks, Interviewee 11 offers a closer look when saying: *"banks are so risk averse, highly regulated, which also hinders them from innovation on experimenting".* When talking about platformisation of banks, it is hard to imagine a bank making large scale successful changes towards a platform business model, while not being able to experiment and innovate **(2)**. Unfortunately, even though in some banks people have great ideas, often times other initiatives get the priority. This brings the discussion towards another restriction, which is the slow progress caused by factors such as risk intolerance and regulation complexity that hold the banks back significantly: *"And that means that what maybe usually takes a month to do on the outside, it can take us three or four months to do on the inside"* (p.c. Interviewee 2). Furthermore, when talking about slow progress, what is especially troublesome for large Dutch banks is when the issue of legacy systems **(3)** is added into the equation. What open banking ultimately means is that the doors to connect to the traditional banks have been opened to many new parties, which in practice puts a huge strain on the bank systems that are integrated with these parties. However, this presents an important restriction, as to achieve this, many banks need to rebuild their legacy systems and *"IT infrastructure in a way that we can easily become that preferred platform of customers and corporates"* (p.c. Interviewee 1). Indeed, this process can get so complex that it creates doubts about whether it's actually possible: *"Major banks have so many legacy [systems]. That it will cost them a fortune to actually transform their legacy […] I don't think that will happen"* (p.c. Interviewee 3)

Finally, here it's again necessary to emphasize that it's not the individual factors that are important, it's the mere complexity and manifold interrelations among all of these factors that are crucial: *"If you combine that [legacy systems] with all the legislations that are mandatory. To keep up, they [Dutch banks] don't really have enough resources and energy left to be part of or looking forward to the future"* (p.c. Interviewee 10)

4.2.2 Incorrect employee mindset

While the first section was built on top of more practical, on-hand topics, this section focuses on the often-unchanged company culture and "incorrect employee mindset". This is caused by an employee dis-alignment, which usually causes slowdowns, however is most damaging when the selected bank strategy comes into the implementation phase **(4)**. This difference between what banks intend to do and actually execute is however, not just a worry

but also reality, as Interviewee 4 describes: *"so in theory, we all agree, but when you actually start doing it, becoming a platform, then it's a little bit more difficult. […] It's something which I find, there's another, there's quite a big gap there in most big companies [banks]".* Indeed, it seems that there are visible commitment issues among banks and their employees as there seem to still be many unanswered questions around the platformisation **(5)**. However, the employee dis-alignment does not stop at the apparent lack of commitment. In some banks, this has reached the stage of disbelief when not all of the employees are on board with the overall vision, and even though the strategy is clearly defined and ready to be executed, they are having trouble to get behind it **(6)**. Lastly, building on top of the previous phenomenon, also called as *"internal skepticism"* by Interviewee 1, is the final topic of "clash of interests", which also weighs down bank in their platformisation efforts, when two employee interest areas come into each other's crosshairs and are forced to fight for their individual existence **(7)**.

To conclude this section, banks are not only experiencing internal pressures from practical restrictions, but also from the perspective of their own employees. While it's logical that abandoning cautious approach and rushing into an aggressive execution of platform strategy is not the correct way forwards, banks must not forget to execute on what they have envisioned in order to not get *"stuck in the middle and not have anything"* (Interviewee 8).

4.2.3 Unclear business priorities

In this section, attention will be laid on the second order theme of "unclear business priorities", which banks seem to be experiencing based on manifold uncertainties that the open banking environment has brought. Following topics will be discussed: (1) Survival pressure to remain relevant, (2) Resistance to being open and not competitive, (3) Banks reversed priorities and (4) Unclear future position of banks.

Starting with the first topic, while this pressure is undeniably connected to second aggregate dimension of "External competition pressures" (see further chapters), in this chapter it will be examined from a different, platformisation focused perspective. What the interviews have shown, is a strong concern of banks towards their own survival and relevancy in the market **(8)**. It seems that many banks' survival instincts are recently being turned on when it comes to their position in open banking. Naturally, even-though mentioned by multiple interviewees, the expression of "survival" is at least for the foreseeable future a slight overexaggeration, however the question of remaining relevant in the open banking environment has already materialised. Banks have increasingly been noticing that the needs of their customers have been evolving and

therefore they are trying to adapt to this shift, or in the words of Interviewee 12: *"that means you should be relevant for your customers in ways they desire".* However, what is concerning even more is that banks also recognise and fear the other side of the equation, which is what they already witnessed happening in the energy sector or telecommunications industry. In other words, dis-intermediation or becoming a "dumb-pipe" has become a threat, which banks want to avoid at all costs. Along the similar lines, while fighting to keep their customers and trying to remain relevant, banks have already drawn a picture of what they do/don't want to achieve in the future, as Interviewee 1 explains: *"We always refer to; do you want to be the rails, or you want to be the train? The train gives a bit more of the experience, the rails just provide you from A to B".*

However, it is here when the other findings come to importance. As described above, it is visible that banks do feel the pressure of remaining relevant and also that banks do feel the pressure of having to act on their future visions. Nevertheless, the problem comes again in the execution. Firstly, while smaller banks are *"actively trying to figure out what their place [in the market] is"* (p.c. Interviewee 10), larger banks are struggling most in adjusting to being "truly open" **(9)** to third parties and not falling back to traditional competitive mentality. Furthermore, where banks' business priorities seem to be especially reversed is within the area of innovation. While, it is true that all banks, but mostly larger ones, are indeed pushing hard to be innovative (see previous chapters), to the outside world the change is not so apparent as of yet **(10)**. For the time being, it seems that the innovation focus has not gotten to the top of the priority list as opposed to other financial service providers that *"focus on technology that's in the center. If you look at the big banks, what's in the center is regulations, traditional financial products and then innovation is basically built around it. That's way different, way different!"* (Interviewee 11). And lastly, especially large Dutch banks seem to be stuck between two (a) Traditional and (b) Platform strategies without a clear answer **(11)**. As was shown, platformisation does create a pressure on banks in terms of both opportunities but also fears when it comes to remaining relevant. Additionally, banks can clearly identify and differentiate between two available strategical options: *"... you can do two things. […] So, one, it's sticking to a full bank, a more closed bank offering your products and don't come up with fancy things, or you go to full open platform"* (p.c. Interviewee 8). Nevertheless, as multiple interviewees in different words have expressed:

"…none of the banks have chosen to do either one or the two. They do it now both" (p.c. Interviewee 8)

Finally, while this thesis is not suggesting that this approach is incorrect, it certainly intends to point out the question of how much longer banks can sustain this situation, where they can identify two viable strategical plays, are fighting for relevance in the market but yet, are cautiously still not making the decision to take either one of the options.

4.3 External competition pressures

After explaining what restrictions banks are against when considering the platform business model, in this chapter the attention will be laid on the second aggregated concept of "External competition pressures". Within this concept, three separate second-order themes were identified, specifically "FinTechs as threat", "Banks in advantage" and finally "BigTech threat".

4.3.1 FinTechs as threat

As was already explained, Dutch banks are experiencing noticeable pressure to stay relevant to their customers, or even as some of the interviewees have highlighted, to survive in the market. While the question of survival will be more relevant in the further sections, when talking about relevancy, the cause of this threat is rooted among the activities of smaller parties, such as FinTechs, Neo-banks, Startups or other TPPs (to simplify, only term FinTechs will be used), that were significantly enabled by the latest PSD2 regulation which has opened the door to connect and integrate with other larger banks.

First perhaps intuitive reason, for why banks are feeling competitive pressure is simply the fact that FinTechs are able to offer what banks cannot. Although, the range of their services is strictly narrower, banks are having hard time to replicate it and are therefore losing on some customers **(12)**. Nonetheless, it's important to emphasize that these effects are not yet in full force. PSD2 regulation is still a fairly new one and as for the banks, the compliance towards the regulation is taking time equally to the other side of the equation, represented by FinTechs. However, while not in full force, the threat is already materialised, being acknowledged and kept an eye on. Indeed, as Interviewee 1 has suggested, the effect for now is limited and to say that FinTechs could take over the market is perhaps *"blue sky thinking"* (p.c. Interviewee 1), however that doesn't take away from the fact that they are indeed entering the market and demanding their piece of the pie with propositions that can be so specialised or niche that banks often can't offer these themselves **(13)**. Secondly, while still being limited, the pressure of not being able to offer what these smaller parties can, does not stop with the physical products, which as Interviewee 10 referring to one of his previous clients has described as

exactly where *"their niche was, just indeed efficiency and time effort"*. This extends further out and is also visible in terms of the superior appeal and flexibility that these parties can offer to the customers **(14)**.

Finally, to conclude this section, what the interview findings suggest is that, yes, there are limits to how much pressure FinTechs can exert on the banks in terms of open banking (see also following section), however that does not make FinTechs irrelevant or not worth keeping an eye on. The reason being is that it's exactly those limitations, that these parties have, which made them realise that these are not just limitations but also strengths that they can use to their advantage:

4.3.2 Banks in advantage

This section will elucidate on a first clear tension which the interview findings have been able to identify. As already discussed above, there is a second side to how much FinTechs can affect banks in open banking. What findings suggest is that banks also have got an advantage in three separate categories, specifically (1) trust, (2) stable market and (3) complex monitoring and screening capabilities of customers and payments.

Firstly, perhaps most essential advantage of banks lays with the trust of their clients, which forms an essential pillar, especially for customer acquisition and decision making of clients, who even while being aware of the advantages of smaller FinTechs to traditional banks tend to choose for banks, based on the trust and security **(15)**. Second advantage of Dutch banks is the stability of the Dutch banking market, which on one hand is characteristic of loyal customers, but on the other hand is also very saturated by a small number of large banks with high market shares, sometimes with the addition of a government stake **(16).** And thirdly, last limiting factor of why Dutch banks hold the advantageous position in open banking are the exceptionally complex, regulation required and expensive, monitoring capabilities which banks possess and FinTechs cannot at this time replicate **(17)**.

4.3.3 BigTech threat

Finally, this chapter will be devoted towards what based on interview findings seems to be the most impactful and imminent threat to Dutch banks at the current time, the BigTechs **(18)**. Indeed, the entry of BigTechs is no longer just a possibility, but as Interviewee 7 concernedly stated: *"Yeah, they [BigTechs] are already there. They're not coming, they came already"*. Additionally, while some interviewees have shown to be overly concerned such as Interviewee 4: *"The big competition is most likely not going to be coming from within the banks.*

It's going from the big tech companies. They'll come in and completely kill us", other interviewees were concerned less: "*But the reality is that there's all of this other stuff that needs to happen on behind it. And those tech guys don't want to go anywhere near it"* (p.c. Interviewee 13). Nonetheless, it looks like the truth is somewhere in the middle as the BigTechs seem to not want to directly attack the banking model, however are interested in the so-called cherry picking from services that banks are offering **(19)**. Nevertheless, even-though BigTechs are indeed in the business of cherry picking and *"getting access to transaction data to enrich their database"* (p.c. Interviewee 5) this BigTech market entry presents a serious threat called dis-intermediation **(20),** which questions the future viability of bank business models and threatens to transform the bank into a simple pipeline business, also called a "dumb-pipe".

To conclude this chapter of the "External competition pressures", on aggregate, the interview findings are pointing towards a partnership response of banks, which they are trying to utilize especially for the competition pressures from FinTechs: "*I think it's a part competition, but it's also lots of cooperation. And I think they're cooperating a lot now with those FinTechs and I think they're also willing to invest in them. And then helping to integrate in their business models, because in the end it could be a zero-sum game, or kind of winner takes it all"* (p.c. Interviewee 11). However, when it comes to BigTechs, the response is yet remaining to be seen. For the time being, the discussion seems to be leaning similarly towards the partnership route, however as Interviewee 1 stated: *"Till now, I'm not aware of any big partnership with a Big Tech or such GAFAs with a Bank"*. But regardless, banks should pay close attention as when it comes to partnerships and BigTechs, they have *"the means and the power to be for definitely sure the "train" and they don't want to be the "track""* (p.c. Interviewee 1).

4.4 Standardisation in Open Banking

Being closely related and complementing the previous chapter around competitive pressures in open banking is the aggregated concept of "Standardisation in Open Banking". Similarly to previous chapter, this concept is characteristic of a visible tension between the approaches that Dutch banks choose to follow, and were therefore categorized as two opposing second-order themes: (1) Standardisation as opportunity and (2) Standardisation as threat.

Starting with the opportunistic perspective, interviewees have pointed towards the fact that standardisation is indeed needed and would be beneficial. As a primary reason for this opinion, a significant part of interviewees considered standardisation as a pain reliever that

would ease the complexity of the environment which the PSD2 regulation has created **(21)**. However, apart from the role of pain reliever helping with the integration of banks that often *"use different data models"* and do not want to *"spend money and time in making all these connections with the banks"* (p.c. Interviewee 12) what interviews have shown is that there is an *"inefficient market"* and that *"pan-European coverage is increasingly important"* (p.c. Interviewee 13). This is a trend that has already been picked up and resulted in companies which have made standardisation as their primary business model **(22)**.

However, there is also another, more negative side of standardisation which was pointed out in the interviews. The problem with standardisation and closely related topic of competition dynamics is that, even though standardisation could indeed help banks in more effective platformisation **(23)**, it also empowers others who threaten and try to compete with the banks: *"To be honest, I think they see it as a threat, so the more standardization the more they are threatened"* (p.c. Interviewee 11). Moreover, what's especially of concern is that standardisation also eases the access of competitors like BigTechs who have their focus set on the banking industry **(24)**. Indeed, the interviews point towards the fact that banks are struggling to remain competitive and try to buy every little amount of time **(25)** they can in order to adjust and cope with the changes that the open banking has forced on them. In banks minds, an unstandardized market holds the competition off their back as it creates a competition where there perhaps should be none **(26)**.

4.5 Hygiene factors

4.5.1 Grip on the customer

When talking about competitive dynamics and how Dutch banks behave in the open banking, interviews are pointing towards another topic of avoiding the loss of the customer, especially towards the perspective of balancing banks "grip on the customer". As Literature review explained, platformisation can involve complex dynamics among the providers and users on the platform. However, when moving this discussion to the context of Dutch banking, interviews show that the focus on the customer is always the first priority, specifically in these three areas: (1) customer acquisition, (2) customer experience & journey and (3) avoiding the loss of customer touchpoints.

Starting with the customer acquisitions **(27)**, it seems that TPPs simply do not present as much monetary value for the bank as individual customers do. This is perhaps more specific to Dutch market than others, as it is characteristic of having quite loyal customer base, however

it does not apply to all customer groups as most challenging is the young generation **(28)** of clients, where banks struggle to remain relevant. As the interviews show, because of the too low profit margins in banking, the answer to this is in the customer journey and experience **(29)** where banks currently battle the most. Indeed, customer experience plays such an important role in how banks differentiate themselves that *"when it comes to customers, they [banks] are looking for services to give them the best experience, even if it costs them money"* (p.c. Interviewee 10). However, perhaps the most important risk factor when discussing the grip on the customers is keeping the touchpoint with the customer **(30)**. Dutch banks realise that new competition is unavoidable and therefore *"the ultimate challenge now is how not to lose too many [customers]. You will lose a lot for sure, but how not to lose too many"* (p.c. Interviewee 7). As the interviews show, the answer to this is in keeping as many customer touchpoints as possible and to achieve this *"first thing you have to do to satisfy your customer is keeping up with developments"* (p.c. Interviewee 12), which as Interviewee 7 explains further *"[keeping up with developments] it's like a simple hygiene factor. So, you have to do it, if you don't do it, you will be out of the game"*

4.5.2 Security inefficiencies

"Security inefficiencies" is the last identified second order theme that was categorised under hygiene factors concept as with every security failure that Dutch banks encounter, an ultimate risk of losing the customer comes along as well. Within this theme three pivotal findings were identified, (1) banks in primary security responsibility, (2) uncertain security & danger of smaller TPPs and (3) lack of standardisation impeding security.

Before elaborating on each of the proposed areas, it's important to mention first another finding, which points towards the fact that security among Dutch banks in the newly PSD2 affected open banking is always an absolute priority, or as Interviewee 8 points out: *"For banks, security is essential and I'd say a level 0"*. However, following this is the first finding, which points towards the fact that banks might indeed be held liable too much, even when the fault and blame falls on other party **(31)**. What this means is that yet again, there's another pressure point restricting banks as they fear for the loss of trust **(32)** or reputation damage **(33)**, which can both inevitably result in the loss of the customer. Secondly, while banks are forced to open their doors to outside parties, they still struggle to put their full trust in the security of these external third parties as they fear for their security not being up to par **(34)**. This is a crucial point as this would also put support to earlier discussion of why banks prefer to hold competition off their backs by not pushing the standardisation or as Interviewee 5 describes:

"that might also be part of the reluctance or hesitancy from a bank's perspective as to why they are, to the extent possible, traditional thinking, restricting the access to data still". This brings the discussion to the final finding of standardisation potentially affecting the security of open banking **(35)**. As was already illustrated, there is a visible tension around standardisation but nonetheless, in the security domain, banks could certainly benefit from more standards, especially when it comes to connecting with parties from abroad.

5 Discussion and conclusions

5.1 Discussion and conclusions

In light of the identified literature gap and based on the findings described in the results chapter, this chapter draws a theoretical model showcasing newly identified interdependencies among the defined aggregated concepts and the effects these can have on organisation's platformisation efforts. These interdependencies are presented as the main contribution of this thesis in its effort to answer the following research question:

Why do organisations fail in platformisation despite the presence of recommendations from platform building research?

Taking that into account, the subsequent model elucidates on these interdependencies with practical examples and implications from the Dutch open banking environment. In the next paragraphs, firstly, general characteristics and dynamics of the model will be explained, secondly, a findings-based application of the model will be displayed and thirdly, discussion of conclusions and how these advance the current platform literature will be held.

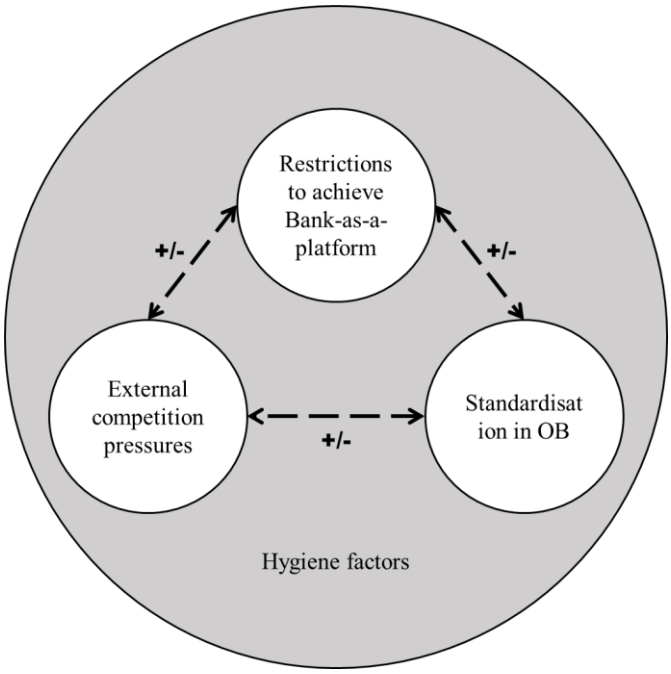

Figure 2: Model of interdependencies among aggregate concepts

Starting from inside of the Figure 2, a triangular process is drawn, consisting of three main interrelated aggregated concepts, each comprised of a set of previously described second order themes and underlaying codes (see Figure 1: Gioia scheme). Represented by dashed, double headed arrows are the bilateral interdependencies among the aggregated concepts, which based on a given situation can represent a Positive or a Negative effect among the two given concepts. As will be illustrated, the nature of these interdependencies' effects will be one of the main contributors to the conclusions of this thesis. Finally, displayed as a grey circle surrounding the triangle is the secondary aggregated concept of "Hygiene factors", which in this model has an impact on all three main concepts and acts as a "pre-requisite" factor limiting the functionality of the model, or more specifically, viability of banks platformisation efforts.

After explanation of all essential model characteristics, this paragraph now puts the model into context. What findings of interviews indicate is that banks, when dealing with platformisation, need to face 3 individual aggregate groups of challenges. In an ideal scenario, a bank would want to engage in each area in a manner, which would contribute to a positive overall result. For example, an ideal process flow could look like this: (1) bank resolves one of its "Technical complications" elevating it's "Restrictions in achieving Bank-as-a-platform", (2) upgrades one of its capabilities from "Banks in advantage" to elevate "External competition pressures", (3) uses "Standardisation as opportunity", all while (4) avoiding "Security inefficiencies" and holding its "Grip on the customer". As clearly visible, in this ideal scenario,

all individual positive effects would together bring an overall positive result and help the bank in its platformisation efforts.

However, when put into real life context, when interdependencies take effect among the aggregated concepts, results may vary. Firstly, primary focus is laid on the "triangle part" of the model where the interdependencies are present and therefore, "Hygiene factors" are assumed to be fulfilled. However, in the case these were not, meaning the bank would either lose its grip on the customer or fail in one of the security areas, it would result in the bank being *"out of the game"* entirely (see Results chapter). Nonetheless, to proceed, consider the following situation noticing the interdependencies at play. In order to alleviate the "Restrictions to become a BaaP" such as outdated legacy systems or complex IT infrastructure, a bank might decide to build a new internal open platform, which could be used to better integrate with new external parties. The first immediate result of this would show as a relief for the bank to deal with "External competition pressures". However, on the other hand, the way this new open platform would allow for easy integration with others could be picked up as a new standard in the market, which would enable banks competitors to make use of that solution as well. As a result, this transfer would cause an unwanted reverse effect as the "External competitive pressures" would increase back from their previously lowered levels. To sum up, this model-based example shows that because of the interdependencies between the aggregate concepts, alleviating an aspect of one aggregate dimension initiates a sequence of other interdependent effects that can result in both positive but most importantly also negative, counter-productive effects on other dimensions, in this case, "External competition pressures". Based on interview findings we know that for Dutch banks, standardisation can act as a threat by closing the competitive advantage gap or by making the market entry for parties like BigTechs easier. Therefore, we see that the interdependencies that cause these transferring effects can have a detrimental impact on the success of not only organisation's platformisation efforts but general market position as well.

Finally, to discuss the conclusions and circle back to the presented research question, the main contribution of this thesis are the discovered interdependencies among platformisation activities that cause a transfer of effects from one dimension of activities to another. Thus, when an organisation engages in platform building activities, interdependencies among these activities will have an impact on the subsequent success of the results. Therefore, it's here where we find a first contribution to the current platform literature. These interdependencies create a link between why a platform building organisation can follow any amount of practical "x-step

guides for success" but might nevertheless not succeed. We now see the evidence for this, as any of these recommended actions can create an interdependent sequence of effects that can result in a reversed, negative effect on other dimensions, effectively diminishing some of the organisations previous successes. This is really a core contribution as it showcases the complexity which the platform building literature has obstructed by the seemingly simple recommendations and also gives support to why platforms nowadays are remaining to fail at an alarming rate. When taken as individual and isolated lessons, the conclusions of these studies might be correct and achieve successful results. However, when taken and applied together, we now see that there is an additional unknown, being the interdependencies, which none of the previous studies have taken into consideration. Secondly, another contribution to current literature can be drawn in opposition to conclusions of platform research papers such as Gawer & Cusumano (2008) and their principle of "coring", which is based on the proposition to *"solve an essential business problem for many industry players"* (p.32). Based on the discovered interdependencies, this thesis puts this approach in question. Similarly to what standardisation in the modelled example has caused, following "coring" principle and solving the problems of other industry players might have a secondary reversed effect on the organisations competitive position. This could render the organisation as less capable of following other coring related recommendations and ultimately endanger organisations platformisation success. This is done not in an attempt to discredit this principle, but instead to advance this research by pointing the attention towards the fact that in order to achieve the isolated positive effects of a given action, interdependencies need to be accounted for and mitigated before engaging in these "coring" activities. Thirdly, last contribution can be drawn in connection to literature depicting current platformisation consequences within banking industry. Looking specifically at Gozman, Hedman & Olsen's (2018) research identifying risks and challenges within banks that are undergoing a transformation in open banking, this thesis can extend on these conclusions. Based on the displayed model and identified "Hygiene factors", we can now provide additional prioritisation to these challenges by emphasising the importance of "Grip on the customer" and "Security inefficiencies". As was shown, these can be considered as pre-requisite factors that are most crucial to the overall viability of platformisation activities and therefore, this thesis both supports previous conslusions and extends on them by providing additional emphasis on the importance of these factors.

5.2 Research implications and limitations

This thesis contributes to the current body of platform literature with the following three theoretical implications. Firstly, the main implication for researches is in already mentioned interdependencies, which occur among studied concepts. What this means, also considering the identified literature gap, is that researchers, especially the ones studying approaches to build platforms, should pay more attention towards relations that can occur among these researched concepts as these can act as important factors influencing the success of organisations platformisation efforts. Secondly, tied closely to first implication, this thesis uncovers a flaw, which is shared among all reviewed research papers ("x-step guides for success"). Simply studying historical examples of platform building organisations and deriving recommendations from these successes or failures may not be enough to prove their effectiveness and suitability for practice. Instead, researchers should advance this line of study further and also apply these guides in existing businesses before presenting them as recommendations for platform building organisations. Thirdly, despite critiquing these articles on the level of how effective these would be in practice, this thesis also indirectly supports their conclusions as it indeed shows that positive results can be reached when following these recommendations. Therefore, as was before suggested, it would not be useful to discredit these recommendations entirely as these might perhaps be incomplete, however remain relevant still.

In this second part, practical implications will be discussed. First and most important practical implication for managers in organisations building a platform is to always consider their platformisation actions in a wider context than a singular activity. As conclusions have described, in order to achieve successful results, it is necessary to account for potential interdependencies that might occur and try to mitigate the consequences these might bring. While this implication will naturally not be able to guarantee success, it certainly opens managers awareness regarding the extent of causal effects that a given action might bring, which shall help in making better informed decisions when building a platform. Secondly, while this thesis uses the proposed model to show only negative effects of interdependencies, platform builders can also utilise the model in opposite direction. Given its versatility, model could be utilised to create successful platform strategy by identifying actions which would supplement each other and result in a purely positive outcome consisting of multiple interlocked effects. Thirdly, this thesis highlights the importance of hygiene factors such as security and grip on the customer. What this means for managers is that when making decisions about platformisation, these two factors should always be taken care of in advance of these decisions.

Lastly, this thesis is aware of several limitations. First limitation is within the selected exploratory, qualitative study design, which means that all results are subjective and possibly biased by experiences and interpretations of both the researcher and interviewees. While all interviewees had relevant experience, majority of interview answers was based on personal judgements and assumptions. Additionally, when interpreting these results, researcher is also limited by his past experience and personal biases. Secondly, the proposed model and interdependencies within it were not subjected to statistical or other quantitative testing. Given the conclusions, this is a significant limitation as it is not clear how strong any of the proposed positive or negative effects would be in practice and therefore, this opens up the space for future research. For example, if a quantitative study would show weak insignificant effect of proposed negative interdependencies, conclusions within this thesis might be proven in-/correct. Thirdly and finally, all conclusions were based on an interviewee sample from primarily large Dutch banks and therefore might not be as fitting for banks of smaller scale or other types of organisations. However, given the versatile nature of the proposed model, this limitation remains unproven and therefore also offers an opportunity for future research to be tested within different context of organisations than banks.

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7 Appendix A – Interview Outline

Interview Formalities		*Express appreciation for the participation*
		Ask for approval of the recording
		Explain anonymity (names of interviewee, colleagues, products etc.)
		Explain the general background and purpose of the study
Introduction	0.a	Could you introduce yourself?
	0.b	What is your role and daily responsibilities within your organisation?
Category 1: Platformisation vs. Traditional bank	1.	After PSD2 has become effective, one of the most essential strategical tensions/challenges was the decision of whether to just *Comply* with the regulation and stay in a role of *Integrator* or whether to *Expand & Transform* into a so-called *Bank-as-a-Platform.* <u>WHAT:</u> What was the response of your organisation to these strategical options? What were the main concerns/areas of interest when discussing the future decision? <u>WHY:</u> Why has your organisation decided the way it has decided (based on what)?
	2.	<u>WHAT:</u> How active is your organisation in its responses to PSD2? Wait & See (passively reacting, leaving the options open) -> Catalyst (very proactive, momentum based, first to the market) <u>WHY:</u> Why has your organisation decided for the specific option?
	3.	Being fast in reaching the new platform market is essential for success and involves many new activities. However, it's also necessary to ensure the round the clock existing fraud/KYC/AML & other essential bank capabilities. <u>WHAT:</u> How does your organisation resolve these transformational challenges? <u>WHY:</u> Why could/couldn't the "Experiment & Prepare to fail safely" strategy be useful in this situation?
	4.	Within Open Banking environment, banks are either trying to develop new products & capabilities such as Premium APIs or rather staying and perfecting the standard regulation framed capabilities.

		WHAT: What is the behaviour of your organisation in connection to these approaches? Could you give examples of activities within the chosen approach? WHY: Why has your organisation decided to go that certain way?
Category 2: Competition vs. Partnership	5.	One of the essential PSD2 goals was to even the playing field in banking. As a result, the competition within the Open banking environment has risen dramatically since TPPs have their own competitive advantage in skills & knowledge that banks do not possess. WHAT: What are the response strategies of your organisation to these circumstances? Does it take Competition or Partnership approach? WHY: Based on what does your organisation decide who to compete/partner with?
	6.	90% of customers are still loyal to banks however concerns about banks being disintermediated by TPPs and eventually becoming so called "Dumb Pipes" are gaining significant attention. WHAT: What is the stance of your organisation around these emerging risks? WHY: What are the assumptions on which the opinions of your organisation are based?
	7.	Across EU, the PSD2 implementation is stifled by the lack of standardisation and consequent fragmentation which creates differences in playing fields within EU countries. WHAT: Would your organisation benefit more from fragmented environment with the potential "Winner takes all" opportunity or from a more "Standardised" playing field? WHY: Could you explain why your organisation would benefit by the chosen approach?

	8.	GAFA are slowly penetrating the "payments" market with their quick one-click transactions. Additionally, 82% of customers agree that GAFA can do what banks do. Given their size and capabilities, if these decided so, GAFA could reach Bank-as-a-platform much faster. WHAT: What is the reaction of your organisation to this threat? Could banks withstand a fight against GAFA or should they be trying to Cooperate & Partner up as much as possible? WHY: Could you explain, why the chosen approach should be taken by your organisation?
Category 3: Customers vs. TPPs	9.	When building a platform, it's very common to incentivise 1 side of the platform against the other (e.g. company clients pay Google for advertisements, common people use Google for free & only "pay" by seeing the advertisements). WHAT: Is this one-sided incentivisation a viable option in Open Banking environment? What is the stance of your organisation in this regard? (Additional: Is Customer Centricity still prevalent?) WHY: Based on what assumptions or goals does your organisation decide to incentivise one side or not incentivise at all?
	10.	Open Banking presents an opportunity of new product & functionalities for both customers (Pensions, Savings accounts, Recurring Payments, Mortgages) and TPPs (Merchant Refunds, Sharing Identity data as business opportunity). WHAT: Where does your organisation stand in regard to these new product opportunities? Does it prefer one side to the other? WHY: What are the main factors on which your organisation is basing its choice of new products?
	11.	Banks reputation and trust of the customers are the quintessential pillars of the banking industry. However, banks are losing their market centrality & can no longer interact with customers, who instead interact directly with TPPs.

		WHAT: How does your organisation manage this tension and its TPP & customer relationships in regard to questions of Fraud Liability, Reputation damage or Financial loss remuneration? WHY: What assumptions are these decisions based on?
Category 4: Security	12.	"Open Banking is cool now but secure later", e.g. hype in the banking industry around new opportunities & products is primary focus point, meanwhile security of the underlying technology is a secondary concern. WHAT: Based on the environment within your organisation and your experience, is there truth to this statement? WHY: Based on what assumption do you think that?
	13.	Open Banking is mainly attractive cause of the new products and opportunities it offers; however customers ease of use is often in conflict with the security (RTS, XS2A) requirements (e.g. One-click shopping contradicts 2-factor authorisation) WHAT: How does your organisation navigate this challenge? Are there compromises which have to be taken when developing a product? WHY: What are the main factors which influence the choice of product security vs. ease of use?
	14.	PSD2 opens bank data to more TPPs which inevitably raises the surface for external attacks & breaches. At the same time, there are no common security standards to fulfill RTS XS2A requirements for both banks and TPPs. This could potentially make customer data vulnerable and exposed to external attacks. WHAT: How does your organisation control these potential risk factors and what are its response strategies? WHY: What factors does your organisation prioritise when deciding on a response strategy??

	15.	Based on EBAs findings, unsafe behaviour of PSUs is one of the most common security threats. Moreover, undermined PSU confidence could invalidate any previous bank efforts. WHAT: What options does your organisation have to mitigate these risks? WHY: Why do you think is/isn't it important to mitigate these risks? Why should your organisation take the options you've proposed?
	16.	WHAT: What are the most common and crucial security threats your organisation is experiencing and should be mitigating ASAP? (examples: Data breaches, Misuse falsification, Denial of Service attacks, Un-encrypted logins, Infrastructure malfunction, Speed of execution, Man-in-the-middle attacks, Token compromise, IP address spoofing, API Gateway failures) WHY: Why are these risks important to mitigate? What danger do they present if left un-mitigated?

8 Appendix B – Supporting Quotations

Ref. number	1st Order concept	Interviewee number	Quotation
1	Strict regulation as biggest obstacle	Int.2	Regulation is the biggest hinderance to developing this aggressive type of innovation. As a bank, we know that. We're quite aware of it. We're studying all sorts of things that can help us also within group innovation to make sure that we are complying and have a fast track approach to this
		Int.1	Definitely the first priority was being complained to the regulation still.
		Int.11	I would say they usually go for compliance angle first. Also, especially big banks in the Netherlands they get lots of focus from the regulators so that's one.
2	Slow progress	Int.2	But the risk tolerance and the risk appetite is very, very low.
		Int.11	...banks are so risk averse, highly regulated which also hinders them from innovation on experimenting
		Int.2	People have lots of ideas. People have lots of willingness to start doing new stuff. But still, the implementation of the regulation in some teams has a bigger priority. And as a result of that, the new propositions don't always fly
		Int.2	And that means that what maybe usually takes a month to do on the outside, it can take us three or four months to do on the inside. So that limits to a certain extent, our capability of being aggressive on these types of things [innovating]
3	Burden of legacy systems	Int.1	IT infrastructure in a way that we can easily become that preferred platform of customers and corporates
		Int.3	Major banks have so many legacy [systems]. That it will cost them a fortune to actually transform their legacy […] I don't think that will happen
4	Employee dis-alignment	Int.4	"It's really hard to implement. It's really hard doing it. Having a vision is wonderful and you need a vision, but execution is... you need both. And vision, it's just step one. Execution is going to be, you know, you're gonna have multiple chances to mess things up in execution."
		Int.4	"so in theory, we all agree, but when you actually start doing it, becoming a platform, then it's a little bit more difficult. […] It's something which I find, there's another, there's quite a big gap there in most big companies [banks]".
5	Commitment issues	Int.2	"It's there. It's definitely there. We still need to take out a few, we have to face a few more questions before we make a commitment for us to say, hey, this is the... we need to become a platform and we need to do it aggressively"
		Int.8	I think at the moment banks are still hesitant to go full in so I think they're still exploring the opportunities of what is possible with both techniques. So there are no banks in the core who said, are we going to be an open bank
6	Internal skepticism	Int.11	"from what I see, what you should not underestimate is that such a bank has got a lot of legacy, a lot of collective knowledge, also within the people in their heads, they're shaped, they're used to rigorous processes, to procedures, to regulations. So, you can draft a really nice strategy of a hundred pages and have a really inspirational CEO. But you're not going to make a change easily if you have so much people coming from a way, way, way different perspective."
		Int.6	If I look at the Netherlands, I think most banks, the large banks have an internal tension between the people that are focused on creating, let's say developer portals and open banking portals and APIs exposing, let's say, the bank services and the bank customers to third parties.
7	Clash of interests	Int.1	"So in the moment that one area of innovation is pushing, I don't know, a mortgage from xxx, for example, […] somebody in the bank is going to get angry with that […] because you're giving direct competition to his bottom line". (p.c. Int.1)
		Int.2	Really a lot. Both in terms of internal, convincing people that this was a good strategy, but also external because it's s all great and good to say that we're going to be a platform from tomorrow, but then if you don't interact with the external environment, then you know you're a platform with a party of one. So that's the hardest approach.

Ref. number	1st Order concept	Int. number	Quotation
8	Survival pressure to remain relevant	Int.5	That is what we realized as a bank and with that realization, basically, we have said there is no way in the world that we can survive in the mid to longer run if we continue to do business as we have always done in the past
		Int.1	We always refer to; do you want to be the rails, or you want to be the train? The train gives a bit more of the experience, the rails just provide you from A to B. In that respect, we also want to be the one offering that customer experience, that touchpoint for, let's say that touch base when a customer interacts with the bank or with the account
		Int.2	Yeah, so the main challenge there is to become relevant because, you know, the technology is all good and fine and banks have traditionally been very, very capable of developing awesome technologies that had no application in the market
9	Resistance to OB	Int.2	The main challenge when looking to become a platform is that, well, you have to really open up. Really open up! And you don't have to have any sort of bias towards competitive products and, you know, the other fintech products that may be in direct competition with yours
		Int.6	It's no, no, we're gonna be opening up to third parties, we're going to be partnering with them, using them to offer services to our clients in a platform model. And that would also mean, for instance, somebody else's mortgages, yeah? Combined with our stuff. Whereas others are saying, no, no, no, we basically still remain a monolithic bank. That's what we are.
		Int.11	Yeah, but then, what I believe, if I think out of the box. Then you need to get a rid of basically selling your own products. If you want to be truly a platform, you open up to all players and that's interesting indeed. To say, Okay, I'm opening up fully, I'm going to move to a drastically different revenue model. So all financial institutions can put their products on there
10	Reversed priorities	Int.11	They're not so innovative at all. They'll always say, especially ___, we're a technology company with banking license. That's BS, that's nonsense, that is just not true. Adyen (name of a company) comes a bit close […]. They focus on technology that's in the center. If you look at the big banks, what's in the center is regulations, traditional financial products and then innovation is basically built around it. That's way different, way different!
		Int.10	I would say they usually go for compliance angle first. Also, especially big banks in the Netherlands they get lots of focus from the regulators so that's one.
		Int.3	Bank X chose to utilize, utilize the chance... first, we have to comply eh? When that requirement came to the market the first thing everyone says is related to the lessons to operate. We have to comply because we want to compete in the market. But we think this is also a great challenge for us to actually embrace third party companies for innovation
11	Traditional or. Platform model	Int.9	Yes, so I think that you can do two things. And I think none of the banks are really choosing for one of either. So one, it's sticking to a full bank, a more closed bank offering your products and don't come up with fancy things or you go to full open platform
		Int.8	I think at the moment banks are still hesitant to go full in so I think they're still exploring the opportunities of what is possible with both techniques
12	Offer what banks don't have	Int.5	One is, yes, this is absolutely something that is happening and that is taking place but for us, it will be important indeed if our clients want to go to third parties, possibly, indeed, they might be offering something they like and that we don't have
		Int.2	How that is for the future is a big question mark, because on one side, there's a race, you know, the challenger banks are racing towards providing these type of products and they're also racing towards the B2B side. They were traditionally B2C, now there's a growing enthusiasm for freelancers, SMEs, a number of challenger banks that have been specifically developed for SMEs and for freelancers. So business specific banks.
		Int.3	Whenever there's a new initiative in the big corporate for things.... before we think about whether it's profitable or what to do, we always ask our legal guys. And then you can see that sometimes we cannot be really always competing with other fintech companies, smaller companies.
13	Much more specialized & niche	Int.9	But there is some disintermediation going on already, especially when you look at the neo-banks, they have just better service propositions. It looks fancier but also more helpful. So customers tend to choose for that
		Int.1	Yeah, it is a fear, of course, that this can happen. But we keep monitoring that movement. If there's already a movement but it's still fairly limited. Not even a full 1 percent or whatsoever. So, of course, again, to limit that movement and that risk that parties are going to use TPP... that consumers are going to use TPPs with these platforms
		Int.10	While all those third parties, like you said earlier on, they really get their existence out of offering a surface to a niche. Because they have that niche, they don't necessary have a wide range of services. They fight.. I think the banks are competing in that essence with their range of service and their larger market to offset.
14	FinTechs much more agile,	Int.2	I think it is going to be quite a risk going forward […]. Because unless you find a way to really innovate and really make sure that you're user-friendly within these niches, then an external startup always has the leverage of being a bit more sexy... That's not the correct word, but it has the ability to be a bit more, well, user friendly, and then in the end, easy to sign up and sign off
		Int.13	Because at the end of the day, it's the only way we're going to disrupt, grow and win, right? We don't have 500 billion on our balance sheet to wield. But the flipside to that is that we also don't have 500 billion to defend, which means that we can move faster, we can take risks, we can partner up, we can pivot very quickly. And that's our advantage

Ref. number	1st Order concept	Int. number	Quotation
15	Trust and security enablers	Int.3	"Banks still have a unique advantage, which is the trust. […] Let's say there's a fintech company providing a similar solution... gives you lending, very quick, gives you a payment or transaction very quickly. But then there is another conventional bank which will take one or two days to get everything done, the mortgage or everything... Then what will be your choice? Probably you will still choose the bank at this moment"
		Int.10	Yes, I think the strength of a bank it's not only indeed in trust but it's also, how do you say it, like for example if your mother and father would have Bank X when you were a child, then it would be logical for you to also get Bank X. And throughout your life, they keep you involved in the sense that they can also offer you insurance, they can also offer you mortgage. The combined solution that they provide for different faces in your life, makes them stronger and effective to keep you as a client.
		Int.6	In fact, I think that the large banks have a competitive edge because they already have the trust of customers. And they will do everything to maintain that.
16	Stable market with high entry barriers	Int.3	"And also the Dutch people are really loyal. Once they stick to your bank, they hardly change"
		Int.2	"Those big banks are state backed. They don't worry about old customers moving to the other banks. That's also not what the Dutch government wants to see, right? Then you have like a single point of failure. So that's it, they don't worry about it"
		Int.3	Definitely not from survival point of view because they will anyway, as I mentioned, they will survive, this is a big one, they have a big barrier for other banks to enter the market, so they can't actually simply enter.
17	FinTechs can't replicate	Int.7	"For example, on customer activity monitoring, screening and then detecting fraud, like the regulatory requirements to do customer activity monitoring, anti-money laundering, these are huge. It takes many people and many efforts to implement. And for FinTechs, it's a huge challenge"
		Int.5	Just to leverage the opportunities because some of the things that banks already have, the existing propositions or initiatives FinTechs can never pull off. So, you know, you have to take care of something that you're already have an advantage in and then you pick up something new that you can develop.
		Int.11	Also with all the rules and regulations. So compliance with AML, counter terrorist financing, et cetera, et cetera, you should not underestimate how difficult it is and how much investment that requires from such new players. And that's what those banks, the big banks already had, for years.
18	BT as most imminent & disrupting danger	Int.11	"I think that the competition is not only between the banks or between challenger banks and big banks, but there could be a huge disruption from big techs that are going into financial services. So, the risk that Facebook or maybe Amazon is going to seriously invest in banking services, that could basically disrupt the full financial services sector"
		Int.5	I honestly, I believe, I went to a meeting in the European Banking Association, I believe, last year, pitching about innovation and the potential risks coming from it. And what I pitched there was that the biggest risk for the whole financial domain doesn't come from banks, nor does it come from fintechs, but it does come indeed from the BigTechs, from GAFA and perhaps... So what you see is you've got a bunch of platforms coming from the West, you've got a bunch of platforms coming from the East and Europe at least is squeezed in the middle, so to say. Because we don't have any overarching platforms ourselves.
		Int.10	It's also interesting to see, even the regulators in NL are afraid of what would happen if parties such as Facebook or Google really really are going to go ALL in on payment services. What would happen with our personal information if they have access to all our transactions, including transactions that we make to each other, they'd get a lot of information.
19	Customer and transaction data as main target	Int.5	"I think they're in the business of really cherry picking indeed. Of those aspects or elements from banking that are in their favour and stick to those. […] So that will be one of the rationales most likely for Amazon to say, hey, let's go into banking, because additional services will increase the stickiness of our proposition and keep our all suppliers onto that"
		Int.5	So to them, I believe the banking business, per say, is not... it might be interesting to some extent, but the key thing they're trying, at least in the short term to retrieve, is getting getting access to transaction data because that enriches their database and helps them with some kind of a keystone, basically, that they didn't have.
		Int.7	Yes, I agree, but the thing is that they don't want to be, in my opinion, the bank, but they know what they want and their goal is to know the customer as much as possible.
		Int.12	But from my personal perspective, I think that big tech companies they are more aiming for that aggregator role in which you basically can do... So that you basically can do everything you want from their interface. That's what I think they are aiming for. I'm not so sure about how deep they want to be involved in banking, insurance or that kind of businesses because, of course, they want to maybe in the near future, they want to try to earn money on that part.
		Int.11	But I do think indeed that for example payments data, current accounts data is very valuable, like just, you know, a mortgage which someone takes every 20 or 30 years or whatever is maybe indeed not so interesting. So it could very well be, that they would focus on certain elements only. Also providing credit is really interesting for them right. So to help theit sellers for example, to buy on credit.
20	Dis-intermediation	Int.6	Yes, but. But there is a danger and it's called the disintermediation, right? The danger is that banks lose the customer facing bit. Which ultimately reduces brand power and also their future viability and their future options.
		Int.6	And that's exactly the distinction where I'm saying where you split the bank up and one part becomes the platform and the other ones are the, let's say, the dump pipes or the factories.
		Int.5	Let's put it that way, I believe it's a big trap. I think you can draw some parallels with the telcom industry. So what you see is that we had many flourishing brands and virtually all of them have simply become pipes and so I mean, they're all selling the same third party phones from Samsung & Apple mainly and perhaps a few other Chinese. The only thing they're now doing, there is no differentiation anymore in terms of the number of minutes you can call or a number of messages you can send. It's just data, data and data. So they've become a data pipe.
		Int.11	Secondly, they're increasingly losing customer interaction. That's what they're afraid of that I also believe that's really happening. For example, there have been discussion in NL as well about creating a separate deposit banks
		Int.9	Maybe, to go back a little, I think there has to be disintermediation to some extend already right? So banks basically had lost parts of market share in for instance customer business business, for instance to trading companies, link Bunq or GRO? or FlatX??? or those kinds of trading companies, so they've lost that part of market. Also on the FX front, so the currency solutions. Senate early on. Also some in payment transactions..
21	Pain reliever to ease complexity	Int.5	"I'm a great fan indeed if we could get a little bit more standardization at first because at current, the RTS and the standards that have been adopted now are just manifold. And I don't believe this is helping banks, this is not helping FinTechs, this is not helping anyone literally. Because this means so many different interpretations, there is so much manual labour […]."
		Int.3	there's no regulation saying you have to standardize. But people realize the pain. There are some advisor groups in pan-European countries. So they advise each country to take certain strategy to also align…
		Int.5	trying to to make those connections and do the hard work on behalf of others already. So to that end, I believe that standardisation would be beneficial for all of us because that puts a relief, quite a bit, of that burden
		Int.1	Yeah. But also the complexity of our geographical presence. So other banks definitely in the Netherlands, the other, let's say, two banks. We have our geographical presence, our consumer base, it's much more diversified than these two. So we are pressing really in other countries of PSD2 and have, let's say, more than 40 million customers which are impacted in accounts. This is by far bigger than the complexity of Bank X or Bank Y

Ref. number	1st Order concept	Int. number	Quotation
22	Opportunity for new business model	Int.5	there is a bunch of aggregators out there that are taking the opportunity and trying to make those connections and do the hard work on behalf of others already. So, to that end, I believe that standardisation would be beneficial for all of us because that puts a relief, quite a bit, on that burden
		Int.2	And this is also why I'm going back to what I was saying before, we're seeing the rise of these middlemen companies that actually.. they make that their business model.
		Int.4	Yeah, it could work. Well, there's I think there's a good case to be made that if there are no standards, there's a good case to be made that, you know, trying to become the standard in that market could be a very profitable business model. So it makes a lot of sense.
23	Help in platformisation & hold off BigTechs	Int.9	"if they [banks] play out on the platform strategy, then they will win out on the standardisation because it will make it easier to integrate other services"
		Int.4	You know, this is something all banks have to tackle and probably sort of the the... the big competition is most likely not going to be coming from within the banks. It's going from the big tech companies. They'll come in and completely kill us. So you know, it would be a lot better if we at least worked together on a bunch of common problems so we can make a fist..
24	Empowers competitors & BigTechs	Int. 11	To be honest, I think they see it as a threat, so the more standardization the more they are threatened
		Int.10	So it seems like the banks are purposely, perhaps, but at least they try to make least easy as possible. Since those third parties in the end are competitors, so they say, here we comply to the minimum requirements of the Berlingroup standard but then indeed small deviations they keep in there
		Int.6	No, I'm thinking that if you have standardisation, then the winner takes all will happen faster. Because you have to realize that in terms of volume, there is... I mean, most banking countries in Europe have oligopolies, right? There's only a few big banks or a few big transaction processing companies. So by standardizing you would make it harder for innovation.
		Int.11	On the other hand, what usually plays in market is like, okay, at least we should have an equal playing field, so if everyone has to do it, then I'm fine but I don't want to be more open or more easily accessible than others.
		Int.1	So if you try to reach market standardization... in some extent you can argue whether it's a non-standardised market can more hardly be disrupted than a standardized market, right? Because all of these TPPs or let's say, let's talk about TPPs, they have to comply with all these different standards in different countries and as a result their proposition is hard to get ground
		Int.6	"But from a competitive point of view, all the European banks lobbied heavily to not have standards. […] simply to make it harder for others like the Googles of this world and for others to gain their market share"
25	Buying time	Int.10	"I think that was a reaction to push back on the initial threat of TPPs. Indeed, to buy more time on, hey, if they need to put more time into developing their solution on top of our back office, if we buy some time, we can figure out how to make sure we stay on top"
		Int.6	So it was kind of a hidden strategy to keep the competitive advantage, let's say? So that not too many of new players are coming into the field? Yes. Yes..
		Int.11	I feel they have been very reluctant to to develop these PSD2 APIs to start with. It took quite long. I think, still the connections are quite different per bank. And if you pputt yourself into their shoes, it's not so strange, right? Because they had this monopoly on all this data, now PSD2 comes and now they have to open their door basically to each and every one. They are still responsible for security, for large part and whatever. And what is in there for them? They're giving it away for free
26	"Fake" competition	Int. 6	"I think the idea was born out of fear from the big European banks, as they said: "no no, we don't want it to be standardized", simply because if it's not standardized, it makes it harder for smaller software companies to maintain lots of different versions […], it creates complexity. […] I mean, it's all a way of creating competition that is really not there, because in the end, it's just a commodity"
		Int. 11	On the other hand, what usually plays in market is like, okay, at least we should have an equal playing field, so if everyone has to do it, then I'm fine but I don't want to be more open or more easily accessible than others. So that that could be an arguments, you know, for standardisation.
27	Customer acquisition	Int.3	I think in the end, the third party is not the value or the money stream for the bank. In the end it's the customer. But why banks hook up with other parties is to make the customer acquisition easier and cheaper"
		Int.4	Yes, to try to get as much customers... Take this classic five year model. It always starts with customers. You get more customers than you attract more producers. So, I'd start with the customers
		Int.3	But they, the banks, they are the interested... for example, they are interest in Uber. And one day we can buy Uber.. and Uber customer will automatically become our customer. So the customer acquisition wll become way easier. I wouldn't say cheaper because Uber will ask a lot of money, of course, but it's easier.
28	Young generations as main challenge	Int.2	So I think the main the main challenge in this specific aspect is the younger generation, the upcoming generation, because, you know, 50, 60, 70 year old person that has always had bank of BankX is not about to close their accounts to go to N26.
		Int.1	The question then becomes, how do you stay relevant for these new generations and what can you do to continue to stay relevant for these new generation
		Int.2	So we don't need to lose our tradition and our traditional clients, but we also have to find ways to engage and interact, maybe in a more unstructured way than we would like, with these younger generations.
		Int.5	And the experience that consumers have with these big parties is basically the thing that they are expecting now in other parts of the world as well. So any kind of product or service, that especially the younger generation wants to use should live up to the kind of standards that have been set by these big tech platforms

Ref. number	1st Order concept	Int. number	Quotation
29	Customer experience	Int.7	"prices are already so low, so everyone is competing, not based on the pricing or something. Everyone is competing based on the customer experience and how to make a nice customer experience"
		Int.10	Yeah. I think they are. When it comes to customers, they are looking for services to give them the best experience, even if it costs them money.
		Int.12	And the next thing, the next step is, OK, what kind of new area, new service or new product can we think of, that offers an unique experience... And that's of course now the most difficult question
30	Keeping the touchpoint with the customer	Int.12	And at this moment, we have our own banking propositions, that try to satisfy the.. [customers] The challenge for us is to to be more in contact with customers and…
		Int.7	It's like, let's keep the customer on our side and put everything we can do to keep them with us.
		Int.12	"first thing you have to do to satisfy your customer is keeping up with developments"
		Int.7	"[keeping up with developments] it's like a simple hygiene factor. So you have to do it, if you don't do it, you will be out of the game and you will be just data provider, you will lose the touch points with your customer and your profit will run away. And that's super important".
		Int. 9	Yeah, the winner of this... in case there will be a shift to one platform is the one who can get the most client facing platform of them all. I think there's a battle to keep customer contact and, as you said before, not to become a dumb-pipe
31	Bank in primary security responsibility	Int.1	"it's always a bit of a tension. I guess the market opinion is that the banks are always responsible, banks are always the one to blame"
		Int.7	If I'm talking from the banking perspective and in my opinion it's true. As a bank, you always have to comply with the more strict requirements on the security and safety regulations and you are considered as an experienced party
		Int.8	In terms of security, in terms the compliance of the regulation, it is still the bank's responsibility and bank is still in control to certain extent.
		Int. 5	And even if that wouldn't be the case formally, I think consumers will still hold banks responsible informally because why the hell bank did you give my information to this shiny new fintech, although you as a consumer concented yourself.
32	Loss of Security & trust	Int.6	And they go much further, right? Once fraud happens, yes then trust is definitely broken.
		Int.4	I think... you touched a little bit on the trust being the biggest thing for banks. So I think security is priority number one. As soon as soon as we start using aggregation apps or platforms or services. And money starts disappearing from my account, you know, I would be deinstall all the apps and break all the links. This was it. I'm choosing my ld bank for the rest of my life now. So security, definitely security first.
		Int.8	So I think that the customer has a lot of confidence and maybe is sometimes a bit ignorant that they think: "OK, before you enter this arena, I expect that you have your business sorted out when it comes to security". However, trust is something you have to build over a long period of time and can be destroyed in a second
		Int.13	Yes, so. I'm by no means a security expert, but... So I'll answer it by saying that I think.. The single most important thing that we need to do is to make sure that the user is comfortable with the utility that they're being given, right?
33	Loss Security & reputation	Int.3	"So the first thing is, we don't want to lose our reputation, we also don't want to lose the license to operate. So, the security is on top of every new initiative"
		Int.3	Then you can actually, if you want to attack, there's also another angle you can attack. Yeah. Right. Again, if your sandbox, if I attack your banks sandbox, your sandbox is down. Of course, there will really downgrade your reputation because some other company who might want to cooperate with you might think: "hey, this always doesn't work"... that's also a big trouble
		Int.4	Security is sort of all ways. So you talk about obviously data breaches, that kind of stuff like IT security, but also, you know, reputational damage. Yeah…
34	Uncertain security & danger of smaller TPPs	Int.12	"I think we are as a financial institution, much more careful, much more secure. And I think on the other side, if you are young FinTech company, that can be a bit different. So, you don't have that much checks and balances in your company"
		Int.8	in terms of GDP and data hacks or data breaches, there is more concern, but that has less to do with open banking. It's more about how secure are you as a TPP with storing your data
		Int.3	We can do the utmost verifcation of our customer. But how you share it... or if you... maybe you can hijack from the other parties.. Your customer also sign up with your app. But if someone hijacked your app and they still own the information that the customer has. There's no way for us to identify, if you steal everything from your girlfriend's credential, no way for us to find out.
		Int.12	I think that's maybe also one of the reasons why new fintech companies might be risky.. there might be a risk. If you look at it from that perspective, I think if you look at fintech companies, if they wanted to start something, then of course, they also have to comply with regulation, there's regulator that needs to approve what they're going to do. But I think there the risk might be much higher because most of the time the reaction at the big financial institutions is a bit withholding or holding back.
		Int.7	While, if talking on the PSD2 side from all the startups that are popping out, that's sometimes a five man show or two man show, then this is really, really a big challenge. And that's where security can be compromised
35	Lack of standardization impeding security	Int.11	So what if a Fintech gets a license there [less strict EU countries] in a few weeks without too much hassle and tries to plug it into the bank in the Netherlands. Is there sufficient trust in their security? If you are this big bank, I think on paper that's not a concern. But then in practice, I can fully understand that that's a difficult one for them"
		Int. 4	Yes, there's a need for standardization. People are working on that. No, I mean, people I mean, at a European level, not at the bank level. Tthey are working. They send a lot of requests for advise. And so people can submit or each bank can submit comments telling them what we see...
		Int.8	I think that the mistake made in PSD2 was that that there was too much freedom in the technical standards.
		Int.3	They are trying to find out some solution for security and also lack strong customer authentication. Again, same as a PSD2, they have a regulation, but they do not have a real standard.
		Int.7	And that's a very big challenge for older PSD2 implementation, because at the end of the day, it has to be consistent, but consistency has to come from every country separately. And that's why it is such a difficult implementation and there were so many questions and there were so many uncertainties