1. INTRODUCTION

Platform business models have become increasingly prominent across many industries, ranging from transportation and media to hospitality and commerce. Notable examples include Amazon and eBay in e-commerce, Facebook and Twitter in social media, Xbox and PlayStation in video gaming, Google Android and Apple iOS in PC/mobile operating systems, and Uber and AirBnB in peer-to-peer sharing. Reflecting their broad relevance, platforms have increasingly attracted the attention of management, economics and other scholars (e.g., Boudreau, 2017; Eisenmann, Parker, and Van Alstyne, 2011; Evans and Schmalensee, 2016; Gawer, 2011, 2021a; Kretschmer et al., 2022; Rietveld and Schilling, 2021; Van Alstyne, Parker, and Choudary, 2016).

Platforms are technological systems that "connect people, organizations and resources in an interactive ecosystem in which amazing amounts of value can be created and exchanged" (Parker et al., 2016; p.3). They facilitate interactions and “matchmake” between consumers and producers (or any other group of contributors depending on the platform’s design and context), thereby forming multi-sided markets that co-create value by enhancing access to novel applications (Rochet and Tirole, 2006; Zhu and Iansiti, 2012). In doing so, platforms reduce transaction costs by lowering search and contracting costs, structuring negotiations for access and engagement terms across sides, and streamlining user (and producer) experience (Munger, 2015; Benzel et al., 2017).

When considering platforms as a form of organizing economic activity at the firm level, a central question is what boundary choices and governance decisions make a platform successful (Boudreau, 2017; Gawer, 2021a). Two particularly important strategic decisions are platform ownership and curation. Platform ownership determines who controls core activities, decisions, and processes such as platform coordination, development, and growth (Eisenmann et al., 2008;

O'Mahony and Karp, 2022; Scott and Orlikowski, 2022). Platform curation, on the other hand, reflects governance choices and degree of openness towards external contributors, shaping the evolutionary trajectory of platforms, particularly those with a complementor-driven value logic (Gawer, 2014; Reinsberg, Solem, and Pedersen, 2023). Platforms with this core logic rely on integrated knowledge and capabilities from various contributors to create and deliver more innovative offerings (Baldwin and Clark, 2000; Baldwin and Woodard, 2009; Gawer, 2009; 2014). In this process, *data* (and the "feedback loops" they create) play an essential role, supporting better matching, facilitating agreements, reducing frictions caused by information asymmetries, and achieving better curation and personalization (Hagiu and Wright, 2020; Van Alstyne et al., 2016).

Much of the existing literature focuses on platform strategies that were developed by companies born as platforms in emerging, relatively unregulated industries such as search, ride-sharing, smartphone applications, and hospitality (e.g., Boudreau, Jeppesen, and Miric, 2022; Evans and Schmalensee, 2016; Meyer, Kerkhof, Cennamo, and Kretschmer, 2024; Tidhar and Eisenhardt, 2020; Trabucchi and Buganza, 2018). While these studies shed light on platform competition and growth in such settings, less is known about how platforms emerge and evolve in complex environments such as established, highly regulated industries. In these contexts, incumbents must confront both emerging threats from new platform ventures and intense pressures to transform their own business models. New ventures, on the other hand, face the difficult task of challenging incumbents with deep-rooted customer relationships in a difficult terrain, which is a challenge distinct from building platforms in a nascent industry.

Financial services represent one such established industry, where the rise of 'financial technology (or fintech) services'[1] has recently intensified platform competition. The fintech 'revolution', initially started nearly 15 years ago, was further boosted by advances in digital technologies as well as shifting customer behavior and expectations shaped by increasing platform use in many other industries. More recent regulations around data access and portability in banking have lowered entry barriers, fueling an influx of fintechs that pose novel threats to established firms. These fintech entrants often focus on better customer experience, lower costs, and frictionless services, typically via intermediary platforms in banking-adjacent domains such as payments, investments, or price comparison (e.g., moneysupermarket.com). In parallel with the emergence of digital-born, fully regulated challenger bank platforms inspired by successful fintechs, established banks have also started experimenting with platform business models. Yet, despite these developments, management research on platforms has paid little attention to the context-dependent aspects of platform dynamics in highly regulated industries (Altman and Tushman, 2017; Gawer, 2014; Schilling, 2000; Tiwana et al., 2010).

In such settings, platform businesses –whether created by new ventures or incumbents– face distinctive challenges arising from regulatory constraints in the industry, which lead to high entry barriers, data sensitivity, privacy concerns, and high operational costs (Markovich and Yehezkel, 2024; Ozalp et al., 2022; Parker et al., 2016). Investigating these dynamics is critical to advancing our understanding of how traditional, regulated industries evolve and become more innovative through platform-based models.

[1] Schueffel (2016; p. 45) defines fintech as "a new financial industry that applies technology to improve financial activities." However, fintech has been more than just streamlining existing processes but also about creating new business models, new markets by "democratizing" services, and new innovative products, e.g., based on AI. In our paper, we refer to startups with innovative financial technology offerings as 'fintechs'.

To address this gap, our study investigates *the advantages and challenges new players versus incumbents face in forming a platform business model in a highly regulated industry*. To analyze the development of platform business models by incumbents and new ventures, we draw on semi-structured field interviews, observations and archival research in the UK retail banking sector. By observing the emergence of banking platforms and the challenges different players faced, especially with regards to platform ownership and curation, we aim to deepen our understanding of strategic challenges of 'platformification' in regulated industries.

Contrasting the advantages and challenges of incumbents and new entrants in platform ownership and curation, we find that new entrants, a.k.a. challenger banks in our setting, faced little or no challenges in building their own platform due to their technical capabilities, skilled developers, and digital-born culture. They also chose to curate their platforms so that they were open towards complementors, i.e. fintechs, due to not having many financial products to start with. On the other hand, these players faced severe challenges in growing their platforms on the user side in a data sensitive industry, where customers were particularly weary of fully switching to new and largely unknown players.

In contrast, incumbent firms in banking faced a different set of challenges in platform creation. Despite their large user bases, they struggled creating platforms that could trigger and leverage network effects due to their limited technical expertise, legacy infrastructure, and organizational challenges. These factors hindered incumbents' ability to build their own platforms and effectively curate them, especially on the complementor side. This pattern was evident in our longitudinal data, which revealed a lack of successful incumbent platforms after several years of data collection and observations, despite the emergence of challenger bank platforms during the same time. Regulatory constraints as well as concerns over branding and

competition further hampered incumbents' efforts in platform curation. In a move to mitigate those challenges, the industry witnessed the emergence of third-party solutions with ready-made platforms, aiming to assist incumbents in developing their platform propositions. This, however, led to conflicts of interest and often resulted in the creation of 'closed', suboptimal platforms that limited value creation for both incumbent banks and their users.

Our findings highlight two key strategic decisions and associated trade-offs in platform formation: ownership (whether to build the platform in-house) and curation (the platform's degree of openness to external participants). Following an in-depth analysis of the 'platformification' efforts of incumbent vs. new entrant firms, we develop a theoretical framework that explains platform-related choices and challenges of these firms. Through these models, we contribute to the ongoing discussion around "openness-versus-control" in the platform literature (Boudreau, 2017; Shapiro & Varian, 1998; West, 2003), by also taking into account the dynamic and ever evolving nature of platforms and their immediate context (Gawer, 2014; Tiwana et al., 2010). Our findings are highly generalizable to other regulated industries where the platform business model threatens to disrupt existing pipeline models. We emphasize that particularly the incumbents and new players in regulated industries with data sensitivity (e.g. healthcare, insurance) are prone to the challenges and trade-offs that we describe in this paper.

In the rest of the document, we first provide an overview of the theoretical underpinnings of platform research, then describe our research methodology and findings, and conclude with our contributions to extant literature on platforms, digital transformation, and industry disruption[2].

2. LITERATURE REVIEW

[2] As defined by Christensen et. al. (2015; p. 4), 'disruption' refers to "a process whereby a smaller company with fewer resources is able to successfully challenge established incumbent businesses." Relatedly, 'disruptive technologies' are "technologies [...] which disrupt an established trajectory of performance improvement, or redefine what performance means" (Christensen and Bower, 1996; p. 202).

In recent decades, platform business models have shifted organizations from traditional "vertical integration" or "sequential value-chain" modes (Porter, 1985) to a flatter, innovation-centric approach (Gawer, 2009; 2011; Rochet and Tirole, 2006). Platforms can be described as "multi-sided networks" or "multi-sided markets" that enable interactions and mediate transactions between different types of users (demand-side) and external producers (supply-side) (Rochet and Tirole, 2003; 2006). Although platforms include transaction mediums such as shopping malls, magazines, and even nightclubs that existed for a long time (Evans and Schmalensee, 2016), the recent rise of digital platforms with "sophisticated matching technology" (p. 17) led to the creation or disruption of different industries. Major firms like Apple, Google, Uber, and Amazon use digital platforms to facilitate value-creating interactions between independent suppliers and users.

Platforms, acting as "multi-sided markets," change competitive dynamics by reducing transaction costs (Munger, 2015). When a new platform business model is introduced to an industry which is not traditionally characterized by platforms, entrant platforms disrupt the existing relationships, revenue streams, and power balance of incumbents in the ecosystem[3] (Kretschmer et al., 2022; Ozcan and Hannah, 2020). The changes in the industry ecosystem typically occur either through radical disruptions (Cozzolino and Geiger, 2024; Jacobides, 2022) or through the 'grafting' of new entrants onto existing, established ecosystems (Björkdahl et al., 2024).

Platforms typically emerge to resolve failures in the market: either "matching failures", by connecting different sides of a market, or "systemic innovation failures", by facilitating

[3] Jacobides, Cennamo, and Gawer (2018; p. 2256) define an ecosystem as "a group of interacting firms that depend on each other's activities".

coordination among industry participants and reducing uncertainty about how value is appropriated (Jacobides et al., 2024). The dynamics of platform creation, however, can change significantly depending on the platform type and the specific failure it aims to address. In parallel to this, Gawer (2021b) distinguishes between innovation and transaction platforms: while the former provides a technological infrastructure for the development of complementary innovations (i.e., Amazon Web Services), the latter acts as an intermediary or a marketplace that facilitates interactions on the platform (i.e., Amazon marketplace).

Prior research show that a platform's value is increased by its end-user and complementor networks, architecture (i.e., platform functionalities and capabilities), and scope (Cennamo, 2021). Unlike product-based organizations, platforms leverage direct and indirect, within and cross-country "network externalities"[4] to fuel growth and enhance value creation (Katz and Shapiro, 1985; Shapiro and Varian, 1999; Stallkamp and Schotter, 2021). The interdependencies within and across different sides of a platform can lead to a "winner-take-all" situation, where the largest platform can dominate the market by leveraging high switching costs and maintain a monopoly (McIntyre and Srinivasan, 2017; Eisenmann et al., 2006; Biglaiser and Cremer, 2020; Halaburda, Jullien and Yehezkel, 2020). Based on these network effects, research has explored how quickly a platform can build critical mass and initiate growth (Eisenmann, 2007; Eisenmann, Parker, and Alstyne, 2006). Building on this, we outline below the key platform decisions and trade-offs identified in extant literature and highlight gaps where current research remains limited.

2.1. Platform Strategies

[4] 'Network externalities' refer to the increase of the user's marginal benefit as the size of the network grows and others adopt the product or service on the platform (Katz and Shapiro, 1985). As Ozalp et al. (2022; p. 79) highlight, "this mechanism underpins how the value a user receives from a platform increases with each new user on the same side of the platform (i.e., direct network effects) and the other side of the platform (i.e., indirect network effects)."

Scholars suggest that there are two fundamental notions, *ownership* and *curation* (Boudreau, 2010; Altman and Tushman, 2017), which concern the decisions one can exercise on the platform for success (Tiwana et al, 2010).

2.1.1. Platform Curation

Platform curation involves decisions regarding the management of the supply (complementor) and demand (user) sides of the platform, such as who will provide products and services and how open the platform will be to external developers and contributors (Gawer, 2021b). A key decision in platform curation for multi-sided platforms is selecting which types of users and complementors to invite initially in order to fuel fast growth. Parker and Van Alstyne (2005) and Rochet and Tirole (2003, 2006) suggest overcoming the "chicken-and-egg" problem — where users and complementors wait for critical mass on the other side before joining — by offering mutually reinforcing benefits, such as subsidizing or seeding complementors through pricing or financial incentives. Parker et al. (2016) discuss "pull" and "push" strategies to kickstart platforms by targeting specific potential users and attracting a broader audience (see also Gawer and Cusumano, 2008). Another strategy is "piggybacking" onto another firm's existing user base and recruiting third-party developers (Parker et al., 2016; p. 91). Despite these strategies, there remains ambiguity about which side of a platform to subsidize first to create indirect network effects and how users perceive the value of these effects in different industry contexts.

One aspect of platform openness involves easing restrictions on the use, development, and commercialization of technology to enhance interactions between platforms and complementors (Eisenmann et al., 2008; Boudreau, 2010; Katz and Shapiro, 1986; 1994). While closed systems restrict external complementors and maintain vertical integration, open platforms offer more freedom, often providing APIs and software developer kits (SDKs) that facilitate access to essential resources, allowing for app development and software integration (Altman and Tripsas, 2014). These tools serve as crucial 'boundary resources' that help manage the level

of access to the platform's systems, control the interaction of external complementors, and maintain a balance between cooperation and competition among them (Ghazawneh and Henfridsson, 2013). Open interfaces ensure that external developers' solutions are interoperable with and seamlessly integrated into the platform's core system (Boudreau, 2010; Parker and Van Alstyne, 2008). These decisions have important implications for both the platform's and its complementors' strategies. For example, limiting a complementor's access to the platform of interest can hinder the complementor's ability to achieve economies of scope by multi-homing, which would incentivize the complementor to leave both the said platform as well as any other competing platforms (Chung et al., 2024).

Opening a platform to external complementors enhances innovation and growth by increasing the diversity and quantity of value-adding products for users (Farrell et al., 1998; Baldwin and Clark, 2000; Chesbrough, 2003; von Hippel, 2005). This openness enables platform owners to leverage network effects, attracting more users and applications while reducing users' fears of vendor lock-in (Katz and Shapiro, 1994; Eisenmann et al., 2008). However, increased openness can also reduce the ability of platform owners and complementors to appropriate rents by lowering entry barriers and intensifying competition (Boudreau, 2010). This creates a trade-off known as "adoption versus appropriability" (West, 2003), highlighting the tension between fostering platform growth through openness and maintaining enough control to maximize returns. Furthermore, even though an extremely open platform may bring a lot of innovation and creativity by third parties, lack of appropriate governance mechanisms might make the platform unstable (Jacobides et al., 2024) and lead to 'an influx of low-quality complements as a result of excessive openness' (Kretschmer et al., 2022; p. 419). One way platform owners can govern the supply side of the platform is via "the selective promotion of complements through

certification", which allows platforms to affect the product offerings on the platform and enhance platform performance by performing 'market orchestration' (Rietveld et al., 2021; p. 244).

2.1.2. Platform Ownership

In parallel to the degree of openness through granting access to external contributors or engaging in "vertical strategies" (e.g. seeking exclusivity amongst complementors), platform owners will also need to decide on the level of ownership they will exercise on their platforms. For instance, Apple fully owns and controls its iOS system, whereas Android, an open-source system initiated by Google, is managed collectively by the Open Handset Alliance (OHA) and used by various manufacturers like Samsung and LG (Boudreau, 2010; Ondrus et al, 2015). These factors have implications for platform growth. Platforms led by a single authority can strategically plan and communicate their growth, while those under open, collective control can grow unpredictably - making it harder for participating firms to differentiate themselves from the platform (O'Mahony and Karp, 2022). Scholars note that the degree of platform control is also an aspect of openness, but at the ownership level (Boudreau, 2010; Ondrus et al, 2015).

Shared ownership structures in platforms allow competing parties to co-develop core technology, share R&D costs, and participate in decisions about openness and standards (Scott and Orlikowski, 2022), which can significantly accelerate development (Eisenmann et al., 2008). For instance, a study has found that OS platform owners who allowed external contributions to parts of their systems increased development rates by about 20% (Boudreau, 2010). Shared control builds trust and motivates external contributors to develop value-adding innovations (Chesbrough, 2003; Gawer and Henderson, 2007; Perrons, 2009; West, 2003). However, the complexity of coordinating shared ownership platforms can increase costs and stifle innovation,

sometimes leading to underperforming technologies (Garud et al., 2002; Scott and Zachariadis, 2014). For example, conflicts over key features in the Symbian smartphone system, such as touchscreen versus keyboard or stylus pen interfaces, caused delays and market share losses (West and Wood, 2014).

On the opposite end, established monopolistic platforms with extensive control over infrastructure tend to exploit their position to extract higher rents from complementors and users, making these stakeholders hesitant to invest in the platform (Farrell and Katz, 2000; Boudreau, 2010). Furthermore, when a platform owner exerts too much control over the platform, it may drive away the complementing third parties, which would in turn constrain the generativity of the platform (Jacobides et al., 2024). This can weaken their competitive edge when challengers offer better terms for complementors. For instance, Nintendo lost market leadership to Sony PlayStation in the late 1990s because it imposed strict terms on developers, who then preferred the more profitable terms offered by Sony (Eisenmann et al., 2008). Boudreau (2008) confirmed that platform ownership might have an inverted U-shaped effect on performance by examining the rate of innovation in handheld computing platforms.

As evident in the discussion above, there is considerable research on the various ownership and openness choices of platforms and their effect on platform size/growth, variety of developers, competitive dynamics, network effects, etc. (e.g., Boudreau, 2010; Ondrus et al., 2015; West, 2003). While these studies start to unpack the nuances in platform strategy and competition, further empirical research is needed to understand various critical dynamics that are inherent in platform competition, namely to apprehend how industry incumbents can transition to a platform-based business model, and how platform competition might occur in highly regulated

industries where there are restrictions in the way data can be leveraged and services offered to end consumers.

2.2. Gaps in Platform Strategy Research

2.2.1. Platform Competition in Highly Regulated Industries

Platform scholars are highly aware of how variations in contextual factors, such as the industry or the regulatory context, can affect the technological and strategic choices made by platform providers and complementors as well as the strength of network externalities (Altman and Tushman, 2017; Gawer, 2014; Schilling, 2000; Tiwana et al., 2010). For instance, Sheremata (2004) emphasized that "characteristics of the environment [will] affect expected returns from different strategies" (p.360), where these characteristics can include the existence of switching costs for consumers, irreducible technological uncertainty, heterogeneous customer preferences and the thresholds for network effects. Similarly, Gawer (2014) called scholars to appreciate the uniqueness of the organizational context and the broader industry environment within which platforms manifest themselves. McIntyre and Srinivasan (2017) argued that strategy studies "have largely adopted a static or cross-sectional view and have not focused on how platform-complementor interactions evolve dynamically over time" (p. 150). Most recently, Rietveld and Schilling (2021; p. 1547) called for studies examining "platforms that are not in industries that are commonly associated with 'tech'" and for "more in-depth case study research [to develop] novel theory that more richly reveals the ways that platforms compete and evolve over time".

2.2.2. Transition from Product to Platform Business Models

One context in which platform competition may evolve in unpredicted ways is when players in an established, product-based industry transition to a platform-based business model (Altman and Tripsas, 2015). This is of particular interest when considering the variety of

industries in modern economies but also the presence of mature and complex sectors such as banking, education, and healthcare (Parker et al., 2016), which have resisted transitioning to a platform economy for a long time. Many of the organizations studied in the platform literature (e.g. eBay, Amazon, Microsoft, Uber, etc.) were either born with a platform-based business model or consciously adopted platform-based strategies at an early stage in their lifecycle. On the other hand, many firms start off by operating on the basis of a pipeline, integrated, and product-based business model and later transition into a platform business model, e.g. due to a technological disruption. Recent examples of such transitions can be found in the automotive industry where the concept of connected vehicles has brought a new set of technology players onto a platform around auto manufacturers or mobile telephony where advanced technology has allowed consumers to add after-market applications to smartphones, thus inviting application developers onto a platform around smartphone manufacturers.

Although research on platforms has mostly examined firms that were born as platform businesses (Eisenmann et al., 2011; Parker et al., 2016; Zhao et al., 2019), there are recent studies that explore incumbent efforts for transitioning to and/or adding platform business models. For example, research on digital transformation of newspaper companies (e.g., Cozzolino and Verona, 2022; Cozzolino, Verona, and Rothaermel, 2018) highlight the challenges traditional firms experience when adding digital platforms to their model, such as revamping core knowledge while preserving complementary resources. Fraser, Altman, and Ozcan (2025) explore how an incumbent firm adds a platform model alongside its existing product business. The study by Van Dyck et al. (2024) compares two incumbent firms' strategies for product-to-platform transition in the mature agricultural equipment industry. Cozzolino, Corbo and Aversa (2021) discuss the co-opetitive dynamics between incumbents and new entrant

platforms at different stages of digital transformation. Vuori and Tushman (2024) explore the emotional dynamics in strategic decisions of incumbents' senior managers during shifts to platform-based models in established industries. Khanagha, Ansari, Paroutis, and Oviedo (2020) illustrate how an established firm can approach platform creation when they are a complementor to an already dominant platform. However, despite the richness of the platform literature, how firms with different origins and circumstances adopt platform business models and what factors influence their strategic choices remain unclear.

There are studies in the business model stream looking at changes in firms' business models. For example, studies discussing business model diversification focus on how firms manage multiple business models simultaneously (e.g., Snihur & Tarzijan, 2018; Sohl, Vroom, & McCann, 2020; Visnjic, Jovanovic, & Raisch, 2021). Prior research distinguishes between additive or replacive business model changes, where either a new business model is added to the extant model or it is replaced by a new business model (Santos, Spector, and Van der Heyden, 2015). Yet, these studies offer limited insight into the complexities that arise when traditional, established firms in different contexts attempt to transition to platform business models while simultaneously sustaining legacy products and business models.

The shift from a product-centric to a platform-based business model poses significant challenges. First, organizational / digital transformations (such as product-to-platform transitions) are 'processes' that need long-term commitment and effort by the whole organization. As documented by process studies, such transformations are characterized by ongoing reconfigurations and/or evolution of organizational practices, structures, and technologies (e.g., Langley, Smallman, Tsoukas, and Van de Ven, 2013; Browder, Dwyer, and Koch, 2024). Therefore, they should be considered as long-term processes rather than one-time

events - in other words, these processes are marathons, not sprints. The complexities and challenges they entail require organizational actors to continuously adapt, improvise, and make decisions interactively as the transformation process unfolds (Tsoukas and Chia, 2002). For instance, Altman and Tripsas (2015) and Altman and Tushman (2017) suggest that firms accustomed to in-house innovation may struggle to delegate these activities to outsiders during the 'platformification' phase. They outline three necessary transitions in such transformations affecting organizational identity: (i) from providing the best products to developing the best complementor ecosystem; (ii) from maximizing product profitability to focusing on platform growth; and (iii) from increasing units sold to maximizing transactions facilitated. These firms may face several challenges varying from adapting their organizational structure to a platform business model to repurposing existing resources and utilizing new ones, such as data. While there is no research on the topic, incumbents' strategies and challenges around leveraging their existing data could impact the successful creation and growth of the platform. Additionally, firms will need new capabilities like managing network effects (Gawer and Cusumano, 2002) and balancing different stakeholder needs, i.e., different types of users on the platform (Hagiu and Wright, 2020). Platform creation in such contexts will be influenced by the needs of not just external actors such as users and complementors, but also internal actors such as various organizational departments. Empirical studies that document how incumbents in different industry settings experience such a transition to a platform business model are non-existent.

Building on these gaps, scholars have highlighted the need for more studies to explore, among other contexts, how platform dynamics unfold in highly regulated industries, where new ventures' platform creation might be particularly difficult due to high entry barriers, high

operational costs, and data sensitivity (Ozalp et al., 2022). Furthermore, these characteristics can also impact existing players' efforts to transition into a digital platform business.

The transformation to or an addition of a platform business model gets even more complicated in highly regulated industries, especially when there is the "need to capture and process sensitive personal data" (Ozalp et al., 2022; p. 83). While highly regulated environments are receiving more attention within the field of strategy (e.g., Gurses and Ozcan, 2015; Ozcan and Gurses, 2018; Uzunca, Rigtering and Ozcan, 2018; Gao and McDonald, 2022), more studies are needed to enhance our understanding of how new entrants create and incumbents transition to marketplace platforms in such tricky environments.

To address these gaps, our study examines *what advantages and challenges new players versus incumbents face in forming a platform business model in a highly regulated industry.* We compare and contrast the platform formation efforts of incumbent players and new entrants which we observed in the highly regulated industry of UK retail banking over several years. Examining these processes in a traditional and regulated industry over a long period of time is important for understanding the dynamics and limits of whether / how fast new entrants with platform business models can disrupt an industry. Consequently, the findings also have implications on how regulation can infuse innovation into a traditional industry through platform business models in order to break monopolies/oligopolies. Before we detail the findings from our study of platform emergence in the banking industry, we describe the methodology we used for our empirical work.

3. METHODOLOGY

Given the limited empirical work on our research question, we followed an inductive, longitudinal approach with a multi-level design, where we analyzed firm-level strategies and

challenges along with their consequences at the inter-firm and industry-levels. Multiple cases were used as a basis to build the theory inductively (Eisenhardt & Graebner, 2007), and these cases were used to understand the commonalities and differences between different types of industry players (i.e. incumbent banks and challenger banks), following the set-up followed by Ozcan and Santos (2015) in the study of the emergence of the mobile payments market.

3.1. Data sources

We used various sources for data collection. The main source was in-depth semi-structured interviews with incumbent and challenger banks, fintechs, regulators, and industry experts. Access to data was facilitated in part through our research partner organization, SWIFT Institute. We reached out to interviewees through the SWIFT network and also at industry events such as SIBOS[5] (global banking event), SWIFT Business Forum and fintech summits in the UK and Europe. These events also constituted great occasions to collect data through observations at keynote and break-out sessions where various industry players and regulators discussed the changes they were planning / experiencing in anticipation and following the industry-wide changes in competitive dynamics. Finally, we triangulated and supported our findings through archival data, which included business publications, industry reports and Internet sources to strengthen the robustness of our findings (Eisenhardt, 1989).

Our data collection covers the period between 2016-2024. In addition to being a sufficiently long period to observe the platform strategies of various industry players, this period was advantageous in capturing the 16 months before and six years after a significant regulatory change (open banking) occurred in the UK, which, as described in the research context section below, contributed[6] to the rise of competition in the banking sector.

[5] For more information on Sibos see here: https://www.sibos.com/

[6] It is important to note that UK Open Banking regulations were only one of the triggers for increasing competition and the emergence of platforms in the banking sector. Other important factors include advancements in technology

We started our study with a pilot stage in 2016, as pilot studies are considered a significant part of a good research design (Van Teijlingen & Hundley, 2001). During this stage, we started looking at different industries in the UK to observe the emergence of platforms; banking was one of them. During our initial conversations in the banking sector, our interviewees informed us about changing regulations and consumer preferences creating an opportunity for both new players (challenger banks) and incumbents to form customer-facing platforms. After this, we decided to focus on the retail banking industry in our study, as this would be an opportunity to observe the emergence of platforms offered by different types of players (incumbents vs new entrants) in real time. We completed the pilot stage by interviewing three informants from incumbent banks, two informants from challenger banks, three informants from fintech companies (non-banks) and four industry experts / regulators during this period. We used the pilot study as an opportunity to identify who the different key players in the UK retail banking industry were and how they approached the competitive changes in the industry that encouraged them to create / transition to platforms.

We consequently refined our research question and made necessary adjustments regarding the investigation methods to better address this real-life problem (Creswell & Poth, 2017; Kim, 2011). For instance, based on our findings from the pilot stage, we focused our data collection for the incumbents on four of the nine largest incumbent banks in the UK, whose competitive positions were threatened by the shifts in the industry landscape. Our pilot interviews also revealed that the biggest threat to incumbents came from challenger banks. These new entrants created financial platforms with advanced data analytics, high-quality user interfaces, and money management tools, using complementors to offer various financial services like loans, mortgages, and pensions, as further detailed in the findings section. Given this finding, we focused our data

(e.g., AI, blockchain) and changing lifestyle preferences of consumers in the advent of the app economy.

collection on the platform formation decisions of challenger banks and incumbents for these business-to-consumer financial platforms, which were the only type of platforms visible and potentially attractive for retail banking customers. During the pilot period, we also started building connections with future interviewees and formed a partnership with the SWIFT Institute that enabled us to cast a wider net in data collection. Table 1 summarizes our data collection process.

----------INSERT TABLE 1 ABOUT HERE----------

Based on the information we gathered during pilots, we conducted a total of 82 interviews with UK informants in four incumbent banks, three challenger banks, eight fintech firms, as these were the complementors on the emerging B2C financial platforms; four technology providers (whose Platform-as-a-Service offerings emerged due to incumbents' platformification challenges), and finally, numerous industry experts / regulators (see Table 2 for information about the roles of our informants). The interviews lasted 40-90 minutes and followed a semi-structured format. The questions were structured around the background of the interviewees and their role at their firm, how they approached competition in retail banking, i.e. whether they were partnering with any banks/fintechs and if so, what their experiences and challenges were regarding these partnerships and finally, what their current / future plans as well as key decisions / challenges were regarding platform formation or participation. Given our focus on platform formation, we spoke with several individuals in our chosen firms who were knowledgeable about the firm's approach to forming a platform or participating in one. We included industry experts and regulators among our interviewees to get a broader understanding of the different perspectives of the actors from different sides of the market. The structure of these interviews was similar, but here we focused on the key platform formation and organizational transformation trends they

most commonly saw in the banking industry as well as the perspectives and challenges of the different players that they came across so far.

---------INSERT TABLE 2 HERE---------

We addressed potential informant bias in several ways. First, we collected interview data in several waves over the duration of the study, which enabled collection of both real-time and retrospective data. This combination is ideal, with the retrospective data enabling efficient collection of more observations (thus enabling better grounding) and real-time data mitigating retrospective bias (Leonard-Barton, 1990). Second, we used interview techniques (e.g., "courtroom questioning," "event tracking," and "nondirective questioning") that yield accurate information from informants (Huber, 1985; Huber & Power, 1985). For event tracking, we put the informants back in the time frame of the events and then guided them forward through time to produce a step-by-step chronology of events (Eisenhardt, 1989). For courtroom questioning, we emphasized facts (e.g., dates, participants, meetings) as well as open-ended narrative (e.g., intended strategy) and avoided questions that typically yield inaccurate answers, such as broad speculations (e.g. how do you think the market will change with open banking?). We also pressed informants to be specific when they were vague (e.g., asked for details when an informant termed a platform "open"). For the nondirective questioning, we avoided questions about specific constructs until the end of the interview. Third, we relied on informants who were particularly knowledgeable about the platform decisions of the focal firm. We also used industry experts (e.g., analysts, investors, trade journalists) as an independent source. Fourth, we promised anonymity to companies and informants to encourage candor. Finally, we complemented our interview data with publications such as analyst reports and business journals; Internet publications and sources; internal sources; and observational data from various industry

conferences. All of these strategies help reduce informant bias and lead to more accurate and generalizable data (Eisenhardt and Graebner, 2007).

3.2. Data analysis

Most interviews were recorded and transcribed verbatim, most within 24 hours. In the few cases where recording was not permitted, interviewer(s) transcribed their notes within two hours after the interview so as to obtain a complete record. We started by analyzing the qualitative data on the basis of the terms and themes used by our informants in the interviews (Eisenhardt, 1989; Yin, 1994). As the first stage of data analysis, we constructed a detailed description of challenger banks' and incumbents' efforts to offer a B2C financial platform. We then analyzed our findings from various informants to spot the common issues that the owners of these platforms experienced in platform ownership and openness. For instance, for challenger banks, we encountered recurring statements from informants regarding the firm's technical capabilities, focus on user interface and fintech relationships, which, in iteration with extant platform literature (e.g. Gawer & Cusumano, 2014; Parker et al, 2016) helped us form our constructs for challenger banks' choices in platform ownership and openness. Further analysis of data from informants within this group also showed that all challenger bank platforms suffered from slow customer acquisition and low engagement, i.e. customers trying out the platform but not bringing over their salary and savings, which, through comparison with extant literature, we identified as negative effects of data-sensitivity and high customer inertia on user growth in new entrant platforms, thus expanding theory on platform growth in these underexplored settings.

We used the same process to identify the advantages and challenges experienced by incumbents in platform governance. We used tables and other cell designs to compare several possible constructs at once during this process (Miles & Huberman, 1994). Following this process of comparison and iteration with extant theory first for challenger banks, then for incumbent banks, and finally between the two groups, we arrived at a mid-range theory on the drivers and

challenges of platform competition for new entrants versus incumbents in a regulated, data sensitive industry, which we describe after the research context below.

3.3. Research Context

For decades, the UK banking sector remained relatively stagnant in terms of innovation, dominated by a few large incumbents with rigid legacy systems and traditional business models (Boot and Thakor, 2019). The sector was slow to adapt to new technological advancements, and customer experiences largely remained unchanged (Chishti and Barberis, 2016). However, over the last decade, a wave of innovation has transformed the industry, driven by emerging technologies such as artificial intelligence (AI) and blockchain (Gomber et al., 2018). These technologies have enabled a new generation of fintech startups and challenger banks to disrupt the market, offering smarter, faster, and more customer-centric financial services (Zhang, 2021). AI-powered solutions have improved risk assessment, fraud detection, and personalized banking (Fuster et al., 2022), while blockchain has introduced more secure and efficient transaction methods (Cong and He, 2019). This influx of innovation has pushed even established banks to rethink their strategies (Arner, Barberis, and Buckley, 2017). Furthermore, the prevalence and prominence of digital platforms in different sectors (i.e., Amazon in retail services, Google in search, WhatsApp in messaging) have been changing customer habits and expectations in the last decades. The characteristics of these platforms attracting customers include their seamless user experiences, round the clock availability, fast and tailored services (due to their data analytics and AI capabilities), and rapid delivery. Getting familiar and accustomed to such services and the instant gratification these platforms offer over time, customers become more inclined to expect similarly quick and frictionless services in different industries. Good user experiences are

especially critical for younger generations who typically rely on digital services and experiences for their transactions (Colback, 2023).

Another key driver behind this transformation has been regulatory intervention. To boost further competition in the retail banking sector, UK and European regulators sought to address the dominance of a few major banks which was identified as a barrier to consumer choice and market efficiency (Molyneux et al., 1994). To introduce greater competitive pressure on these incumbents and encourage innovation, the Competition and Markets Authority (CMA) in the UK introduced regulatory measures aimed at increasing transparency and consumer control, as evident below:

> *"There's the consumer right, that's important, it's the old data issue of being able to access it. [...] The additional competition is a really interesting one, [...] you look at the UK, and you say 'Well, alright, we want competition between banks, I get that. Let's look at financial services as broken.' [...] If competition were the [only] issue, you would say that, 'Let's just get some new banks into the market'. But if those new banks look like existing banks, you haven't solved any of those problems, that's when you get to the innovation piece. [...] [A]nd then you get to a different 'why' which is that we're trying to actually help a sector of the economy grow and become a great big British export." (UK Regulator)*

The Open Banking Regulation, which was announced in 2015 and came into effect in 2018, was a pivotal step toward reshaping the financial landscape. By mandating that the largest nine banks develop open Application Programming Interfaces (APIs), the regulation enabled trusted third-party providers to access customer transaction data and initiate payments with consumer consent (Cortet et al., 2016). This move effectively "unbundled" banking services, lowering entry barriers for fintech firms. As of June 2023, there were 151 licensed third-party providers offering Open Banking-enabled products and services in the UK (Open Banking, 2023). Figure 1 illustrates how access to customer data evolved before and after the implementation of Open Banking.

---------INSERT FIGURE 1 ABOUT HERE---------

Open banking became an important but not the only step toward platform emergence, as it started to open up data, which is the primary resource in platforms (Parker et al, 2016). After the UK announced Open Banking Regulations for January 2018, new (challenger) banks (please see Figure 2) as well as fintech startups offering a variety of financial services entered the market to benefit from these changes. Access to customer data held by incumbent banks allowed these entrants to attract customers by demonstrating superior data analysis for customized services, like money management tools. Since these new players usually offered only one or a few products, such as current or savings accounts, they concentrated on enabling customers to access financial services from multiple fintech providers through a digital platform, typically a mobile app. Thus, the first business-to-customer financial platforms, also known as "financial marketplaces", were born as direct competition to the offerings of traditional banks. Below, we describe the characteristics of these platforms and the challenges and trade-offs that challenger banks faced in building them in a regulated, data-sensitive industry.

---------INSERT FIGURE 2 HERE---------

4. FINDINGS

4.1. Challenger Bank Platforms

4.1.1. Platform ownership

Challenger banks were in a good position to offer financial platforms to customers, very much in the spirit of Amazon or the Apple application store. These digital-born players had the competencies to build user-friendly platforms[7]. As part of better user experience, challenger

[7] During our interviews and archival research, we have found that, in the very early stages, some of the 'key' challenger banks in our sample benefited from services offered by Banking-as-a-Service solutions in the market. Banking-as-a-Service (BaaS) is a financial technology solution where licensed parties provide banking infrastructure and services to other businesses (e.g. fintechs, etc.), allowing them to offer banking products and services under their own brand, often within their own applications. However, we need to highlight that these BaaS services were typically offered by incumbent institutions that were *not* from the group of 'high street' banks that competed directly with challenger banks, but from existing banks whose business model was to offer infrastructure (rather than directly sell products to consumers). This allowed early challenger banks to leverage incumbent infrastructure and licences

banks heavily used data analytics to help customers manage their money, limit their spending, be protected against fraud etc. Since they had such data analytics capabilities, they benefited highly from owning a platform and getting the data flowing into themselves to offer personalized services. Using their technical skills to compete on variety and quality of user-experience motivated challenger banks to build the platform interface in house. An industry analyst explained:

> *"You won't find any of these guys not managing their own deck cause great user experience requires control. And the only reason to give that up would be if you can't do it yourself somehow."*

Overall, owning the platform was a crucial factor for challenger banks' competitive advantage and control over the quality of their services. An industry expert explained:

> *"Every time you outsource, you lose some of your institutional understanding of how the software is architected and how it works."*

4.1.1.1. Ownership and Investor Tensions

The characteristics of the banking industry put pressure on all resource-limited challenger banks[8]. The resource-intensive nature of the industry due to compliance obligations, associated costs, and regulatory scrutiny for ensuring business model sustainability challenged the new entrants seeking to own their platform to effectively leverage data. Our sources argued:

> *"The [regulator] does not expect profitability from day one after authorisation but has outlined its expectation that a challenger provides a clear path to profitability. The [regulator]'s focus on reaching profitability should be seen in the light of a new entrant's capability to achieve organic capital generation through the development of a sound business model and reduce its reliance on continual external capital injections." (Industry Report)*

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to offer customer accounts themselves, without the burden of having early the entire infrastructure and licence in place. Over time, all challenger banks in our sample gradually acquired their own banking licenses and built their own infrastructure, eliminating the need for partnering with a banking infrastructure provider.

[8] Resource limitations and associated challenges of new firms is well documented in extant literature (e.g., Aldrich and Fiol, 1994; Barney, 1991; Gompers and Lerner, 2001; Hall, 1993; Fischer and Reuber, 2007). Our study documents how industry characteristics aggravate these challenges, create long-term dependence on investors, and affect platform decisions.

> *"The mix of the needs of compliance with regulatory requirements as a bank and the need to create a profitable model is a huge challenge for a challenger bank. It will be interesting to see how [Challenger Bank] team deal with these challenges without losing customer trust and regulator support." (Industry Expert)*

On top of these industry-specific requirements, the need for platform ownership to ensure a better and more reliable service demanded further financial resources, which only increased challenger banks' reliance on investors. Initially, investors mainly focused on platform growth and continued user interaction as a pivotal factor encouraging early-stage development of core platform functionality, which would underpin future growth. However, as funding started to dry out in later stages, investors became more focused on profitability, which came from providing certain lucrative financial services themselves. An informant explained:

> *"Neobanks continue their march forward, nearly tripling their customer base over the past year while outperforming incumbents in the areas of customer experience and lower costs. While there is no denying their popularity, profitability and competitive agility continue to be a challenge." (Industry Expert)*

Correspondingly, the shifting investor focus from platform growth to profitability demanded changes in challenger banks' strategies. For example, we observed that challenger banks started exploring and entering lucrative product spaces such as lending and investments. The push towards a product strategy also enabled the ability to reach out to new customer segments (i.e., pensions). Our sources stated:

> *"Given the contracted funding environment, many digital banks cannot sustain a cash consumptive business model in the medium term. Instead, a laser-sharp focus on expanding their revenue engines, coupled with a shift in customer acquisition strategy to pursue more economically viable segments, will be required." (Industry Report)*
> *"In the current growth stage, challenger banks typically expand geographically—look at [Challenger Bank C]—and/or in their product base. In this case [Challenger Bank A] is looking to tap into a new segment, older customers, with a new product." (Industry Expert)*

4.1.1.2. Ownership and System Resilience

Another related problem with platform ownership for challenger banks was that in order to convert customers from incumbent banks, they spent most of their limited resources on perfecting

the customer-facing side of their platform and typically outsourced parts of the back-end[9], which were quite expensive in banking as they dealt with processing a large amount of payments. Our informants explained:

> *"They try to build their core so that they can scale that as they need to and then plug stuff in. They buy peripheral pieces that they don't have the expertise in and potentially expand out. The customer interface they build themselves." (Incumbent Bank Executive)*

We observed that this reliance on third parties for processing transactions on the platform affected system resilience. Risks associated with renting the backend were cyber risk and data breach risk, due to all the key information that is subject to regulation being held at the backend systems. Additionally, system failures pose a serious problem in the banking sector generally, as it is a strategic sector that affects the functioning of other industries as well as the individuals that need to carry out crucial transactions. An industry expert explained the vitality of this industry and the impact of service disruptions as follows:

> *"While they're always a hassle and sometimes highly disruptive, outages in the financial services industry hit differently. Consumers rely on banking apps and online services to make payments, transfer funds, manage a mortgage, trade, invest, and more. These are time-sensitive activities and any disruption, be it 10 minutes, 30 minutes, or four hours, can have a significant impact and many follow-on consequences. It's no understatement, therefore, to say that minimising downtime and optimising uptime is a matter of building foundational trust with your customers."*

Although the system outages in banks could be caused by many different reasons, one important underlying issue was reliance on third parties in different parts of the service and within the modular architecture. An industry expert underlined the complexity of managing and monitoring the banking systems with many internal and external dependencies:

> *"Delivering digital banking and other online financial services today requires IT teams to manage a complex digital supply chain that hinges on a multitude of external components including public and hybrid cloud, SaaS, third-party providers, and the internet itself. Finding the source of any performance and availability issues amidst this maze of internal*

[9] This decision is different from a typical outsourcing agreement with a firm and its partner. From a platform ownership perspective, a challenger bank that has nothing in the back-end and gets one layer of the platform from a third party is different from purchasing some capability from an IT vendor.

and external dependencies is a challenging task, to say the least. The challenge is that traditional monitoring tools can't identify the problem quickly or provide insights into what's going on outside an organisation's four digital walls." (Industry Expert)

We observed that during the data collection period, two challenger banks had their systems down twice for over 24 hours due to an issue with their payment partner. Our data informed:

"Digital-only challenger bank [Challenger Bank A] has moved to apologise for the system outages which have affected some of its users in the last week [in 2017], with its co-founder admitting the outages may continue for the next few days. In an emailed statement to its users, the [Challenger Bank] said that its card processor had been experiencing technical issues over the last few days which had meant many users have had their payments rejected. […] [The co-founder and CEO] admitted that the outages were 'unacceptable' and, in a move to bolster confidence, said that the challenger bank would be moving card processing in-house." (News Article)

"Most of the very, very key outages that really stop things like your ability to make payments and your ability to take deposits tend to be because something's happened in the backend, not because something has happened in the frontend." (Industry Analyst)

Challenger Bank B, which started its journey with significantly more investment than others, was an exception among our cases, as they built most of their back-end infrastructure in-house. This enabled them to later leverage their infrastructure by renting it out to other players that want to integrate financial services into their offerings. An industry analyst explained:

"[Challenger Bank] is building it all which makes them unique, we're the ones leasing it for a long period of time while we get to scale... If we raise £40m like [Challenger Bank] we probably wouldn't stick with [payments processor], we'd probably do what they're doing because it's easier and there's less migration later; but because we're a start-up and we're like a proper start-up that doesn't get much cash, we have to do it that way." (Challenger Bank Executive)

"In some ways they were a little different in that they brought some quite experienced banking architects from the banking world that [their founder and CEO] had been involved in. Brought those in and actually built quite a lot of themselves, which is why they've got banking as a service now as well as some other pieces that they've bolted in and rent."

Overall, we observed that challenger banks focused on perfecting their customer-facing interfaces as a differentiating feature, which required platform ownership. However, the high resource requirements for the back-end infrastructure led to system resilience issues in the meantime, which affected customer trust negatively. These issues underlined the need to own the whole platform, which, in turn, made them more reliant on investor money for a longer term.

The table below shows the challenger banks' activities around platform ownership and curation, underlining how they kept their platforms self-owned. This means that they did not come onto someone else's platform as a third party but kept their own platform as the central player in bringing customers and third party fintechs together.

--------- INSERT TABLE 3 ABOUT HERE ---------

4.1.2. Platform Curation

Given that they did not come into the industry with many products of their own, mostly with just a current account, challenger banks had an incentive to keep their platforms "open" on the supplier side[10], i.e. make it available and easy to join for fintechs, to be able to accommodate the different needs of customers (Please see the Table 3). An executive at a challenger bank described:

> *"We offer one simple very clear product that is a nice app with a bank account and a debit card, a very good simple customer experience and then you can bring on board different partners like a marketplace that will offer a client the best services in the market, so right now we are working with other fintechs offering credit, investment, savings and obviously FX."*

The third parties on challenger bank platforms included but were not limited to insurance, mortgage, lending, savings, investment, pension, cashback, and travel service providers. For example, Challenger Bank B made partnerships with seven fintechs in the areas such as mortgages, pensions, insurance, and wealth management, which had the largest fintech marketplace among our challenger bank cases. In order to attract users, our other challenger bank cases targeted non-financial enterprises to partner and populate the platforms' complementor side. For instance, they partnered with retailers to offer rewards, cashbacks, and loyalty services

[10] This approach aligns with platform theories, which propose that network effects can be triggered and leveraged for platform growth by expanding one side of the platform to draw in participants from the other side (e.g., Boudreau and Jeppesen, 2015; Farrell and Klemperer, 2007).

as well as airlines, charities, and hospitality providers (i.e., hotels). Figure 3 below shows the look of a typical challenger bank marketplace.

---------INSERT FIGURE 3 ABOUT HERE---------

Despite their curation efforts, challenger bank platforms struggled to attract a critical mass of users. A significant factor reinforcing the customer acquisition challenge was the inherent sensitivity of customer data and financial assets, fostering customer inertia, trust barriers, and a strong preference for well-known players[11]. The majority of the digital-only bank users have been from younger generations, which highlights the limited initial customer pool available to challenger banks (See Figure 4 below for exemplary statistics illustrating the demographics of digital bank users). One expert explained:

> *"You might have someone providing you with products that looks really cool and you might trust them if you are going to use it for the occasional expense; but if you are going to put your life savings there and you are going to depend on that to pay your rent, you might actually prefer to go with something less full-featured but you are pretty sure it's going to be there next year and the year after."*

A challenger bank executive similarly described:

> *"We're sort of an iTunes, for financial products, but what's maybe a little bit different than iTunes is that, iTunes is telling you which songs I should listen to...But when you advise a customer to buy a game and they don't like it for two Euros well then fine, but if I'm sending a customer insurance and it turns out that's not what she should have bought, then that's probably something we will really have a problem with the customer."*

---------INSERT FIGURE 4 HERE---------

[11] A 2017 UK study by Accenture found that customers are unlikely to change their banks due to lack of competition, meaning they consider all banks in the UK to be the same in terms of offerings and customer service, so they do not see the value to switch. The same study found that customer inertia is strong against challenger banks, as "even though customers did not trust the [incumbent] banks for giving them the best deal, they trusted them to keep their money safe." (see newsroom.accenture.com/news/accenture-research-finds-lack-of-trust-in-third-party-providers-creates-major-opportunity-for-banks-as-open-banking-set-to-roll-out-across-europe.htm)

One aspect of customer inertia[12] affecting challenger banks' ability to get traffic going on the platform was that even when new customers signed onto their platform, most of them only transferred small amounts of money over to experiment, rather than deposit their salaries or savings. An executive explained:

> *"People are intrigued, for sure. Especially millennials. But to survive as a bank, you need people's money, and you need them to do things with that money. That's why most of these new guys aren't breaking even yet. People don't trust them."*

This meant that challenger banks were able to see users' transaction data through their internal systems but not income data, limiting them to only collect partial data on their customers rather than having a complete picture. Although all transaction data held by incumbent banks were technically accessible via open banking, challenger banks typically restrained from asking customers to connect their other bank accounts due to existing trust concerns, as explained before. Instead, challenger banks resorted to using proxies to predict income and other missing data to be leveraged in services such as loan provisions.

Another solution that challenger banks considered to alleviate the customer acquisition problem was to go international quickly, which would normally not be highly costly for an online business. However, growing internationally as a financial platform required recruiting complementors, i.e. fintech partners, in every country, which was challenging as many fintechs were subject to country-specific regulations, such as pensions or taxes. An executive explained:

[12] An underlying factor that might have fueled this challenge was the free-if-in-credit (FIIC) model in the UK, which made current accounts free for customers. Although this model likely posed barriers for new entrants offering current accounts as their core product, it also presented potential opportunities. FIIC model relied on hidden fees, such as higher charges for products like overdrafts or lower interest rates for savings; thus, challenger banks could compete by offering lower fees (initially in foreign exchange, later in areas like lending) and higher interest rates, also consistent with their emphasis on transparency as a core strength. A relevant discussion is captured in the UK Parliament publication titled 'Competition and choice in retail banking', which can be seen at: https://publications.parliament.uk/pa/cm201011/cmselect/cmtreasy/612/61205.htm

"So we are definitely considering that we need different partners that are more local and also have a bit more local credibility. […] It's because they're doing a very country-specific product that has also a big impact or a big relationship with taxes. So when you're looking at investment funds, ETFs or index funds, pension funds as well, that is very very local, that is made in this country for the customers in this context, you cannot go abroad."

4.1.3. The Vicious Cycle between Challenges in Platform Curation and Ownership

While dealing with slow customer acquisition, one issue that made matters worse for challenger banks was system failures that arose from working with cheaper third-party infrastructure partners, as mentioned earlier. Reputational consequences of system failures slowed down customer acquisition, which in turn, financially made it difficult to fix system failures, leading to a vicious cycle. Our informants described:

"This is the tough period for these guys. They are already struggling to get the customers to trust them, and then this happens."
"One negative experience can be very hard to overcome, typically for these smaller challengers. They have to be really on their best game in order to get and retain customers."

Research conducted by a market research firm in the UK explored how people were affected by bank outages and what their responses were. The results showed that many customers were impacted by service outages and a significant percentage would consider switching banks after the experience, as described below.

"According to a survey of 1,000 UK adults by OnePoll [in 2024], one-third of Brits experienced a technology glitch or failure within the banking sector over the past year. […] The survey also highlighted that 30% of respondents are inclined to consider switching banks due to such technical failures. There were notable generational differences, with younger age groups more affected by recent technical failures compared to older demographics, potentially due to their higher reliance on digital-first banking services." (News Article)

In case of challenger banks' service disruptions, the negative responses of customers were not the only concern; there were also regulatory consequences. Our data shows how the UK Parliament started to examine the IT failures in banking and its impacts:

"The Treasury Committee [in 2025] has written to chief executives at banks and building societies to request information on the scale and impact of IT failures which have affected their businesses over the last two years. […] The committee is asking firms for the number of

> *instances and amount of time in hours each current account provider has suffered IT failures which prevented customers using their services. MPs are also looking to collect data on the number of customers who have been affected and how much each firm has paid out in compensation to those affected." (News Article)*

The regulatory repercussions of these investigations were severe for challenger banks, who already suffered from low financial resources. In addition, a positive reputation not only with customers but also with regulators was critical, as a negative standing could impede or delay regulatory approval of future offerings.

All these risks, costs, and industry-related characteristics and requirements explained above meant that challenger banks needed to operate on thin ice. Moreover, in a world where the business and investor focus started to shift towards profitability (as discussed in the previous sections), platform ownership that required significant time and resources became even more difficult. The sacrifices that challenger banks made regarding the ownership of the platform back-end for the sake of speed came back to haunt them, as system failures affected their service quality and damaged customer trust. Due to trust issues and related customer acquisition challenges, challenger banks struggled to curate their platforms on the user side despite their advantages in user experience and data analytics as digital-born players. These challenges were aggravated by technical problems arising from external back-end providers and lack of full platform control, creating a vicious cycle.

4.2. Incumbent Platforms

The incumbent banks had a brick-and-mortar presence for decades. Although they introduced digital journeys for services that have been traditionally handled physically or over the phone, 'digital banking' was perceived as another distribution channel for existing services. Relatedly, incumbent banks' move towards platform formation was an add-on to their existing businesses rather than a full switch to platform-centric business models.

In offering a platform, incumbent banks had an important advantage compared to challenger banks – they already had an established customer base, which meant they could leverage network effects to attract the best fintech complementors. An industry analyst explained this as follows:

> *"If you bring all these different things together [like] buying your house, organizing your life insurance, looking at your pensions [and] investments that you want to make [...], and how do you pay for your children's education, you just bring all of these things together, there's an opportunity to create platforms for incumbent banks that they ought to really go after."*

Given this critical advantage for platform success as well as ample financial resources to build a platform, it would have been a good strategic move for incumbent banks to build a platform in-house. However, our interviews revealed that incumbent banks experienced severe challenges in platform ownership and curation, as we discuss below.

4.2.1. Platform Ownership

4.2.1.1. Technical challenges

First and perhaps most expectedly, incumbent banks did not have the technical expertise to form and manage a digital platform, as they had never done so before. Having operated in an industry where a traditional pipeline business model was dominant meant that the capabilities needed to build a digital platform, where third parties coexisted and the user experience was streamlined, were never developed. A fintech executive explained:

> *"I think this is where the major banks are going to fall down. If they can transform their IT into a more Google-like, Facebook-like way of continuous delivery, continual testing, with modern software development, modern platform development; then yeah. I think they have got a huge opportunity. But there is a big difference between making a nice little app interface and actually transitioning to a fully modern digital offering."*

An additional technical complication was banks' IT structures. As incumbents in a regulated and data sensitive industry, banks had resorted to creating separate IT systems when adding new products to their portfolio to ensure system resilience. As products (e.g. credit cards, loans, mortgages) were added over different decades and with minimal connection to the rest of the

systems, the resulting “isolated IT siloes” led to “multiple CTOs or CIOs within a single organization owning different tech stacks”. These siloes operated on different technologies that did not communicate well with one another. A bank executive explained:

> *“When a customer initiates a payment, we obviously have to check that it is a valid customer, they have access to those accounts, those accounts have balance in them, we have to [...] ensure that payment is not fraudulent, potentially financial crime, AML, sanctions check out, balance check out, do a memo posting to say that the balance is aligned it to be reduced so don't use that balance elsewhere; and that's all before we then send it to the various market infrastructures. And each one of those touch points is an integration; and sometimes it's straight-forward and sometimes these are other legacy systems, which is not easy.”*

4.2.1.2. Cultural Challenges

Interviews revealed that incumbent banks’ siloed IT structure also created a culture of working within siloes focused on different products and “not touching anything that still works”. The organizational roles in the banks were created around products, and their interaction with one another was limited. A fintech founder described this as follows:

> *“Banks maintain their product-oriented view in their organizational structure as well, have departments created around the core products they offer. And there is a lack of communication between those departments in general.”*

Incumbent banks also experienced cultural challenges that arose from having operated in a regulated industry for a long time. They were risk-averse when it came to making any changes touching their core infrastructure, as explained by an incumbent bank executive:

> *“The core platform is kind of sacrosanct. [...] My impression is that no CEO wants to risk messing around with that core platform to any great extent.”*

Regulation also affected incumbent banks’ culture by leading to very strict procedures and guidelines for data protection, which came at the cost of using it. An informant explained:

> *“In theory, it is very easy for [a bank] to know actually when a customer moves without updating their address with us [by analyzing their data]. Can we tell them that we know that they moved and offer services around that? No, we cannot tell them. […] This is a policy of the bank. You don't touch this type of data!” (Bank Executive)*

In addition, each product silo had its own interpretation of regulatory compliance, which stalled discussions on compliance for any initiative that spanned across departments. A bank executive explained:

> *"Nobody can really comprehend or handle all the regulations. Each department inherits interpretations of various regulations as they apply to their particular situation. And that's what they care about…"*

The resulting slowness of incumbent banks when it came to forming a platform severely affected their negotiations with fintechs, as explained by an informant below:

> *"It's going to take you at least six months to negotiate the contract [to] actually deploy this. And then it's going to take you at least three months to integrate it. The fastest thing that we [had was] six months, from first contact to the deal, that's the fastest." (Fintech Executive)*

4.2.2. Platform Curation

Our study showed that incumbent banks also performed poorly in the openness dimension of platform curation, i.e. the extent to which they were willing to populate the platform with third party fintechs. Below, we describe the factors that affected their approach to platform curation.

4.2.2.1. Competitive Factors

With the entry of new and innovative players, incumbent banks found themselves in a world where their products were put into direct comparison with products from multiple innovative players. Despite being profitable with their current business model, incumbent banks still actively explored and attempted to adopt platform business models due to increasing competitive threats by new, fully digital, agile and lower-cost competitors. However, without a radical cultural change making them reconsider the competitiveness of each product against the marketplace, incumbent banks were not willing to let fintechs compete with them directly on the same platform. Practically, this meant that incumbent banks were only willing to cooperate with

fintech partners in areas where they did not compete (please see the Table 4 for details), as evident in the following quotes:

> *"First, we look for what is missing inside. That's the natural flow."*
>
> *"The market forces are that the banks want to retain primacy and so they will want to try and work with fintechs that don't directly compete."*

---------INSERT TABLE 4 ABOUT HERE---------

4.2.2.2. Cultural factors

We observed that even when there was no conflict of interest, i.e. when the fintechs were not in direct competition with the banks, banks hesitated to "share their customer" with fintechs, i.e. give fintechs visibility in the eyes of customers, as evident below:

> *"Branding is a big challenge. If a customer is interacting with those 2 APIs on the platform 90% of the time and interacting with the bank 10 times less than before, getting frequent reinforcement of the relationship that they have with the bank is a lot harder, unless the bank logo stays in front of those APIs. Volume things, and emotionally significant things, like getting money to buy my dream house or an insurance claim, which reinforce the brand are the key. If they're gone, your customer relationship hurts." (Bank Executive)*

A key traditional strength of incumbent banks has been their direct visibility to end customers and the ability to maintain customer relationships, which was ingrained in their culture. This characteristic engendered an unwillingness for incumbents to bring in competitive third parties, which was further reinforced by concerns over profitability (i.e., the risk of increased competition and the potential cannibalization of incumbents' own offerings). Alongside incumbents' concerns around product cannibalization, our findings indicate that they were also driven by a strong desire to keep owning the customer relationship. This reluctance was apparent in their avoidance of forming platforms that featured direct competitors as well as third-party offerings in areas where they had no products of their own. For example, none of the incumbents

created an insurance platform involving third parties, even when they did not own insurance products.

4.2.2.3. Legal and reputational factors.

An additional issue affecting banks' attitude towards platform curation arose from regulation. Until late 2017, the legal liability in case of any mishaps in a bank-fintech collaboration was in flux, which made banks nervous. In November 2017, the regulator announced that until further notice, banks would carry the responsibility of logging and investigating all abnormalities in data handling by third parties, practically giving all liability to banks. A bank informant explained:

> *"In November last year [2017], banks were made responsible for any possible problems that could appear in the chain between the customer and the bank, [...] even if it was originated through a third party, the bank needs to immediately reimburse the customer. Afterwards, the bank needs to prove what happened. They carry the whole responsibility and the burden of retaining information on each transaction, which is difficult and honestly not fair."*

A few months after the open banking regulation came into effect, more clarity was reached. However, the new regulatory guidelines did not improve the banks' situation by much, as explained below:

> *"If the TPP is liable for the unauthorized payment transaction, the TPP must indemnify the bank immediately. It all sounds simple. But then you start scratching the surface. What if the TPP claims it is not liable, and the bank also thinks it is not at fault? One thing is certain: the customer does not get caught up in the middle – it is refunded by the bank, no matter who's ultimately at fault behind the scenes." (Industry Analyst)*

The unevenness of regulation regarding liabilities made banks particularly risk averse in their selection of fintechs.

In addition to the regulatory consequences, the reputational consequences of a fintech collaboration gone wrong would be detrimental to a bank, as explained below:

> *"Even if you make it clear to the customer that this is now a third party they are dealing with, it doesn't matter. You used to keep their information safe and you made the lead, so it will be your fault."*

Overall, incumbent banks were not open to working with complementors in a way that was visible to users. Instead, most bank partnerships involved strengthening the bank's proprietary app via backend fintech suppliers (see Table 4 for partnerships). An industry analyst explained:

> *"There are really good fintechs that, maybe, if you're looking at user experience, it would really make the onboarding very straightforward. [...] There are fintechs taking advantage of the open banking regulations, [...] provid[ing] a 360-degree view of all of your financial relationships which again, could be very helpful to a bank because if they're looking to lend you money [...], they might be in a position to do a much better offer for you [...]. There's a whole area in risk and regulation where there are some fintechs that help with the whole compliance part of things, and the fraud part of things that certainly would improve customer experience significantly."*

Overall, we observed that incumbent banks' existing technical, organizational, and cultural structure[13] as well as perceived legal, reputational and competitive risks hindered their abilities around platform creation and governance decisions.

4.3. Platform-as-a-Service

While incumbent banks were struggling to launch their platforms, we observed the emergence of a new role in the banking industry, where technology companies, both start-ups and large established ones, started offering platform services in a B2B setting. These services ranged from only technical support in building a bespoke platform for a bank to providing a ready-made platform already populated with fintech complementors. Given incumbent banks' concerns with displaying a single brand to the customer, the technology firms allowed their platforms to be white-labelled, such that the consumer always perceived the underlying platform as the bank's offering.

[13] Overall, this finding documents that complex legacy systems, inertia due to resource and routine rigidities, and ingrained traditional practices remain significant barriers to incumbents in adopting a platform business model (e.g., Altman and Tripsas, 2015; Altman and Tushman, 2017; Bashir and Verma, 2019; Gilbert, 2005; Hannan and Freeman, 1984).

For incumbent banks, outsourcing a platform had several advantages over building their own. First, the external platform did not touch the banks' infrastructure but instead obtained customer data through APIs and processed it separately. Consequently, the banks' siloed IT system did not need to be changed. This presented a quick solution to cultural and regulatory issues incumbents experienced in their attempts to create platforms. In this case, the platform would also be managed by experts, thus taking away the technical challenges that arose from incumbents' lack of platform capabilities. Interviews revealed, however, that these third-party platforms attracted different kinds of buyers depending on how much the technology firm was willing to give up control over platform curation. Below, we discuss three representative cases, which are illustrated as different points on a spectrum of platform curation in Figure 5 below.

---------INSERT FIGURE 5 ABOUT HERE--------

4.3.1. Case 1: Ready-Made Open Platform Giving Banks No Control over Curation

At one end of the spectrum, we encountered a technology firm that offered a platform already populated with numerous fintechs. An industry analyst discussed:

> *"[For a] medium-sized bank or a challenger, it's brilliant. 'Why would I have to waste time trying to create all of that myself or buy different pieces of software and then try and stitch it together? This is already stitched, right? And it's sitting on a market leading cloud.'"*

Aware of network effects, the founders were motivated to dominate the market by growing their platform as quickly as possible with fintechs. When it came to platform openness, however, this provider experienced a conflict with incumbent bank clients, as discussed below:

> *"We need our platform to be as inclusive as possible, obviously, it's our reputation hanging from it, in the end. But this can be challenging when you are trying to sell it to some clients. Some of those products they see on the platform are way better than theirs." (Founder)*

By the end of data collection, no incumbent bank had adopted this platform. It required a significant change in the mindset and culture, as discussed by an industry analyst:

"Now increasingly, they're starting to recognise that [building everything]'s just not viable, it's getting far too expensive [...]. So they are progressively moving to buy. Then [...] not only are you buying from that TPP, you've got to accept that there are a number of software solutions on that TPP [...]. So you might turn around and say, 'Well, if I was just buying [TPP]'s this, I'm fine with it, but if I'm buying 15 other things because they are embedded into this platform, then I need to get myself comfortable with that.' And that tends to be a very slow process within the banks." [Industry Analyst]

Instead, the platform attracted clients from other industries (e.g. technology, insurance) that did not have any financial products of their own. One industry analyst explained:

"Look, PSD2 can be a great opportunity for anyone who has a trusted brand name in another industry to come in and offer banking services. In those cases, this kind of platform works really well as you have a blank slate to start with."

4.3.2. Case 2: Ready-Made Platform Giving Banks Partial Control over Curation

Compared to the first case above, the second exemplary case approached platform curation in a moderately flexible way. This firm allowed banks to select from 15 categories of fintechs, e.g. include pension fintechs and exclude lending ones, but without any control over which specific fintechs to choose within each category. An executive explained this decision as a 'compromise':

"Banks pick and choose the services and the additional services. They can't pick and choose individual fintechs. […] Yeah, it'd be very anti-competitive for us to do that. I mean, if they did that, if we allowed them to do that probably in two years' time, we'd get a fine at some point and no fintech would sign up with us anymore."

By the end of the data collection, one incumbent bank among our cases had signed a deal with this platform. While more attractive to incumbents as it gave them some control over platform curation, platforms of this type let banks keep their "old mentality" and build relatively closed platforms by only inviting third parties that did not compete directly with their products.

4.3.3. Case 3: Empty Platform Giving Banks Full Control over Curation

At the other end of the spectrum, we encountered technology firms building and managing platforms for banks in the form of external IT departments, leaving platform population entirely

up to the bank. The firm would also handle on-boarding any fintechs, as described by an executive:

> *"Yeah, we do the technology for them. We don't go out and find partners. If they tell us they want to work with so and so, we can do the integration though. But they have to do the due diligence, we don't do any of that."*

By the end of data collection, three of our four large incumbent bank cases had announced one such technology partnership. As expected, however, this type of platform faced the same issues as Case 2 above, in that it allowed banks to build a closed platform and continue to operate without switching to a 'platform mentality'. An informant discussed:

> *"There's an evolution of the changing mindset. So the first change that needs to happen is that the bank needs to accept that they're not going to build, they're going to buy. That in itself is a big change because for most of the really large incumbent banks, they're so used to building everything themselves." (Industry Analyst)*

In this final section of the findings, we have shown how third-party platforms emerged in the industry. While these platforms could solve many of the technical and knowledge-related barriers that incumbent banks faced in building platforms themselves, the competitive and cultural issues preventing openness still stood in the way.

5. DISCUSSION

In this paper we explored *what advantages and challenges new players versus incumbents face in forming a platform business model in a highly regulated industry.* We explicitly focus on two under-studied aspects of platform literature: 1) the transition from product to platform business models and 2) the importance of the regulatory context in which platforms are created. With our longitudinal study, we respond to the call by McIntyre and Srinivasan (2017) and explore the dynamic interactions between the platform and its supplier-side as well as their evolution over time.

Our study reveals that challenger and incumbent banks faced distinct challenges in creating or transitioning to platforms. Challenger banks easily built and curated their platforms owing to their technical capabilities and digital-native culture. However, they faced challenges in growing their user base due to limited brand recognition and resources in a regulated, data-sensitive industry. Incumbent banks, on the other hand, were hindered by their fragmented IT infrastructure and siloed, compliance-focused culture despite possessing a large user base to initiate network effect. They were reluctant to adopt open platforms due to fears of losing customer relationships and profitability as well as regulatory liabilities in collaborating with new entrants. Amid these challenges, third-party platforms emerged to assist incumbents, but this led to conflicts over platform curation, resulting in either lack of adoption or suboptimal, closed platforms that were not competitive in the long run (please see Figure 6).

--------- INSERT FIGURE 6 ABOUT HERE ---------

Considering the above, our study provides a significant contribution in extending platform theory, particularly when new entrant platforms enter to compete with incumbent players in an established, highly regulated industry. Traditional work in platforms focuses on firm-level strategies to compete in a platform-based economy (Eisenmann et al., 2006; 2011; Gawer, 2011; Van Alstyne et al., 2016) and puts forward the ingredients for a successful recipe in platform competition such as: how to energize network effects and attract customers and developers (Boudreau and Jeppesen, 2015; Farrell and Klemperer, 2007), decide on platform metrics and monetization, (Parker et al., 2016), choose the optimal level of openness and control (Boudreau, 2010; West, 2003), design a successful platform architecture (Baldwin and Woodard, 2009; Baldwin and Clark, 2000), and manage the innovation strategies with complementors (Cenamor and Frishammar, 2021). Our paper extends current platform theories to understand the

challenges that new entrants versus incumbents face during platform formation, especially when they decide on the curation (i.e., level of openness) and ownership of their platform, in a highly regulated, data-sensitive industry. Below we provide the details of our contributions.

5.1. Incumbents' Platform Ownership, Curation, and Response to Disruptive Change

Our paper enhances our understanding of incumbent firms' platform creation efforts, highlighting their key considerations and challenges in this process (please see Figure 7 and Appendix A). We document how the platformification attempts of incumbents are shaped by their organizational culture and technical structure. Consistent with prior research, we observe that complex legacy systems, inertia stemming from resource and routine rigidity, and traditional ways of working continue to hinder incumbents' ability to adopt new business models (Bashir and Verma, 2019; Gilbert, 2005; Hannan and Freeman, 1984). We further show that incumbents in highly regulated, data-sensitive industries often adopt vertical, product-centric IT and organizational structures that compartmentalize compliance responsibilities. These structures offer resilience by minimizing risks such as data leaks and system failures as existing products evolve but pose significant challenges when transitioning to a platform business model. Over time, these constraints prove difficult to overcome. Technically, fragmented and incompatible IT systems obstruct the convergence and reuse of customer data, which is essential for platforms operating in data-driven sectors (Parker et al., 2016). Vertically integrated silos, while secure, limit inter-product communication and data integration, capabilities that are central to platform functioning.

---------INSERT FIGURE 7 HERE---------

We also extend our understanding of digital transformation processes in highly regulated industries. Prior research has largely focused on challenges within (i.e., dynamic capabilities, organizational practices) or between firms (i.e., ecosystem governance, partnerships) during this process (e.g., Hanelt et al., 2021; Verhoef et al, 2021; Svahn et al., 2017). We contribute to this line of research by showing that in highly regulated contexts, organization-wide digital transformation efforts are profoundly shaped and constrained by external factors such as industry characteristics. In systemically important industries such as financial services[14], digital transformation processes carry significantly higher risks. For organizations in these industries, system failures and outages can undermine the viability of the entire economic system. Moreover, the sensitivity of customer data and assets adds to the complexity. Accordingly, the digital transformation dynamics faced by incumbent, traditional brick-and-mortar businesses in such contexts go beyond those identified in the broader literature so far (e.g., Govindarajan and Immelt, 2019; Iansiti and Lakhani, 2014).

Prior research has also shown how partial digital transformation (such as at the corporate governance level) might impact the focal organization's perceived legitimacy, especially as regulatory environment evolves (i.e., from unregulated to more regulated, as in the Uber case; Filatotchev and Lanzolla, 2023). We build on this work by delving deeper into how these dynamics unfold when incumbents attempt an organization-wide transformation in complex, systemically significant, and tightly regulated environments. Our findings show how incumbents often fail to achieve digital transformation of both IT systems and the organization as a whole, which hampers platformification efforts. This failure stems from the incumbents' inability to ensure long-term, organization-wide commitment and cooperation for such a fundamental

[14] The Financial Stability Board defines systematically important financial institutions as "financial institutions whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity." (FSB, 2024).

change due to legacy IT, siloed organizational structure, and industry-driven characteristics such as culturally ingrained risk-aversion (Langley et al., 2013; Tsoukas and Chia, 2002).

One viable pathway to achieve digital transformation is integrating new digital capabilities into legacy systems, which leverages existing resources and eliminates the need for a radical system overhaul (Browder, Dwyer, and Koch, 2024). While this incremental approach is feasible when new technologies have 'backward compatibility' with the old systems, a more revolutionary approach is likely needed when new technologies are incompatible with the old ones (Shapiro and Varian, 1999) or when they call for a significant reconfiguration of ecosystem structures (Ozcan and Hannah, 2020). Building on these insights, we demonstrate how the struggles of traditional, product-oriented incumbents in comprehensive and revolutionary digital transformation hinder their subsequent platformification efforts in highly regulated and established industries.

Established theories, mainly from economics, on platform competition imply that organizations and actors within are able to transition to the most optimal competitive state based on the strength of network effects, installed base, etc. within platforms (Katz & Shapiro, 1992). In a rare exception, the theoretical essays by Altman and Tripsas (2015) and Altman and Tushman (2017) point out how incumbents might struggle culturally as they transition to a platform business model. Similarly, Benner (2009) shows how process management practices, though intended to enhance organizational performance, can inadvertently limit firms' responsiveness to technological shifts. We extend these studies by showing how organizational and IT structures and accompanying cultural features that serve incumbents well in managing risk in a highly regulated industry also impede their adaptability to technological shifts in the

same environment. We find that the requirements for competing in such an industry make it inherently difficult for incumbents to transition into a platform ownership role.

Another contribution of our study to incumbents' platform formation efforts is our findings on how incumbents work with third party platform providers. Our data revealed that the challenges of incumbents described above led to the emergence of a new industry role: technology companies offering ready-made platforms to incumbent banks (Platform-as-a-Service, or PaaS). We observed however that this relationship also led to conflicts between PaaS providers, who were interested in growing their platform as large as possible, and incumbent banks, who were unwilling to keep the platform open on the supply-side out of fear of increased competition and product cannibalization.

A useful parallel (albeit one that cannot be taken at face value) can be drawn here with Android, where Google as the platform owner retains significant control over curation and dictates openness. In that case, buyers of the platform (mobile and other device manufacturers and users) have little power to influence which third-party applications are available. In contrast, in the banking context we studied, the buyers of the platform (incumbent banks) were highly powerful, often forcing PaaS providers to restrict openness on the supply side in return for adopting their solution. This power asymmetry led some PaaS providers to cede control over platform curation to the banks, allowing them to include or exclude entire categories of third-party services to avoid product competition. This strategy struck a compromise: while banks couldn't block individual fintechs outright, they could still control platform structure in ways that reduced the appeal of the platform for more innovative complementors.

This unique insight from our results highlights a reversal of the typical platform power dynamic described in the literature (e.g., Jacobides, Cennamo, and Gawer, 2024; Van Alstyne et al., 2016): in our setting, powerful buyers constrained platform openness and reduced overall innovation. With this, we extend prior research on platform power (e.g., Cutolo and Kenney, 2021; Curchod et al., 2020; Wang and Miller, 2019) by showing what happens when a platform is formed in a B2B context to assist powerful incumbents. In this case, it is the buyer who shapes platform governance and openness through its strategic preferences and structural constraints, rather than the platform owner. Notably, we found that this dynamic did not always prevent incumbents from experimenting with platform models. In some cases, incumbent banks were willing to engage with PaaS providers when the platform allowed them to extend their market coverage or cross-sell their own products, particularly in non-core product categories. In these cases, the platform served as a tool for rapid market entry, enabling incumbents to respond to new entrants without fully abandoning their traditional model[15]. This strategy also aligned with shareholder expectations, offering faster time-to-market and lower investment costs compared to building new capabilities in-house. Thus, while incumbent banks were not always interested in a full transition to an open platform business model, they were motivated to undergo a *partial transition*, adopting elements of the platform model. This was especially true when it enabled them to extend their reach or improve their competitive positioning, particularly when third-party offerings were complementary rather than competitive.

[15] A key critique regarding incumbent banks' failure to establish platform business models widely has been the banks' lack of incentive to abandon their existing profitable model, where they exclusively sell their own products and services directly to customers. Having said that, not all incumbent institutions' revenues came solely from products and services available to customers. For some categories (e.g., wealth management, investments, international payments, insurance, etc.), promoting third-party services with a fee charged either to the customers (i.e. via a subscription) or third parties themselves would have been strategically beneficial.

Finally, we also observed that some PaaS providers refused to compromise on openness and maintained control over platform curation. Unable to find any banks willing to accept this offering, they shifted their focus to other industries, presenting supermarkets, airlines, and retailers with a large customer base the opportunity to add financial services to their offering. This finding shows how industry boundaries get blurred when providers of platforms that get rejected by incumbents in an industry draw in players from other industries to ensure their survival. It contributes to literature on industry evolution, and in particular, shows a way in which clearly marked industries dissolve into complex, cross-industry ecosystems with the rise of data and data analytics as key competitive advantages (Jacobides, 2005; Ansari et al., 2016; Ozalp et al, 2022).

5.2. New Players' Platform Ownership, Curation and Other Challenges

When it comes to challenger banks, the story that we face is entirely different, but again one where industry conditions matter significantly for platform competition. Our findings expand our knowledge on platform creation and governance decisions of new entrants in a highly regulated industry (please see Figure 8 and Appendix B). Challenger banks are the digital-born platforms that compete through a great user interface and a rich ecosystem of complementors. Extant research suggests that in platforms where network externalities can speed the pace of competition, agile start-ups can quickly find themselves in equal terms with incumbents (Parker et al., 2016). However, in banking, these capabilities prove to have limitations in creating an advantage in platform competition, as customers are inert and more likely to stick to well-known incumbents. Even when ease of use, price, and a high variety of offered services may intrigue them to sign up for a new platform, engagement on the platform stays limited as most customers prefer to keep their core data and assets (e.g., salary, savings, mortgages) with incumbents. In

other words, unlike platforms such as Facebook, iTunes, or Twitter (which created demand for something entirely new) or Amazon (where data sharing with sellers usually involves basic customer information, such as name and address), new players in the financial industry need users to fully switch from incumbents to be profitable. However, they often lack the trusted brand that users require to share sensitive data, such as financial information and risk profiles. By examining challenger platforms in the UK banking industry, we document how contextual factors such as a highly regulated industry environment and high compliance costs aggravate customer acquisition and growth challenges of new players. These requirements demand high resources upfront, which new entrants lack, as well as signals such as a track record, reputation, legitimacy, and customer trust. These resource challenges make them rely on funders for a longer time (e.g., Aldrich and Fiol, 1994; Barney, 1991; Gompers and Lerner, 2001; Hall, 1993; Fischer and Reuber, 2007).

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Another industry characteristic that can further complicate matters and create a vicious cycle for new players is the cost of safeguarding system resilience in a regulated industry, where customers carry out large volumes of sensitive transactions on a daily basis. Although IT failures were not exclusive to new entrants, we observed that resource-limited new platforms struggled most to invest adequately in system resilience while simultaneously spending money on attracting customers. They were dependent on technical suppliers for building and providing core services, which affected how much control they had on the platform infrastructure. Their system failures fueled lack of trust from customers, which in turn affected their customer acquisition, revenue stream, and ability to ensure system resilience. This finding suggests that in a highly regulated industry, platforms require more resources and longer investment support since the

platform ownership is more critical and has cumulative implications for a successful platform strategy.

Extant research mostly analyzed platform dynamics in big tech, retail, or video game platforms (e.g., Kenney, Bearson, and Zysman, 2021; Ozalp, Cennamo, and Gawer, 2018; Ozalp et al., 2022; Rietveld, Schilling, and Bellavitis; 2019; Zhu and Liu, 2018). Our study departs from previous research as we compare and contrast the platform formation efforts of incumbent versus new firms in a highly regulated industry. In a regulated context, platform creators experience different challenges. First, customers' trust threshold is much higher, which makes the negative impacts of system failures and service disruptions more significant. This finding unravels the dynamic relationship between lack of customer trust and system failures and consequently, ability to generate revenues, extending research on trust in online platforms (e.g., Lăzăroiu et al., 2020; Tadelis, 2016) to highly regulated contexts. Second, we show that the resources and liabilities of incumbent versus new players have vital implications for their platform success. The characteristics of a highly regulated industry require all players to allocate significant resources to regulatory compliance and own the platform to ensure better service quality. While incumbent banks' liabilities around legacy IT and culture prevent a shift in their mindset and organizational structure towards a platform business, challenger banks' high resource requirements, customer acquisition challenges, and investor pressures for profitability create significant financial hurdles for their platform creation.

Beyond identifying these challenges, our study documents how new players attempted to alleviate the challenges of platform formation in a highly regulated context. First, they targeted early internationalization to grow their customer base. However, this effort was challenged by another difficulty of platform growth in a highly regulated environment: many of their

complementors (e.g. in investments, pensions) were subject to country-specific regulations and therefore not able to operate globally right away. Extant work on platform growth has largely focused on which side of a platform to incentivize first, and how to jumpstart network effects (Parker and Van Alstyne, 2005; Rochet and Tirole, 2003, 2006). Our findings highlight the limitations to international growth of platforms as a solution to limited within-country growth due to the liability of newness (Hannan and Freeman, 1983). Scholars have found that many entrepreneurial firms are capable of going international quickly to reach scale (McDougall et al., 1994; Autio, Sapienza and Almeida, 2000), even more so when their business model is Internet-based (Bingham and Davis, 2012). We show that this strategy is less feasible when the business of the platform provider and the complementors are highly dependent on regulatory environment.

5.3. Regulation, Platform Competition, and Industry Evolution

While the impact of regulatory intervention (e.g. open banking) was not the focus of our study, our findings document how regulatory uncertainties and unevenness can stand in the way of stimulating innovation through platforms. During the period we studied, legal liabilities for platform failures and data leaks became clear over time, with regulators initially holding incumbents liable for any issues in relationships with small complementors. Even after regulations were revised, incumbent banks still carried the responsibility of proving that they were not at fault for data leakages and other failures. This observation shows how regulators' tendency to put greater liabilities on parties that they know how to regulate can form a barrier to collaborations between incumbents and new complementors. This finding also contributes to a more nuanced portrait of regulators as actors with certain tendencies and limitations rather than

boundless, absolute authorities that can impose change (Gurses and Ozcan, 2015; Ozcan and Gurses, 2018).

6. CONCLUSION

This study explores the platform formation challenges and trade-offs faced by new versus incumbent players in a highly regulated and data-sensitive industry, especially focusing on the factors affecting these players' decisions around platform ownership and curation. With this paper, we provide an empirical analysis on how technological innovations can facilitate financial innovations by studying platformification processes in an established industry. Our findings based on longitudinal qualitative data highlight the limitations of certain platform strategies and dynamics (e.g. network effects, chicken and egg) in highly regulated, data-sensitive industries. They provide a nuanced view of platform emergence and industry transformation with attention to organizational context, interorganizational conflicts, and the industry (and regulatory) environment.

Our multi-level qualitative approach helps us contribute to platform emergence literature by highlighting the significance of the *industry context*. In contrast to relatively new and underdeveloped markets where consumers are prone to favoring the new entrant's superior proprietary platform (Katz & Shapiro, 1992; Matutes & Regibeau, 1996), we show that in established industries and particularly when customer data is highly sensitive, platform competition and industry disruption may have limitations even when interoperability between incumbents and new players is granted by regulation. Thus, our findings are generalizable to other data-sensitive industries such as healthcare or insurance, where platform competition is also starting to emerge. In these settings, the value added for users from complementary services on a platform will need to be much higher and in proportion to the inherent risks of sharing their data

with newly introduced platforms (i.e. non-trusted household names) and subsequent third-party providers. As such, both challenger and incumbent platforms will need to lower transaction costs by not only guaranteeing access to good quality complementors (as per existing discussions in the literature, e.g. Parker et al., 2016) but also accept the liability on behalf of complementors in case something goes wrong.

For future research, we recommend replicating this type of study in other highly regulated and data-sensitive industries (e.g. healthcare) undergoing a similar transition into platform business models to understand which other industry specific factors may affect platform formation and growth. Finally, researchers can follow earlier papers (e.g. Leiponen, 2008; Gurses and Ozcan, 2015) to explore the role of non-market strategies in such highly regulated contexts, looking, for instance, at incumbents' and new players' efforts to influence regulation. Such comprehensive, qualitative studies will further answer prior calls (e.g. by Gawer, 2014) to uncover not only the patterns of platform emergence but also the darker side of platform-related processes - e.g. reasons and patterns of delays and non-emergence - and their consequences for industry evolution.

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APPENDICES

APPENDIX A - Clarification of the interactions and connections in the incumbent model

- **Siloed and Legacy IT Infrastructure → Platform Ownership:** Incumbents' siloed and legacy IT infrastructure negatively affects their platform ownership, due to the challenges it presents in transitioning to a platform (please see our discussion on page 32-33).
- **Compliance-oriented Approach to Data → Platform Ownership:** Incumbents' compliance-oriented approach to data negatively affects their platform ownership, as they consider it risky to overhaul their existing systems and utilize the datasets they own (p. 33-34).
- **Platform Ownership → Strategic Platform Growth:** Platform ownership positively affects strategic platform growth.
- **Range of Own Products → Platform Curation - Openness on the Supplier Side:** Incumbents' existing range of own products negatively affects their openness on the supplier side, as they are reluctant to cannibalize their own products by increasing competition (p. 34).
- **Customer Relationship → Platform Curation - Openness on the Supplier Side:** Having an existing and established relationship with customers negatively affects openness on the supplier side, because incumbents do not want to lose this relationship to third parties (p. 35).
- **Clarity of Data Sharing Regulations → Platform Curation - Openness on the Supplier Side:** Clarity of data sharing regulations positively affects openness on the supplier side, where unclear regulations increase incumbents' perception of risk (data breaches etc.) (p. 35-36).
- **Existing Customer Base → Platform Curation - Growth on the User Side:** An existing customer base positively affects an incumbent platform's growth on the user side (p. 32).
- **Platform Curation - Growth on the User Side ←→ Platform Curation - Openness on the Supplier Side:** There is a positive relationship between growth on the user side and openness on the supplier side due to indirect network effects (p. 8).
- **Platform Curation - Growth on the User Side → Strategic Platform Growth:** A growth on the user side positively affects strategic platform growth.
- **Siloed and Legacy IT Infrastructure → Purchase of Platform-as-a-Service:** Siloed and legacy IT infrastructure positively affects incumbents' purchase of a PaaS solution to bypass their infrastructural challenges (p. 37).
- **Compliance-oriented Approach to Data → Purchase of Platform-as-a-Service:** Incumbents' compliance-oriented approach to data positively affects their purchase of a PaaS solution, as the latter allows them not to touch their existing data (p. 37).
- **Purchase of Platform-as-a-Service → Platform Curation - Openness on the Supplier Side (Moderated by Incumbent Power):** Purchase of a PaaS solution negatively affects openness on the supplier side due to incumbent power, as incumbents exerts power on external PaaS solutions to control the platform's level of openness (p. 38-40).
- **Purchase of Platform-as-a-Service → Strategic Platform Growth:** Purchase of PaaS solution positively affects strategic platform growth.

*** The relationships of platform ownership, platform curation (both growth on the user side and openness on the supplier side), and purchase of a PaaS solution with strategic platform growth are expected based on existing literature (e.g., Boudreau, 2010; Ondrus et al., 2015; West, 2003; Baldwin and Clark, 2000; Chesbrough, 2003; von Hippel, 2005) but were not observed in our study due to non-emergence of incumbent platforms.

APPENDIX B - Clarification of the interactions and connections in the new entrant model

- **Being Digital-born → Platform Ownership:** Being digital-born positively affects new entrants' platform ownership, a platform model in mind from scratch (see page 23 where we discuss this point).
- **Platform Ownership → Data Access:** Platform ownership positively affects data access and collection, as the d controlled by the platform owner (see p. 23).
- **Data Access → Better Customer Understanding:** Data access positively affects having a better customer understa identify customer profiles and their specific needs (p. 23).
- **Better Customer Understanding → Personalized Services:** Better customer understanding positively affects persona to develop and offer services that meet customer needs better (p. 23).
- **Personalized Services → Strategic Platform Growth:** Personalized services positively affect strategic platform grov attractive to users (p. 23).
- **Resource Limitations → Platform Ownership:** Resource limitations of new entrants negatively affect platform ov perfecting their customer-facing interfaces, which result in a negative impact on system resilience (p. 24-27).
- **Platform Ownership → System Resilience:** Platform ownership positively affects system resilience by enabling pla over the platform infrastructure (p. 25-27).
- **System Resilience → Customer Trust:** System resilience has a positive impact on customer trust, and problems re customer trust (p. 28-31).
- **Customer Trust → Platform Curation - Growth on the User Side:** Having customer trust (which is a big barrier for especially in regulated industries) positively affects growth on the user side (see p. 28-31).
- **Platform Curation - Growth on the User Side ←→ Platform Curation - Openness on the Supplier Side:** There platform's growth on the user side and openness on the supplier side due to indirect network effects (p. 8).
- **Range of Own Products → Platform Curation - Openness on the Supplier Side:** Having a range of products supplier side, as we observe not having their own products motivate new entrants to be open on the supplier side (p. 27-2
- **Platform Curation - Growth on the User Side → Strategic Platform Growth:** Growth on the user side positively aff
- **Platform Curation - Openness on the Supplier Side → Strategic Platform Growth:** Openness on the supplier side growth.
- **Strategic Platform Growth → Resource Limitations:** Strategic platform growth negatively affects resource limitat accumulate more resources (p. 23-25).

INTERNET APPENDIX: Supplementary Quote Table

New Entrants' Platforms	
Drivers / Challenges of Platform Ownership	
Technical	*"New entrants have set a new experience standard, they have raised the bar of what customers expect from their digital interaction with their bank. Smaller, nimbler new entrants demonstrate speed and agility in delivery that any larger organisation will be envious of. They have modern tech architectures and as a result they bring new features to market rapidly." (Incumbent Bank Executive)* *"[Challenger Bank] are kind of building everything themselves, so they just.. they have very few external dependencies. And that just is an advantage."(Fintech Executive)* *"What do you view as being your core competency or core differentiator? And if [it] is very much around the front office and the front office experience, then yes, focus on that. But you do need to make sure that whoever you are giving the backend to is going to be able to support what you need. Because again, simple example, if you want to be in an environment where a payment transaction gets done instantaneously, if that backend provider is using some sort of batch processing, which means you've got to wait for 24 hours, it's not going to happen. So it does need to be connected in a way that is going to make sure that whatever it is that you're seeking to do is going to be executed."* *"On the tech side, what did us a lot of favours was the fact that we built everything from the ground up." (External Platform Executive)* *"While a new firm can outsource activities to a third party, the firm remains accountable for the management and control of these services in a structured way to ensure the firm's 'safety and soundness', including its operational resilience and ability to comply with any legal and regulatory obligations through appropriate controls." (Industry Report)* *"[Following a series of IT failures in incumbent banks in 2018] MPs have called for the banks to be brought to account over what*

	can now only be described as a litany of IT failures - painful episodes that have put accounts at risk and left people out of pocket. All the while, angry customers - many of whom are owed compensation – are beginning to lose faith in the 'good-old-reliable' banks they've always entrusted their money to, and are starting to explore alternatives." (News Article) *"[Challenger banks] were all hit by outages over Friday (29 June) and the weekend of 30 June and 1 July [2018]. It was the usual scenario of payments being rejected and customers getting confused. It is understood the problems were caused by the company the firms outsource processing to. […] [Challenger Bank A] did use [the third-party] in the past. It responded to our question on Twitter and says: 'We only used [the third-party] for our prepaid accounts, and now run entirely on technology we've built ourselves, so we won't have been affected.'" (News Article)* *"[Challenger Bank B] experienced a 'major outage' on its mobile app on 22 January [2021], but the fintech managed to get things back up and running within the hour. […] It saw customers unable to withdraw funds and send payments. Some even complained over incorrect balance displays, and numerous missing payments." (News Article)* *"Present-day customers expect seamless, around-the-clock availability from any bank they engage with, and even the slightest moment of downtime can result in their departure, especially when personal finances are implicated."*
Cultural	*"I think some of the challenger banks, even though they operate within the same regulatory framework of course, they have a different starting point, and they have built the tools and systems around that rather than the other way around." (External Platform Executive)* *"[The big banks] will have to shoot the mentality and the understanding of how banking works and how consumers are making their financial decisions. And that's why I believe in 10 years we can still offer a product that's better than what traditional banks are doing. Whatever they do, they would have to fundamentally shift their understanding of how to make revenues and they will also have to live with a lot lower margins on product than they currently offer, which means that they would have to ship or they would have to adapt their whole organization, the way the organization works. […] And that's not a change you can make in just two, three years." (Challenger Bank Executive)*
Drivers / Challenges of Platform Curation	
Technical	*"Something that we had decided from scratch is not to build everything by ourselves, but to partner using the services of other companies because we were just a start-up, not enough people to develop the things and like people do things good; and like, for example, [Payments Platform] have been powering all our international payments since the beginning, and we don't see why we would replace that, the volumes are not enough to justify that we do it by ourselves, to squeeze the margin and it's a very good service; so we are already deeply integrated with [Payments Platform] now." (Challenger Bank Executive)* *"We will be more looking for strong partnerships that enable us to provide a very good customer service that we couldn't provide ourselves, like look, I mean when we -- when we think about 'do we want to become a full payments company?', you know that is it's basically working on establishing a scheme there and making sure that with settings and with initiation we will always be the center of the customer. That's probably not our core competency and in that field we would probably rather work together with a partner and I think we see some very good ideas in the market there and potential effective partnerships." (Challenger Bank Executive)* *"If you think about like why were we able to build a bank so quickly with a with a product offering that's at least not too bad is because there are-- there's a potential for these partnerships and I think that's also one thing banks underestimated for quite some time when they looked at us, yeah. I mean look there's 100 guys not now 50 guys sitting here and they want to-- think they want to build a bank that can do everything, that's impossible; they are right that it's impossible to do it all ourselves, but with partners you can be much much quicker and offer very good price in a relatively short period of time." (Challenger Bank Executive)* *"The key to all these is that they do not do everything themselves. They use APIs (application programming interfaces) to find partnerships with other providers that can do the work for them." (Industry Expert)* *"Typically, it is [easier to connect to the challenger banks] yeah, because they have often more--it's a more modern platforms or format in banking system. So they have some form of internal lead guys that we can connect with, right? If you look at these guys [incumbent banks], it was like it's a mess. Now, it's starting to get much better but when the big bank started what they--the first step was actually to create sort of an internal what they call enterprise bus, right, so that you can connect internal systems. They couldn't do that. [...] And especially with the big banks that have grown also through acquisition, you know, they're all in terms of weird systems." (External Platform Executive)* *"The banking view is usually very transactional, how much can I charge per API, how much can I charge per transaction, no, no, this is not how you will make money, you will not make money because you offer this by transactions, the value comes indirectly through enabling something else which comes with a bigger value price, or it has a different pricing proposition, you know? So*

	being able to… I think the… because change, it will be that it will bring into banking a way of thinking which exists in the digital world, where the collaboration between different players doing different things, it's the way of working, you know, and you make it easier for others to integrate with you because you also want to integrate with others." (Industry Expert)
Cultural	*"Their mindset is partner and build an ecosystem, you know, they've all done. And then [Challenger Bank] is so ahead in that, in my mind anyway. Whereas these guys [incumbent banks], these protectionism, it's, you know, we have our products, our customers if we open up then we'd lose those whereas these guys [challenger banks] go from the basis of we want to be an open ecosystem. That's how they're going to grow their customer base."(External Platform Executive)* *"How do I handle more risky customer segment? We didn't want to just say - 'look we can't open your credit.' And instead, we work now with [Fintech] here, who are more risk-friendly, probably you could say. And also have other scoring capabilities that at the moment, we can't provide in-house. And so in that way we are able to offer custom credit debt, that if we do just with ourselves, we won't be able to. And so what does that mean when we generalize it? We want to offer customers our own services, wherever we think we can provide them an excellent service, wherever we think that there is a better partner out there we want to collaborate with them and offer their product through our app." (Challenger Bank Executive)* *"In the long run, the goal would be that, to the bank, to the example of foreign exchange and transfers would be not to only cooperate with [Fintech A] but with multiple service providers who differentiate themselves, who maybe some parts of the products, some parts of the reach but also some parts of the prize and see, and then the customer would receive a recommendation from us which part they should choose but it could also say like, look and yes I want to initiate that transfer but not for [Fintech A], I want to use [Fintech B] for that. And that would be the long-run goal. So for us, it's very important if we partner with someone that we still have the opportunity to on board another partner offering similar or the same service just to also foster the competition on our platform." (Challenger Bank Executive)* *"[Challenger Bank] is laser-focused on a current account, not mortgages or loan - so focusing on one product and making it the best you can. That is a huge threat to banks as they rely on cross-selling to make money and traditionally run current accounts as a loss-leader. I think the big difference for all fintech startups is this unrelenting customer focus. Banks don't tend to focus on what customers want but on how to launch new products and make more money, frankly. So that means these products like overdrafts, where they make most of their money, if you were to ask customers if that's what they want they would definitely say no. So fintechs can come at that from a fresh outlook." (Challenger Bank Executive)* *"[Challenger Bank] is trying to be really open, which is good and bad. It's good because they're getting a lot of developers to test their product, so they know when they launch tech-wise they should be okay, but it's also bad that every mistake they make is very public, so we'll see." (Fintech Executive)* *"I think one of the biggest challenges that we have is finding partners that are willing to internationalize the way we do. Fintechs, in many cases, start with a single market and then slowly expand. And that's obviously a big disadvantage; then we cannot provide the service in all countries that we offer our banking products. So that's really a big challenge for us." (Challenger Bank Executive)* *"In the event that any financial company or third-party provider suffers a data breach due to an Open Banking approach, the entire initiative could take three steps backward in terms of trust and consumer adoption." (Industry Expert)* *"For us, [customer onboarding] is a slow clunky process. [...] So we brought [Fintech] into [Incumbent Bank] to substitute the passport, in branch checks. And it's fine, you can put that in, but the effort required to actually get [Fintech] to do the screening of that was enormous. It actually went up to board level because the people were nervous about it. And how can you tell it's not a [forged] passport if Doris in the branch hasn't physically held it, seen it, put it through a UV scanner, and that thinking is so deeply rooted in banks. It's quite hard to shift them off it into, 'yes, but what's the risk you're trying to mitigate and is there a net improvement in terms of your risk position by doing this?' So yes, it's true, you might not be able to feel the outside of it, you may not be able to UV check, but you can check the character spacing and the colours and the comparison and all these other checks that can be done, which Doris in the branch is not doing. So you've got to look at the relative merits of it. In order to pluck those things out and put them in, it's, A, hard to break, dismantle the process. And B, it's hard to sell it internally to the risk stakeholders."*
Other Platform-related Challenges	

Customer acquisition & Resource limitations	*"Customer inertia is an entrenched feature of the banking system. In the UK, 85% of current accounts remain with the five largest banks, despite the regulatory efforts to diversify this." (Fintech Executive)* *"I think fundamentally, I wouldn't underestimate the value of trust, brand, and also just inertia, consumer inertia." (Incumbent Bank Executive)* *"[Challenger banks] are focused on retail and some of them are moving into the SME side now. I think they have been successful, but I don't see the big pull for clients to move to a challenger bank. I know about what I want and I am pretty unsophisticated right, and I don't have loads of money to invest, so what do I need? I need a current account that works and my wife could use as well, I want easy access channels, I don't want to have to pay for it, in the UK we have got free banking, one of the few countries that does, if I need a loan or credit card I want to go to get that relatively easily. My bank gives more of those things; I'm not sure why I would... And you know nobody is paying any interest or deposit balances at the moment, so I'm not sure if I really see the big draw for changing banks. I am sure my kids' generation, they probably, they are used to get instant comparisons for everything and yeah, maybe they would be much more transient, so again maybe there's different generation view. And they are probably a lot less sensitive to who they share their data with." (Incumbent Bank Executive)* *"Seeing a challenger bank remain independent more than ten years would be lovely, but there is too high capital requirements. That is one of the reasons why we need to be acquired, is to increase our capital cause at some point we cannot grow anymore." (Challenger Bank Executive).* *"What [Incumbent Banks] do is updating the terms and conditions. So they send out the terms and conditions where they talk about changing the way banking works with the third parties; but if you read this text, you know, it's a typical bank type of letter you receive, which doesn't really sound--yeah, it sounds quite scary if you look at it from a consumer perspective." (Fintech Executive)* *"We may be able to provide a similar level of service that someone like [Challenger Bank] can offer, but with a much reduced cost base. So I think that's an advantage that we have. I think again, you have got to think of how many people would trust with all of their money with a challenger bank whereas if we are saying, actually no, you can keep your money with your Barclay's or your HSBC. So you are still there, your money is still there, you can still go into a physical bank." (Fintech Executive)* *"Big banks have an edge when it comes to trust. When we asked customers if they are willing to share more data with a provider in order to get a better product offering, 78% said they are willing to share with their primary bank, while 63% said they would share with another bank, and just 43% would share with a nonbank." (Industry Analyst)* *"The amount of ads I saw on Facebook and Twitter in the last couple of months where all the banks have been very strong in claiming they never give away your bank credentials, they never give away your PIN et cetera, et cetera. We have never seen such a strong marketing campaign on security ever before; but now three months before open banking comes into play they start to do that, that sounds to me to be pretty fishy." (Fintech Executive)* *"Now the problem is for a fintech such as ours, it's very hard of course to communicate this properly, given that we lack the resources which are required in order to do that. And the only players in the market which actually have the money in order to run this communication properly are the banks; but given that there is definitely, I would say, a strong conflict of interest, and they of course don't communicate that very well because they hope this whole initiative, you know, will just fade away more or less and there will be no success for this. It's kind of definitely misalignment between the parties." (Fintech Executive)* *"Funding is drying up after years of mounting investment activity, as competition intensifies and more investors question challenger banks' unique selling proposition…Leaders are focusing on building 'super app' functionality to reach and maintain profitability." (Industry Report)*
Incumbents' Platforms	
	"It is a new world. It is happening. […] We can't afford to stay still. We need to collaborate otherwise we are giving customers a good reason to switch." (Bank Executive) *"The banks recognize that there is the potential to lose some of their income and the window to the customer, so all banks are looking at how to prevent that; and that's where the collaboration with these third parties becomes key, because we want to be competitive but we recognize that we don't have the best brains in the industry within our four walls. The best way to be competitive is to try and work with and take some of these ideas from these startups that may not have the funding and backup to offer the scale that they need." (Bank Executive)*

"[Banks] have the customer base at the moment and the statistics say that I am more likely to remarry than I am to switch bank accounts, so there is a lot of inertia. And there is a lot of loyalty through inertia." (Industry Expert)

"What we say to the incumbent banks is look, you have to move quickly otherwise you're going to get taken over by these start-ups; but at the same time you have a huge advantage - you have this very well-established brand that many people feel very safe and comfortable with. So all you need to do is to get the technology and apply that to your business model and then you can overlay that with your fabulous safe and established brand and actually not think about defending your market share but potentially increasing your market share." (Industry Expert)

"If you bring all of these different things together, so you talk about buying your house, organizing your life insurance, looking at your pensions, looking at any investments that you want to make that are discretionary outside of those things, and how do you pay for your children's education, you just bring all of these things together, there's an opportunity to create platforms for incumbent banks that they ought to really go after." (Industry Expert)

Drivers / Challenges of Platform Ownership

Technical	*"As a bank, at the end of the day, you are not a technology organization. You have a big IT department, you deliver digital services but you're not a technology organization. So, you should focus on delivering the best products and services, right? Within the scope of lending or whatever it is, right? And let, you know, select the best partners to handle the technology piece for it. Because that really affects the customer experience…" (External Platform Executive)* *"When other technologies came along, they were added on to this big central system. Call centres, ATMs and internet banking all followed, and all show a record of your debits and credits. Then mobile banking made an entrance at the same time as cloud computing, big data, cryptocurrencies and open sourcing, and it has ripped that whole system to pieces." (Industry Expert)* *"A lot of the costs and trouble that we have in adopting any new technology is always around integration. We say well we have legacy hardware, love to use this new system, system is great, but you know, the cost of implementing it into the existing stack is very expensive and will take a long time." (Incumbent Bank Executive)* *"It will be just another layer put on top of what they already have and they have problems with the additional integration problem, because if you think about it, the bank is not a stand-alone thing, it needs to be served to all the pillars of the bank; so how do we connect this to the call centers for example? It adds complexity, which is not justified financially." (Fintech Executive)* *"Most of the interesting challenges come because payment systems are very unlikely to be renewed for a long period of time so we go into an organisation to modernise or replace an existing payment system. That payment system could easily have been there for 20 or 30 years. And of course, they have got no knowledge of how or why it is doing it, the functionality, just that it does that particular type of functionality and obviously there are new and modern ways of achieving the same goal." (Industry Expert)* *"We never met Dave, but he changed our lives. Just as he's been changing yours. Dave had done a good thing. He solved a problem. Dave had done a terrible thing. He solved a problem in a way that was so local and specific that, when he left, the bank was left at a loss. That's the problem with Daves. They move on, up or out. And the real legacy you are left with are hacks and workarounds that you don't understand. And you are lucky if Dave's legacy is limited to a spreadsheet that is expensive to replace but specific enough that you actually know when it has stopped working. Because most Daves work in risk or product. And their legacy are policies nobody questions, designed on the back of now long-defunct regulatory requirements, or product brochures and term sheets with special discounts used across an entire client segment when they were only meant as a givy-get to land an important account." (Industry Expert)* *"Most banks are old. And so are their systems. Most banks have evolved and grown at different speeds across markets and geographies, they have acquired, pivoted and adjusted. So have their systems. So when we say "legacy IT" we mean systems that span the entire life history of the organisation. We mean that the App Store you are building will have to exist alongside systems older than you. ("I put this system in place before you were born, young lady" is an actual thing I was told in a real meeting by a real person who has since retired but his system hasn't). […] You see, under "legacy", data sits, quietly minding its own business, wherever you put it. But when you put it there you didn't know the world would change and now you want to pull it out and you can barely remember where it is." (Industry Expert)* *"The battle is no longer for a current account, it's for who can deliver the best relationship. What's the winning formula to help your customers achieve their life ambitions, do it in a way that makes them feel good, you know, and make sure that they are constantly being provided with the best products? How do you know what the best products are? Well, you put all the products in there, you allow people to choose themselves and then you can see it and you can go direct. And in five years, it would be clear who your, you know, where you need to be focusing development for products." (External Platform Executive)* *"[For banks] It's about serving the customer the best they can and being the relationship holder of an individual's financial relationship. And so it's about bringing the best class services to best serve those customers to dispute on the whole one thing is very--they want things digitally. They want to do digital employees for everything because that's how we operate now." (External Platform Executive)* *"I think the advantages of doing it in house or through the existing provider is that they will have easy access to existing system and data, they already have knowledge of how things work or what the existing systems are, what their capabilities, what their performance numbers etc. And therefore they have maybe kind of a head start in terms of understanding the internal workings. The disadvantages in going for an in house or extending the existing software, if that software vendor doesn't specifically provide this, is that they are now only able to do things based on the existing resources that they currently have." (Industry Expert)* *"Our focus right now is getting the banks and then we will have to--if I came in and I said, "Hey, look, I got the hundred largest banks in the EU on my platform and it's really easy to access because we made it super easy for developers. I mean we spent a lot of time on the API to make it really easy for developers and you will do the minimum amount of work." And so it's super attractive for developers. For two reasons, one is that we cater to developers. We give them beautiful SDKs. We give them great*

	documentation" (External Platform Executive) *"One way of looking at the customer data, but they are essentially product systems, so they are organised by products, and the silos." (Industry Expert)* *"Everyone's behind the curve. Yeah, a lot of banks I talked to is like they don't know what they're going to do." (Fintech Executive)* *"With the big banks, we are looking at to go beyond PSD2 or regulatory compliance - so how can we help them monetize essentially, right?" (External Platform Executive)* *"We do have an announcement ending with large global banking proprietor. They are using us both as the PSD2 API for their banking customers that need it and that also using us for the connectivity. For the connectivity part, within a week they connected to all UK banks."(External Platform Executive)* *"Banks still have the funds to operate in the way they operate, which is… that they have very high operational costs, if you look at other industry they would not be able to maintain such a settled way of working, you know, requiring so much manual intervention or work, systems which barely go down together, because of that, because they can afford, they can still afford to do that, they are not under pressure to change. Also they are not in a real competitive market, at least here in UK, the banking market is not competitive, we have four players, they share the market almost equally, the rest don't even count, and they also know that they are too big to fail, nothing will happen to them, they will be rescued in their-- the downside of letting one of these banks go would be too high so they are in a very safe position, they are not behaving like, you know, company competing to be the best on the market."(Industry Expert)* *"Institutions expose the data in the form that they have it, which is raw data. To make it fit for the purpose, to make it usable for whatever the customer wants to do, you need to normalize and enrich the data so that it is understandable and appropriate and ready for use." (Fintech Executive)* *"So the transformation started from the top, from the visible part of banking, so we see a lot of fintech doing things in the visible domain and everybody is so focused on the customer journey and so on simply because this is visible. But as they started to see where they cannot get deeper, why they cannot do what they want to do in customer journey, they started to discover lower layers of the banking architecture, and the layer they would need to touch and transform would be this, it's like the next in line logically, if they want this transformation to work. Of course there are many other layers underneath, but before reaching those they have first to sort the problems in order. And not all the components between meeting the banking architecture can be done in a platform, you know, scalable, everybody uses it and everybody is integrated in it, but this is one of them and it's a big one. So that's why we see also some of these companies appearing and, yeah, so I believe they would be the next platform."(Industry Expert)* *"Many start-ups were trying to integrate with the banks, and they couldn't, and they were dying, the integration usually would require integration in core banking in one form or another and this was not possible, and it was not possible again and again, so some entrepreneurs said, you know what, we developed this next layer thing, so fintech integrate with us and we are pressing the transactions further in the bank, so the integration in the banking should happen according to this new model should happen at a lower level, you know, in the stack, if you think about the stack as vertical towers, let's say with ten floors, instead of integrating with the ninth floor you go and integrate with the eighth floor, you just go one floor lower." (Industry Expert)* *"Because in fintech they believe that, you know, they don't do this because they don't know how to do it, you know? That's one thing, then they believe that the bank sit on this amount of data, and you know, just if you give us the access, but they do not imagine that you have ten fields here, 40 fields here, and that you have no place where you have the full customer view, in terms of transaction, yeah, so if you are a customer of one of these big banks, then you have a current account, a loan, a mortgage, there is no place in the bank where all these transactions come together, and they look at you and say, look, this person or this type of people, or this cluster of people they have this type of financial need and they behave in this way and this doesn't happen." (Industry Expert)* *"If I'm a bank like [Bank] over there, seventh over seven thousand applications against fifty different core banking systems and each application only works with the one before banking system that it was written for. Holy crap, no wonder I have, you know, 100,000 people they're writing quote because of the complexity. But if they all run on one operating system, I could write an application that not only would work inside the paper but would work at other place as well. So those 7,000 applications, I can now advertise that over all the banks in the world. That's pretty cool." (External Platform Executive)*

	"The analytics can really change the game for banks if they analyse the traffic, if they analyse the purchase patterns, the account information etc.; and create additional products and services and also feed that information back into the core teams in the bank such as corporate banking, retail banking etc. to understand the customers better and provide better products that gain traction. The analytics is not something that usually an in-house team does though. So a huge amount of opportunity will be lost for banks by limiting themselves to their existing resources." (Industry Analyst) *"Banks' core asset is customers, but this creates constraints. We can't act as a fintech and go and test and learn. When we decide to launch a product or service, it has to be reliable; it has to work every single day. We can't change it easily." (Incumbent Bank Executive)* *"Yeah, I mean, we are having lots of those conversations cause for the big name brands, open banking is a huge opportunity. I can't imagine that Amazon has not filed for as a PISP, for example. And we believe at <firm> that the future of banking will not be just established banks, you know?" (External Platform Executive)* *"The main question we get is 'how do we differentiate? - meaning if all banks use the same platform, how do I, as bank X, differentiate from my competitors? I would have access to the same developers, the same applications, you know, isn't it just commoditizing the whole thing?', right? That is probably the number one feedback we get." (External Platform Executive)* *"I mean, have you tried open banking from any of these guys [incumbent banks]? Have you tried their stuff? [...] It's beyond horrendous. It's like 15 screens you have to go through, right, just to access. It's unusable. There's this kind of here--there's a Slack channel or Slack group for UK open banking. And [Incumbent Bank] gets slammed in there for how poor their APIs is, right? And then they launched this app almost like a couple of weeks ago when they go out and consume other banks' APIs whereas their own API is so terrible. They do it on purpose." (External Platform Executive)* *"You could have an account with any of the big four banks and you still will receive an advertising, you know, they will auction for your screen to show you an advertising open an account with us, even if they know precisely who they are, or they have the ability to know who you are. This sort of analytics doesn't yet happen in banking, it is ridiculous, nobody believes it and if you go to these conferences you would believe that the banks move very much ahead, no they didn't." (Industry Expert)* *"We've been trying so hard at [Incumbent Bank] to build good customer platforms on top of this legacy kit, we basically decided this is a super opportunity for a great brand to get a brand new sort of microservices architecture. And we can now properly build on top of it rather than having to layer these intermediate orchestration engines on top. That was done and any computer scientist will tell you, don't do big bang go lives. But they did do it as a big bang because there was no way to phase it on into a go live and it basically went a meltdown when they turned the whole thing on. And the interaction between the various different modules just didn't work very well. So I think since that point, everyone sort of... all the senior people in banking that have been wondering about, "Should we move our core infrastructure onto something new?", they are basically like, "No, I'm never going to do that. Now it's like complete chaos."" (Bank Executive)* *"Data has been a hazardous exhaust product for banks, and we woke up one day and realized, wow, that's actually valuable." (Bank Executive)*
Cultural	*"[Banks] don't realize the value of the customer base they've already got, primarily because they don't have a really good relationship with those customers, they're providing a not very good customer experience, and therefore, they just don't have the confidence in their customer base that they should genuinely have. To a large extent, they really don't really know their customers either, which is a bit of an issue. I think the second thing is they're hugely worried about the risk. And this is where I think they probably need to be educated and enlightened." (Industry Analyst)* *"In theory, it is very easy for [bank] to know actually when a customer moves without updating their address with us because they change certain type of shopping and you see that they shop in a certain area; and the hours, you know, leaving from home, coming home and so on. So, we know when people move. Can we tell them that we know that they moved and offer services around that? No, we cannot tell them. […] This is a policy of the bank. You don't touch this type of data!"(Bank Executive)* *"Nobody can really comprehend or handle all the regulations. Each department inherits interpretations of various regulations as they apply to their particular situation. And that's what they care about…" (Bank Executive)* *"It's going to take you at least six months to negotiate the contract so that you can actually deploy this. And then it's going to take you at least three months to integrate it. The fastest thing that we have signed deals with them, six months, from first contact to the deal, that's the fastest."(Fintech Executive)*

	"If you look at BMW, what BMW is now going to do is they're going to enable you, just like you do with Apple Pay, to put your card into the computer that's associated with the car. So when you actually get to a petrol pump, you could just pay automatically without even having to get out of the car. [...] But they're going to have no loyalty about going to any particular card company. They're going to go to any bank, and ultimately, the customer is going to use the bank that gives them the best deal. So from the bank's perspective, it just becomes a race to commodity, they're not actually making a premium return from doing something like that." *"If the person that you're embedding into is a very, very major player like an Amazon, then they were taking like 35 or 40 basis points. There's no margin left for even an organization like Citi after [them], because you are incurring all the cost of that financial transaction, and then, you're giving 35% to an Apple or an Amazon, there's just no money left in it, which is why they've all withdrawn."* *"From my point of view, there are multiple reasons [for banks to do it in-house]. One is a very classic sort of we do everything in-house. Right? I think perhaps the biggest reason is this is--this sits in the IT department. The IT department wants to own the project. They will hunt the resources, right? No one wants to outsource necessarily, right? So it's a lot about, you know, internal sort of power and the IT department will say it till the brass level that, 'Oh, we can't outsource this. This is too critical or it's too hard to do external and whatever.' It's, you know - it's job protection at the end of the day." External Platform Executive)* *"Look at how bank executive boards are constructed, right? Head of lending to SMEs, head of lending to consumers, head of this product, head of that product, they've got product mentality baked in to the organizational design. They don't have service at the top table. They don't have customer insight at the top table. They don't have innovative services at the top table. They have big dumb products at the top table inculcated into the organizational design which makes it impossible for them to actually innovate in anything other than a 'you boys and girls can play with the colorful bricks' sort of way. <Large bank> had to shoot their entire executive and put the data guy, the digital guy, in charge in order to make any kind of breakthrough." (Industry Expert)* *"It really depends on the individual within a bank. I've met some people who have not a clue what it means, some people have a medium understanding and some people have a fundamental understanding. I think it really falls down to the individual in that institution, it's siloed. Some people who are in the bank, they think 'it's got nothing to do with me.'" (Incumbent Bank Executive)* *"This new environment is very challenging for [established banks], and there are no precedents; and so we're all figuring this out together to some degree, right? And clearly the banks' ability to move fast is just not existing, and not just because they're big but I would say more because of the regulatory framework that they operate within, where they can't switch on the dime." (External Platform Executive)* *"It's like-- we don't just provide connectivity. We have sort of a vision of how payments and access to data will be performed in the future. We have sort of a pretty extensive product roadmap where we think this whole thing is going and that resonates very well." (Platform Vendor Executive)* *"The bank has very little knowledge of what it's doing and why it's doing it. It just does what it's always done for the last 20 years." (Industry Expert)* *"It's the way the executives in banking are incentivised, such a project would jeopardise, at least this is how many see it, will jeopardise the career of some executives, they say okay, I don't know if it works or if it doesn't work, if it doesn't work I lose my job, if I lose my job at this high level where I am, okay, where do I go, there are three more banks apart from mine, that's the play all the time. And they don't risk their jobs for such projects."(Industry Expert)* *As ever bankers are keen to trot out the 'you're more likely to get a divorce than change your bank account' factoid. People don't change their accounts by closing them. They stop interacting with them. Closing an account is an arduous process and closes off something customers may need in the future. Instead they're far more likely to just set up standing orders that transfer their money from one account into another the second a payment hits. They've left, but the bank doesn't realise it. (Industry Expert)* *"The disadvantages [the fintechs] got is running out of money, having their time wasted by people who want to collaborate and don't know how." (Industry Expert)* *"There's a cultural clash in that the banks want to move slowly and the fintechs want to move quickly and take a slightly greater degree of risk." (Incumbent Bank Executive)* *"For us, [customer onboarding] is a slow clunky process. [...] So we brought [Fintech] into [Incumbent Bank] to substitute the passport, in branch checks. And it's fine, you can put that in, but the effort required to actually get [Fintech] to do the screening of that was enormous. It actually went up to board level because the people were nervous about it. [...] To pluck those things out and*

	put them in, it's, A, hard to break, dismantle the process. And B, it's hard to sell it internally to the risk stakeholders." *"I think there's also a component that as people are becoming more and more aware of their data and how that's being used, on the one hand it's helpful to be able to serve your customers better and there is a push to do that, but there's an opposing and often more powerful force to say, 'Keep it inside the bank's infrastructure where we know it's safe and we know how it's treated, we know how it's handled.' Just to try and get that level of scrutiny around your fintech suppliers is hideously complicated."*
Drivers / Challenges of Platform Curation	
Technical	*"The value added is on the side of matchmaking but also on reducing transaction costs by lessening friction through providing a single API for developers to work with. Fintechs benefit from having access to the banking world in terms of offering their products and services to more than just one bank. For them, attracting more fintechs increases the possibility of more banks joining and vice-versa. Banks, on the other hand, benefit from being able to offer 3rd party solutions and tap onto new value for customers much more quickly compared to doing all of it themselves." (Industry Expert)* *"In an environment where banks need to open up to fintechs, the APIs would need to cut through all these vertical pillars in the banking infrastructure. This is an important challenge for small-scale startups, reducing their ability to take advantage of the opportunities that can be created by PSD2 as well as reducing the potential benefits incumbent banks could gain through complementarity." (Industry Expert)* *"We see that in the sense that both sides have a need, right? On the one side, regulation is driving the banks to open up access and even banks themselves [want] one single point of access to their competitors. So, banks have to provide open access and they also sit on the other side of the ecosystem where they want to access. […] So, we then can broke in that relationship, yeah. So there's a benefit to all of the ecosystem." (External Platform Executive)* *"The whole point is as a platform provider is to have a large ecosystem and make it as easy as possible for third parties to join or developers to join." (External Platform Executive)* *"I see there's a B2B2C route of kind of publishing our product. They have the customers, we have the tech. So if we partner together, we bring the product to customers quickly." (Fintech Executive)* *"Fintech complements rather than threatens banking institutions. In my experience, banking has always been about technology, so today's fintech innovation boom represents evolution rather than revolution for traditional banking. It is supplementing and diversifying the existing financial system - not replacing or disrupting it. Big banks and fintech startups have a great deal to offer each other. Banks have a large customer base, stable infrastructure, assets and regulatory know-how. Startups provide out-of-the-box thinking, technical expertise, and agility to adapt quickly to change. Together, they can be far more successful at improving the financial services and customer experience than if they compete against one another." (Incumbent Bank Executive)* *"We need the banks to get to the consumer, and the banks need us, we are the small guys who can innovate; but even if they realize that, how do you move a giant at the same speed as yourself?" (Fintech Executive)* *"Actually, it is in the RTS [Regulatory Technical Standards]. In November last year [2017], the banks were made responsible for any possible problems that could appear in the chain between the customer and the bank. So, if the customer says that they have fraudulent transaction in their account, even if it was originated through a third party, the bank needs to immediately reimburse the customer. Afterwards, the bank needs to prove what happened. They carry the whole responsibility and the burden of retaining information on each transaction, which is difficult and honestly not fair." (Bank Informant)* *"There are really good fintechs that, maybe, if you're looking at user experience, it would really make the onboarding very straightforward. That can be quite complex in a number of banks, so they can assist on that. I think there are a number of fintechs out there taking advantage of the open banking regulations, [...] provid[ing] a 360-degree view of all of your financial relationships which again, could be very helpful to a bank because if they're looking to lend you money for a mortgage, if they can see what your assets are across your entire financial relationships, they might be in a position to do a much better offer for you than if they're just restricting what you're doing with that particular bank, right? So yes, there's a whole area in the area of risk and regulation as well where there are some fintechs that help with the whole compliance part of things, and the fraud part of things that certainly would improve customer experience significantly."* *"I think it's the combination of the culture. So you have a culture of steady ahead. You have a cash cow and all you have to do is, don't break the cash cow, don't do anything which is too risky. [...] [Also] the character of people or the nature of the people in those organisations who buy into that culture. So you culturally don't have very many people who would come in and really want to do stuff and really want to drive things forward. [...] I think if you're there for 35 years or 37 years doing the job you've been doing, you have a different appetite to disrupt things and change things and really think about how you can do things differently,*

	to someone who's maybe joined last year from a different industry and build something in the past. Whereas you don't have those type of people in the neobanks typically. Typically, people come from backgrounds where they've moved around and they've built things and they grew things and there wasn't that steady state to look after. So they have very much a growth mindset. [...] Whereas the big banks, there's the whole too big to fail mentality. Let's manage the risks. Let's not do anything too hasty." (Fintech Executive)

Cultural / Competitive	*"Yes, we want to collaborate with fintechs where they provide additional services that we don't do ourselves today and that we could sell for our clients, tick, easy. But what if we could collaborate with a fintech that basically offers banking services but does that better than we do, with a better customer experience or cheaper or whatever? That's just happening at the moment and none of us has experienced it before. Collaborating for something that we don't do is a lot easier."* *"So we clearly need banks, but for us to survive, to get other banks as customers, we have to hold on to our brand and become visible to the consumers, but banks don't like that, naturally. So it's a zero-sum game and we're at the losing end..." (Fintech executive)* *"I don't mean "open banking" in the regulatory sense, but in the sense of a business model. A bank that historically controlled everything is now open to everything."(Industry Expert)* *"If you [banks] start from where you are, you assume that you have the right to survive, which you don't. Whereas, if you start from the consumer you might end up with something that looks a lot like you or nothing like you." (Industry Expert)* *"If tomorrow we give access to our clients' data, we have to be extremely prudent. How do we select the fintech to whom we are going to open this API, this is very important stuff; we're talking 52 million clients that entrust us with their money." (Incumbent Bank Executive)* *"We are up against a tectonic shift in business models in banking. Banks used to own the customer experience, it's going to be much more about solutions, and banks are going to be only one part of that ecosystem. They need to get used to that." (Industry Expert)* *"I guess they have to realise that the value they can bring to the table is to create that right, trusted environment and service and ecosystem, rather than try and do everything through their own product offering and through their own direct brand."(Industry Analyst)* *"We are forced to share this data through regulatory change, but the liability always comes to the bank who has got the deepest pockets to fix this when something goes wrong". (Incumbent Bank Executive)* *"Regulators are saying that banks should be supporting fintechs, but regulators are also being extremely punitive with us when something goes wrong…And banks are stuck in the middle, we want to support these fintech companies but actually also the regulatory bit is not negotiable, right?" (Incumbent Bank Executive)* *"Let's say, if a bank doesn't want to be open it will not open, it will serve your data and it's not very much. So in, because the regulation was poorly crafted in my view, it didn't lead to the opening that they were expecting, to enable more competition, and so on. Banks still control the stack, and they didn't change anything in the architecture, anything fundamental." (Industry Expert)* *"The fact that the regulation was badly… was really badly crafted, in the sense that they make the bank responsible for a hell of a lot of stuff, so if you use a third party application, and somebody through I don't know what methods, initiates the payment on your behalf, goes through the application and you contest the payment, you say this is not mine, I want my money back. The bank has to give you money back immediately, yeah, so you didn't touch the bank platforms, you, or somebody used a third party application on your behalf, or not even the application, their application was crap and they managed to go through it through various methods… And the third party has no responsibility and the third party doesn't have to have a contractual agreement with a bank and the third party doesn't have to go through at least a vetting process." (Industry Expert)* *"With so much focus on technical standards, the open banking world lags significantly in working through issues of inter-party responsibilities." (Industry Expert)* *"Banks have been fined for getting things wrong; therefore, they have created huge compliance burdens on top of what they have previously. That becomes an issue now..." (Fintech Executive)* *"9/10 times, when banks comply with any regulation, they comply with the letter of the law not the principle, because they've gotten in so much trouble in the past for not complying with the letter of the law. The fundamental issue here with all of those regulations is that the fundamental intent of the regulation is to change your business model. If you comply with the letter of the law trying to hold onto your biz model, you will fall down somewhere. There is this curve which I have no numbers for- Complying without thinking about your business model will see you out of business in the long run." (Industry Expert)* *"Fintechs need data, so they ask regulators to make it happen. But of course, this brings about all sorts of issues in data protection. Banks have a lot of regulation, the regulators are coming now and saying "you guys need to open up", but this is not*

Third Party Platforms	*"We could respond more directly to banks, how they would like to do it, but I think that's for us shortsighted. I think the market will benefit from an open system, and if we are a significant player in that market we will ultimately benefit. So yeah we could potentially charge a bank more by giving them the ability to limit the scope, for example, but we don't believe that that's creating an attractive ecosystem that attracts customers and fintechs. At the end of the day if there is no traffic in the ecosystem, we lose." (Founder)*