



Delft University of Technology

Case Study 4

Financial Services Provider

Plugge, Albert; Nikou, Shahrokh

DOI

[10.1007/978-3-031-51528-6_9](https://doi.org/10.1007/978-3-031-51528-6_9)

Publication date

2024

Document Version

Final published version

Published in

Digitalisation of Global Business Services: Orchestrating the Enterprise Ecosystem

Citation (APA)

Plugge, A., & Nikou, S. (2024). Case Study 4: Financial Services Provider. In A. Plugge, & S. Nikou (Eds.), *Digitalisation of Global Business Services: Orchestrating the Enterprise Ecosystem* (pp. 181-198). (Technology, Work and Globalization (TWG)). Springer. https://doi.org/10.1007/978-3-031-51528-6_9

Important note

To cite this publication, please use the final published version (if applicable). Please check the document version above.

Copyright

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

Takedown policy

Please contact us and provide details if you believe this document breaches copyrights. We will remove access to the work immediately and investigate your claim.



9

Case Study 4: Financial Services Provider

In this chapter, we describe the fourth case study, which is a global operating service provider specialised in financial services. We first sketch out the context of the service provider, and next, describe how they established the delivery of financial business services (FSSC). Then, we elaborate on the antecedents that are part of our research. As a final step, we analyse the findings and summarise our conclusions.

9.1 Context of the Case Study

The financial services provider operates on a global level and offers both business process and IT services to their customers. Their areas of expertise include digital, engineering and cloud services that include traditional, transformational, and future needs. The provider acts in all commonly known industries such as banking, manufacturing, telecommunication, energy and utilities and public sector. From a technology perspective, they established strategic alliances with technology suppliers who are perceived as market leaders in their respectable fields of expertise (i.e. Microsoft, Oracle, Salesforce, SAP, Google Cloud, Blue Prism etc.). An important ambition of the service provider is to support their

customers to become a sustainable enterprise arguing that businesses are using technology to achieve an equitable workplace. The service provider acknowledges that they are committed to focus on long-term value creation for all stakeholders and incorporates Environmental, Social, and Governance (ESG) practices to underpin a sustainable present and future. In doing so, they focus and aim to contribute to the United Nations Sustainable Development Goals (SDGs).

Importantly, the financial services provider has established a commendable reputation in the market regarding transformations, including customers business models, service portfolio, technology, and digitalisation. They provide services on a global level that are supported by delivery centres located in the United States, Europe, and Asia-Pacific. In particular, the service provider aims to innovate customers businesses by establishing innovation hubs. These innovation hubs are staffed with representatives of their customers, their own organisation and start-ups and scale-ups. By creating a business ecosystem supported by state-of-the-art technologies, all stakeholders are able to create value for their own organisation and to the ecosystem as a whole.

As the provider's strategy is to fulfil a best-in-class position in the market they acquired a banking license in one of their geographies. Their objective to acquire a banking license is twofold. First, they want to understand financial services in-depth and next suggest improvements to increase the quality of existing services. In doing so, the provider has an in-depth understanding of all relevant financial activities which is helpful to advise their customers. Second, based on an in-depth understanding of financial services in-house digital solutions can be developed and implemented to decrease the cost level of existing services while increasing their quality. By embracing digitalisation new services can be developed and integrated with their business services portfolio.

One of the interviewees mentioned that *“When providing digital solutions our customers benefit from new solutions, such as financial calculations, that leads to more empowered customer stakeholders. In addition, as we develop and test digital solutions in-house, we know which one of them makes sense in a customer context. By digitalisation we as a provider are able to launch new financial services quicker than before. An advantage of*

digitisation is that it offers the opportunity to create real time experiences for end users” (Source: Senior Vice President Europe).

In the context of the provider’s strategic vision, we find that they apply an ecosystem strategy with both their customers and other service providers. Their ecosystem vision is based on the principle of an open network that allows multiple providers and their customers to collaborate in improving existing financial services and designing new ones. As an example, insurance firms collaborate with technical suppliers to support households in solving technical issues. The provider under study took the initiative to develop digital financial services (e.g. digital supported insurance policies, refunds) based on the input of various technical suppliers, which in the end increases customers satisfaction. This approach is related to the provider’s strategy to build innovations hubs or innovation studio’s that allows customers, suppliers and third parties to focus on digitalised services.

9.2 Financial Shared Service Centre

The service provider under study provides end-to-end digital service offerings that are organised as a financial shared service centre (FSSC). The FSSC provide financial services to their customers in which they embrace digital disruptions to change existing business models. For example, collaboration with Fintech start-ups to rethink financial operating models by creating banking simplification, transparency, and customer experience, and implementing regulatory directives to support financial services. To achieve these goals, the financial services provider invests in financial-oriented start-ups and application modernisation. Their aim is to enable their customers to become a technology platform organisation providing financial services. Their finance delivery team comprise of various capabilities including financial experts, digital and automation subject matter experts and data analysts to support financial transformations. From a financial perspective, they provide services in the field of Order To Cash (O2C), Procure To Pay (P2P), Record To Report (R2R), performance management and transformation. In the context of digital technologies, they support Artificial Intelligence (AI), Machine

Learning (ML), computer vision techniques and integration with Robotic Process Automation (RPA) type of solutions.

Impact of Digitalisation on Employees

When providing services to their customers the financial services provider is faced with continuous changes both from a financial services perspective and from a digital technology perspective. This impacts the knowledge and experience of their employees as they have to adapt regularly. For instance, in the field of understanding radical type of digital technologies. The financial service provider invests in training and education of their employees continuously as a mechanism to stay relevant in their field. From a practical view, employees need to keep up the pace of learning and explore the value of digital technologies. Today, education, skills, and experience in the context of emerging digital technologies, like digital platforms, is even more relevant. In particular, customers' demands that the financial services provider becomes accountable when providing financial services that are grounded on digital technologies. Therefore, training is an equal responsibility of the provider and their employees.

One of the interviewees argued that *“if you do not have the skills, you are out as it not about experience anymore. The technology changes so rapidly and becomes so complex that even skilled colleagues are severely challenged. To counter this challenge, we focus on the foundations: how to operate (governance), do we have the process in scope and how to we train our experts to remain skilled resources”* (Source: Delivery manager).

To ensure that employees are well trained the provider established an internal capability and competency unit in which new digital technologies are shared, explored, and educated. To support employees in their education journey, the financial services provider applies various mechanisms. As an example, we find that a certain percentage of their time needs to be reserved for training and education. In doing so, the provider ensures that employees upskill their capabilities. Besides joining obliged education programmes employees are encouraged to explore digital focus areas that reflect their passion. The rationale behind this mechanism is that employees who are motivated intrinsically perform better in practice. We find that employees are incentivised when joining education and training programmes. They are rewarded from a recognition perspective;

for instance, by publishing their names and expertise in internal and external magazines, such as achieving certain technology related certificates. This mechanism addresses employees' intrinsic motivation and passion of using technologies.

One of the interviewees mentioned that *“Change is always constant! An important asset of our company is our capability to embrace new technologies as they support our financial services. We pay a lot of attention and effort to educate our employees in order to support them in their daily work. This is recognised by our customers as they acknowledge the up-to-date skills of for instance our engineers, delivery managers and subject matter experts in providing financial services”* (Source: Delivery manager).

From a similar view, the financial services provider offers their employees to switch to other type of technologies and fields and as such, encourage them to stay motivated. Based on the interviews we find that applying these mechanisms mitigate the retention risk of employees. One of the interviewees mentioned that *“We noticed that attention to education and training mitigate the risk of attrition. In the past we had a high degree of infant attrition, meaning that a significant number of employees left the firm within 12 months. By focusing on the personal motivation of our employees we noticed that the infant attrition rate reduced. This is a positive outcome that benefits our firm and customers”* (Source: Director financial services).

In addition, well-trained employees such as technical engineers, and digital technology experts contribute to the performance of the provider in supporting their customers. The goal of the financial service provider is to achieve 80% of motivated employees that as a result, provide value-added services to customers.

9.2.1 Plural Sourcing Strategy

From a strategic perspective we find that the financial services provider built all their financial services in-house. The rationale to provide services in-house is grounded in their expertise to develop and implement qualitative financial services to their customers. We find that the provider applied a plural sourcing strategy in the field of information technology specifically. To achieve their financial services goals the provider under

study established plural sourcing partnerships with multiple technology suppliers to design and develop financial services that are build in-house. Examples correspond to ERP suppliers like SAP, Oracle, and Microsoft, and digital technology suppliers like Aris, Blue Prism, Celonis, and UiPath. This strategy supports their aim to provide digital solutions, and by integration financial and digitalised services the provider is able to support their customers with attractive and relevant services.

9.2.2 Business Services Portfolio

When addressing the providers financial business services portfolio, we find that digitalisation has a significant effect on customers' demand on the use of existing financial services. Customers demand that financial services are based on digital technologies to respond on customers request swiftly. Although financial services like Procure To Pay (P2P) and Order To Cash (O2C) are predominantly supported by Enterprise Resource Management (ERP) systems, such as SAP, Oracle, and Microsoft, still some manual tasks need to be conducted. Examples are collecting additional data and verifying customers background checks. By automating current manual tasks, the financial services provider's business portfolio is digitalised further.

One of the interviewees mentioned that *“The impact of digitalisation on our service portfolio is 100%. For instance, during the Covid period our customers' end users worked at home but still have to conduct financial tasks. Our portfolio supports these tasks independent of an end user's location. We supported our financial customers by digitalising their branch offices and developed digital kiosks and point of sales systems within an office that can be used by a customer's customers. This shows that existing services were digitalised while new digital services have been introduced, which in the end all affect our financial services portfolio”* (Source: Director financial services).

Based on the interviews we find that the benefits of increased digitalisation of the services portfolio are twofold. First, customers benefit from a digitalised services portfolio as costs optimisations can be measured explicitly. Due to inefficiencies in their existing IT landscape, such a replacing manual tasks by digital tools and applying extreme automation financial services costs are decreased. The provider under study uses the

term 'automation to the bone' to apply continuous monitoring and improvements in their services portfolio to achieve this goal explicitly. The second benefit corresponds to the provider's organisation by integrating digital technologies (e.g. cloud hypervisors, low-code platforms) to build and provide financial services to their customers. Interviews reveal that technical engineers are in the lead to explore the added value of digital technologies. When relevant, they reach out internally to financial services teams to discuss business relevance. This digital experience driven approach is supported by developing frameworks and models to accelerate the introduction of digital financial services.

9.2.3 Modularised Business Processes

Interviews shows that business processes are essential in providing financial business services to customers. As mentioned previously, ERP systems rely heavily on automated business processes. Interviews show, however, that customer ERP systems have been customised over time to support their financial services effectively. This approach increased the complexity to manage and extend ERP systems and their automated business processes. We find that business processes have been modularised specifically to automate sub-processes. As such, modularisation is perceived to be a prerequisite to digitalise financial business services. As the degree of existing digitalised customer business processes may vary the provider under study developed three key business process strategies to support their customers. First, in case customers use their ERP systems from a systems of record view they do not affect the ERP core model. In this case, the provider opts the strategy not to modernise the legacy systems but extend ERP systems with digital technologies (e.g. RPA, ML) and automate "last mile" financial business processes. Second, in situations where a customer ERP landscape cannot be adjusted the provider use a modernisation strategy to start from scratch. This radical form of innovation means that a new ERP environment is build including highly automated business processes by means of digital technologies. Consequently, modularised business processes form the fundament to automate business processes. Such a new ERP environment includes RPA and ML bots and provides the opportunity to optimise business

processes by means of process mining tools. A third strategy is based on an incremental approach to modernise the ERP landscape. An example corresponds to develop and implement a billing application that is connected to the existing ERP system and avoid manual labour tasks.

One of the interviewees mentioned that *“The strategy to embrace digitalisation is related to the lead time and complexity to digitalise supporting financial business processes. For sure, financial business processes can be automated further, which take lesser time to conduct the same activities. As an example, in the past we needed three months to approve financial tasks, now by building an app we need seven days”* (Source: Digital solution architect).

The three strategies, all affect customers financial business processes although the impact may vary depending on the type of strategy. The decision to choose a specific strategy is based on a risk analysis and timing. A key finding is; however, that financial business process and digital technologies are interdependent and as a result, effect customers financial services directly. An example of digitalised financial business processes reflects a customer’s on-boarding process to welcome new clients.

One of the interviewees explained this change *“As the first on-boarding process step is to check the degree of efficient, it originally took 7 to 8 working days. This was caused by conducting multiple manual checks and balances. As we automated the on-boarding process and related sub-processes we were able to skip all manual tasks that resulted in an execution of maximal 2 hours. We introduced an automated workflow based on our digital platform to avoid redundant tasks and as a result, optimised the on-boarding business process. We continuously monitor this process to identify additional process improvements”* (Source: Director financial services).

Based on provider’s documentation, we find that digital technologies are used to conduct a deep dive in the business process logic as a mean to streamline business processes.

9.2.4 Customer Orientation

One view on how the provider pays attention to customer orientation is the role of their contact centre that handles customer requests. At operational level the provider analyses all incoming requests and provide

feedback to the respective customers proactively. Based on the feedback the provider discusses the need to adapt existing financial services or introduce new ones.

One of the interviewees mentioned that *“We support a global financial institution around the globe. Based on numerous end users service requests our contact centre analyses their root causes and bundle the outcomes in a small report. Next, our service delivery managers start to discuss the data analysis with the customer at central level. Often the customer does not have a clue about the number and type of all their end users’ requests. By feeding them with relevant data we verify if we have to change the financial services or not. In the near future we develop proactive analysis tools to support the customer even better”* (Source: Delivery manager).

We find that digital technologies are also used to explore opportunities. For example, with regard to data monetarisation, we found that data can only be used effectively in case of data coherence. Relationships between data monitoring, data analytics, and data reporting must be coherent to identify opportunities to improve financial services, such as financial bond products and insurance products.

9.2.5 IS Standardisation

The financial services provider acknowledges the opportunities that digital technologies may contribute when combining them with financial services. Their digitalisation strategy is based on three pillars. The first pillar corresponds to their global emerging technology team, which reports to the global Chief Technology Officer (CTO) directly. This emerging technology team, which collaborates with technology suppliers, is based on existing plural sourcing partnerships. This team fulfils the role of an explorative entity by understanding how an emergent technology actually works. Examples are the metaverse, crypto and contact computing. In case, an emerging technology is found to be relevant, it is discussed with the financial services organisation as part of the business process outsourcing department that forms the second pillar of the digitalisation strategy. The collaboration between the emerging technology team and financial services organisation aims to experiment emerging

technologies in the context of financial services. The focus of conducting experiments is to test how the functionality of a new digital technology contributes to financial services.

One of the interviewees mentioned that *“It is interesting to explore if it makes sense to use blockchain technology to support a customer’s insurance policies. To test its relevance, we build use cases first and as a next step, test blockchain technology. Another example is to experiment if a customer can do business in a customer’s metaverse environment. We check how to log on to the metaverse and see the customer’s various product offerings all without going to a physical bank. When valuable, the financial services teams include the emerging technology into their existing financial services or create new ones (e.g. payment services, retail banking, life insurances, clearing tasks)”* (Source: Digital solution architect).

The third pillar focuses on adapting financial services by means of emerging technologies and next adjusting the financial services portfolio. In doing so, customers may benefit from emerging technologies in the context of financial services. Based on interviews, we find that the provider is organised internally by establishing virtual teams. This approach encourages collaboration between various disciplines, such as the emerging technology entity and financial services organisation, and helps to understand digitalisation effects in customer organisations. By working in an agile way, new digital solutions are accelerated by onboarding financial services in a customer organisation.

To support certain type of financial services, ERP systems and digital technologies are integrated that supports an end-to-end business process analysis. We find examples like workplace services and chat bots that are based on an AI engine. The interviews show that the provider opts to use various emerging digital technologies rather than applying a full integration platform, which is also capable to analyse the data. To support financial business services the provider established various data platforms. These platforms are used to support multiple digital technologies by connecting technology suppliers. In doing so, the provider bundles internal and external resources effectively. An example of a data platform framework is illustrated in Fig. 9.1.

One of the interviewees mentioned that *“We use different options to exchange data. One way is to use digital technologies the other is to apply an*

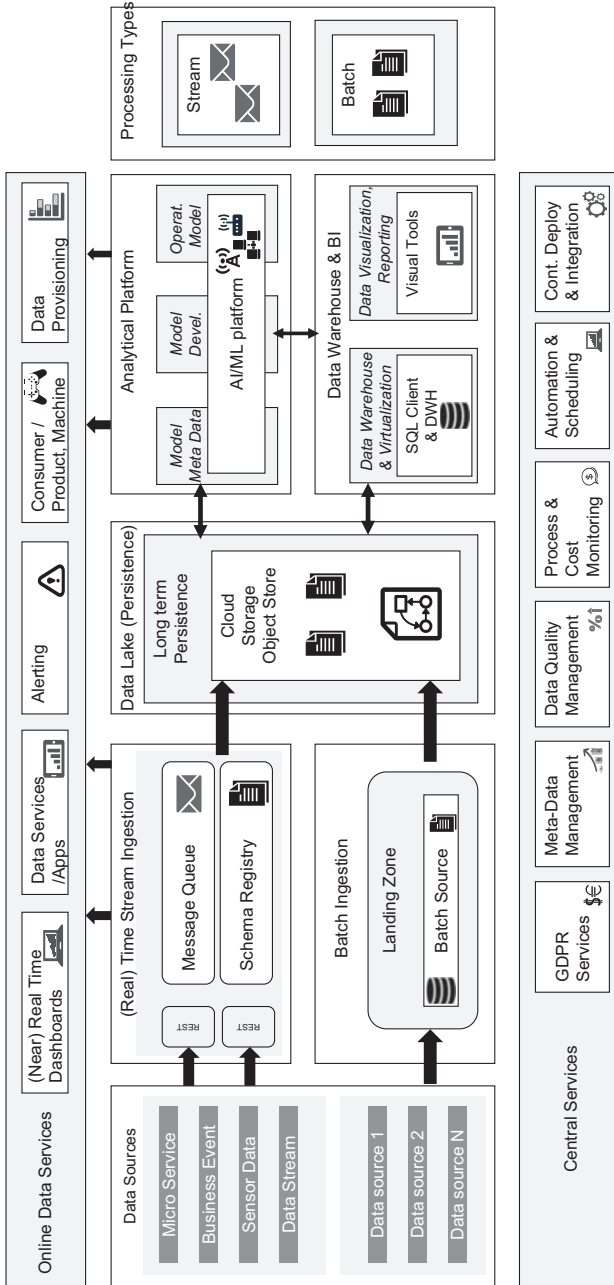


Fig. 9.1 Example data platform framework

API layer. Our API layer platforms support various digital technologies, like RPA bots and process mining tools, but they don't analyse the data, they just act as a middleman to interconnect the tools and technologies and exchange data. The rationale behind this approach is to speed up implementation lead times, which result in reduced operational risks and a smoother transition. We use API layer platforms as an open ecosystem approach, which is commercially termed as an open banking solution for our customers” (Source: Digital solution architect).

9.2.6 Managing Decision Rights

Addressing the relevance of applying digital forms of decision rights, our findings show two perspectives. The first perspective supports the role of digital decision making as part of more common financial business services. To some degree, automation may provide support for digital decision making, specifically in predefined routines. In case rather simple types of decisions have to be made, in which the risks are considered to be low, digital technologies are used in decision making. An example is the use of automated decision making in financial services that corresponds to Know Your Customer (KYC) type of activities. To automate digital decision making with regard to common type of financial services, we find an example in which the provider uses configurable systems. In the context of KYC types of services rule engines are used to configure information systems to automate rather simple type of decisions. Other examples of automated decision making refer to compliance and geographical checks that are required as part of financial transactions.

The second perspective highlights the conscious absence of more complex digital decision making. Interviews revealed that often manual decision making is preferred as governance mechanism. Various digital technologies have a dual option that is, both automated and manual decision-making features. As an example, we did not find that AI is used for automated decision making in a financial services context. Taking financial-related decisions by means of fully automated digitalised decision making, may result in financial risks and compliance issues. The same goes for automated calculations when using AI bots as part of

financial services. As customers are still worried about wrong outcomes, the financial services provider decided not to implement digital decision making in the context of complex financial services.

9.3 Analysis

9.3.1 Resource Orchestration Theory

From a resource orchestration theory perspective, we find that senior management decided to apply an internal and external ecosystem approach. On an aggregated level, the internal ecosystem comprises of a delivery arm and sales arm. The delivery arm of the financial services provider exists of multiple delivery centres that are organised at a global level. These product-oriented delivery centres focus on digital technologies and comprise of in-depth knowledge and experience. These centres can be considered as silos as each of them focuses on a specific set of technologies. In addition, the sales arm of the enterprise represents dedicated market teams, such as the financial services sector in which teams interact with their customers directly to ensure that financial services match with agreed contractual agreements. To create alignment between the delivery arm and sales arm, senior management established Centres Of Excellence (COEs) (e.g. data, cloud, digital technologies) that act horizontally across delivery and sales teams. Their main role is to interconnect delivery and sales teams by bundling internal resources. Senior management encourages internal collaboration by sharing knowledge and insights to explore opportunities. As a result, existing financial services may be adjusted, or new type of services initiated. This corresponds to Rai et al. (2012) who argue that knowledge sharing can be seen as a mechanism to overcome uncertainty and as such, enterprises should invest in building knowledge sharing mechanisms to support the exchange of information. These COEs fulfil the role of internal orchestrators as they coordinate the use of internal resources. The COEs are organised as horizontals and the interviews reveal that their employees are highly motivated to work across centres and teams. In doing so, the COEs

ensure collaboration between the subject matter experts (SMEs) in the delivery and sales teams, and as such, open up silos instead of breaking them down.

One of the interviewees point out that *“COE topics that are discussed with SMEs focus on customer problem statements, the impact of disruptive technologies on financial services, cost implications, and business benefits. As technologies change rapidly, sometimes we have to educate our customers, such as start small with the use of digital technologies. It’s OK to fail in case of innovation projects, and the value of initiating a proof of concept. As a result, customers apply a snowball approach to scale up internally while mitigating business risks”* (Source: Senior Vice President Europe).

In addition, senior management established an external ecosystem approach as their financial services composed of various technical components that are provided by multiple technology partners. Consequently, the financial services provider acts as an orchestrator to coordinate the bundling of internal and external resources. One of the interviewees mentioned that *“A relevant example is our KYC solution that need to be 100% compliant to match regulations. As an example, in case we need multiple tech suppliers, first we define who are the dominant and leading suppliers in their niche. Next, we organise internal labs to build and test the KYC integration platform and corresponding hard and software. Sometimes, we even involve our customers to conduct user acceptance tests. Finally, we initiate a demo to test and validate the solution with our ecosystem partners”* (Source: Director financial services).

The fact that the provider under study uses digital platforms (see KYC example) as a part of their business ecosystem, is consistent with Senyo et al. (2018) who argue that platforms can be considered as a main characteristic of a digital business ecosystem (DBE). Selander et al. (2013) state that a platform *“refers to a collection of tools, innovations and services that other DBE partners can use to enhance their performance, create innovations and collaborate”* (p. 53). This is consistent with our findings in which digital platforms are used as a foundation for the provider to develop financial services. Interestingly, the provider’s ecosystem approach also includes the involvement of their customers as relevant DBE partner (see KYC example). This corresponds to the ecosystem characteristic of openness. Often openness is discussed from a non-digital

platform perspective (Eisenman et al., 2006), however, digitality also makes a fundamental difference as 'openness does not merely relate to organisational arrangements like entrance and exit rules but also to openness of technologies such as APIs and software development kits (SDKs) (p. 128)'.

The case study of the financial services provider demonstrates that the external ecosystem of technology suppliers is interwoven with the provider's internal ecosystem and that bundling is used to integrate resources. This corresponds to Edvardsson et al. (2014) concept of institutions that are used to coordinate resource integration. Miller (2014) argues that an institution is "any structure or mechanism of social order and cooperation governing the behaviour of a set of individuals within a given human community" (p. 514). In this case study, we find that the COEs as internal ecosystem orchestrator apply institutions like cultural-cognitive elements (e.g. alignment, knowledge sharing), and normative elements (e.g. platform metrics, measurements). In a similar vein, the provider as a whole acts as an external ecosystem orchestrator towards technology suppliers using institutions like cultural-cognitive elements (e.g. architectural guidelines) and normative elements (e.g. platform specifications) as well.

Our findings on the presence of an internal and external ecosystem approach provide support for the existence of an enterprise ecosystem. Therefore, we argue that the role of institutions can be perceived as critical to specify the rules within the internal and external ecosystem not only to encourage the integration of resources but also to provide enterprise ecosystem stability and meaning.

9.3.2 Boundary Resources

Literature (Eaton et al., 2015; Yoo et al., 2010) demonstrates that the concept of boundary resources is often used in the context of highly distributed arrangements in which independent actors engage in innovations by using opportunities and limitations of digital arrangements. This study shows that the financial services provider established data platforms that are used in distributed arrangements, which bundle internal and external resources. The data platforms consist of information systems that

are based on cloud platforms and include additional features, such as data bots and ChatGPT in the AI space. These type of digital innovation arrangements will be both bounded by digital artefacts (Leonardi et al., 2012) and distributed architectures without central control. The latter allows for more complex behaviour by independent actors with emergent side effects. Examples are, challenging existing social categories and control points, by the emergence of new ones (Tilson et al., 2010). More specifically, our findings on data platforms reveal accelerators that include building and deploying frameworks, custom models, and best practices around these technologies. These could thus be conceptualised as boundary resources (cf. Ghazawneh & Henfridsson, 2013) that mediate between the financial services provider (e.g. platform owner) and technical suppliers (e.g. complementors).

One of the interviewees revealed that *“Dealing with proprietary (closed) models is a real challenge as we cannot relate the data to its context. Therefore, there is no meaning to the data and as a result, to its overall use. Furthermore, we noticed that it can take months before we get approval from data owners that may shed some light on the data context”* (Source: Digital solution architect).

Our analysis demonstrates that the introduction of new digital solutions, such as financial driven data platforms, contribute to implementation success of financial business services. Importantly, we find that the complexity to organise financial business services increases as knowledge and skills of subject matter experts is fragmented across the enterprise and external suppliers. We argue that a federated approach may support resource integration tasks in which policies are defined at central level while operational tasks are executed on a decentral level. Boundary resources (e.g. models, architecture blueprints) can be developed at central level to support standardised solutions that can be used at decentral level. One of the interviewees mentioned that *“During the last two years we see data as a product that form a part of common platforms. When using data, we apply a mesh approach as operating model as our main goal is to create scalable solutions. In fact, multiple internal and external data experts contribute to our ecosystem approach. Hence, we use the frame organisation follows the data strategy to underpin that data is the leading factor”* (Source: Delivery manager).

9.4 Conclusion

In this chapter, we studied a financial services provider by focusing on how financial business services are managed and developed by their FSSC. More specifically, we studied the antecedents as described in our research model (see Chap. 4).

The results of the interviews indicate that the provider aim is to develop a business services portfolio in which financial business services are fully digitalised. To achieve this strategic goal financial business processes have been modularised. In doing so, the provider is able to automate all sub-processes steps. From an IS standardisation perspective, we found that the provider's plural sourcing strategy provide opportunities to integrate digital technologies by means of various standardised data platforms. As a result, the provider is able to apply various financial services strategies to their customers, which are affected by their digitalisation appetite and operational risks analysis. Importantly, we found a proactive customer orientation strategy to indicate new customer demands with regard to financial business services. Based on our analysis we found that only routine-based decision rights were digitalised by means of digital technologies. We conclude that the provider's strategy and approach to digitalise their business services portfolio, decreased the implementation effort of business services.

We found that the provider applies an ecosystem approach, in which two orchestrators bundle and integrate both internal and external resources. This approach contributed to decrease business services implementation challenges as information between departments and external suppliers is exchanged by applying collaboration mechanisms. Consequently, financial business services are managed from a holistic view to avoid operational issues. To summarise, we found evidence that the provider, and more specifically the FSSC, paid attention to all antecedents as part of our research model. We conclude that modularised business processes can be seen as an essential antecedent in which they act as a mediator for IS standardisation and customer orientation specifically. The importance of a business services portfolio, modularised business processes and IS standardisation is consistent with the outcomes of our

fsQCA analysis. More specifically, modularised business processes were found in three out of seven solutions while once as a core condition. IS standardisation is considered to be an essential condition in four out of seven solutions.

References

- Eaton, B. D., Elaluf-Calderwood, S., Sørensen, C., & Yoo, Y. (2015). Distributed tuning of boundary resources: The case of Apple's iOS service system. *MIS Quarterly: Special Issue on Service Innovation in a Digital Age*, 39(1), 217–243.
- Edvardsson, B., Kleinaltenkamp, M., Tronvoll, B., McHugh, P., & Windahl, C. (2014). Institutional logics matter when coordinating resource integration. *Marketing Theory*, 14(3), 291–309.
- Eisenman, T., Parker, G., & Van Aystyne, M. W. (2006). Strategies for Two-Sided Markets. *Harvard Business Review*, 84(10), 92–101.
- Ghazawneh, A., & Henfridsson, O. (2013). Balancing platform control and external contribution in third-party development: The boundary resources model. *Information Systems Journal*, 23(2), 173–192.
- Leonardi, P. M., Nardi, B. A., & Kallinikos, J. (Eds.). (2012). *Materiality and organizing*. Oxford University Press.
- Miller, S. (2014). Social institutions. In E. Zalta (Ed.), *The Stanford encyclopaedia of philosophy* (pp. 514–518). Stanford University.
- Rai, A., Keil, M., Hornyak, R., & Wullenweber, K. (2012). Hybrid relational-contractual governance for business process outsourcing. *Journal of Management Information Systems*, 29(2), 213–256.
- Selander, L., Henfridsson, O., & Svahn, F. (2013). Capability search and redeem across digital ecosystems. *Journal of Information Technology*, 28(3), 183–197.
- Senyo, P. K., Liu, K., & Effah, J. (2018). A framework for assessing the social impact of interdependencies in digital business ecosystems. In K. Liu, K. Nakata, W. Li, & C. M. C. Baranauskas (Eds.), *Digitalisation, innovation and transformation* (pp. 132–143). Springer.
- Tilson, D., Lyytinen, K., & Sørensen, C. (2010). Digital infrastructures: The missing IS research agenda. *Information Systems Research*, 21(5), 748–759.
- Yoo, Y., Henfridsson, O., & Lyytinen, K. (2010). Research commentary-The new organizing logic of digital innovation: An agenda for information systems research. *Information Systems Research*, 21(4), 724–735.