

Case Study 2 Employment Agency

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Case Study 2: Employment Agency

In this chapter we describe the second case study, which is a global operating employment agency. We first outline the context of the employment agency. Next, we describe how the agency established their Financial Shared Service Centre (FSSC). Then, the antecedents that are part of our research will be elaborated. As a final step, the analyses of the findings and concluding remarks will be presented.

7.1 Context of the Case Study

The employment agency is a global operating full-service HR service provider founded in 1960. The enterprise's main goal is to support as many people as possible in realising their true potential throughout their working life. Their services range from staffing, recruitment process outsourcing, career development, online talent acquisition, re-integration, outplacement, and payroll services up to strategic HR consultancy and full-service recruitment solutions in various industries. The enterprise consists of multiple labels in which each has a specific expertise to support the services as addressed. In 2021 the enterprise, which includes more than 40,000 corporate employees, helped more than two million

people find a job and advised 200,000 clients on their HR needs. A key principle of the enterprise is to use data and technology to support their consultants across almost 5000 locations in almost 40 international markets. The combination of technology and building relationships makes their offer quite unique. The enterprise's core values illustrate that HR related services are embedded in sharing knowledge and creating trust while focusing on corporate social responsibility. As described by the interviewees, the enterprise culture can be characterised as customer-centric and adaptive.

The enterprise is affected by various societal, and technology-driven trends, which have influenced their employment services offerings. In addition, the globalisation, social media, retirement waves and talent scarcity, to name a few, have a significant effect in supporting people to find another job. At the same time, an important trend is observed, which is the role of governments in various countries that is decreasing when it comes to employment and personal work-related circumstances. As an effect of the COVID-19 pandemic, the enterprise experienced a significant backdrop in jobs as multiple firms had to decrease the number of employees (great resignation). Currently, the enterprise experiences a changing behaviour amongst job seekers in Europe. In particular, youngsters are very much influenced by social media and have a broad choice in selecting jobs. The enterprises conducted a work monitor study, which shows that employees in various types of companies are open to switching to another job when an interesting opportunity occurs. This trend influences the dynamics in the market and increases the urgency for companies to attract and retain scarce personnel.

In order to handle talent shortage challenges effectively, timing has become essential in finding and matching talent. The employment agency has to provide job opportunities "on the spot" to attract job seekers and mediates (negotiates) with clients to come to an agreement. When the enterprise is not able to respond to job seekers, they switch to other agencies immediately. Hence, timing and response times have become even more important than before in the pandemic situation.

7.2 Financial Shared Service Centre

The unit of analysis of the current study is the enterprise's FSSC, which provides services to both internal departments and external clients. The enterprise's FSSC acts as a centralised hub in providing financial services in which technology plays an essential role. The FSSC aims to automate manual tasks as much as possible, like employee and contingent talent assignments, timesheets, and invoices, supported by automated tools and intelligent analytics. In doing so, financial-related processes are automated, and accessible for end users (e.g. internal departments, external clients) by means of an HR portal (e.g. web and app). The FSSC services include financial onboarding, payroll, benefit administration, scheduling, and analytics amongst others. As a result, end users benefit by spending less time on administration, less paperwork, error free billing, and reduction of financial administrative processes by simplifying approval processes for time data.

The FSSC divides their tasks amongst two teams. The first team focuses on financial services, such as Procure-To-Pay Automation (P2P), and invoicing. These activities can be characterised as predictive, standardised, and routine-based. The second team focuses on operational services, in which employees specifically handle exceptions as an outcome of automated tasks by means of digital solutions such as Robotic Process Automation (RPA), Machine Learning (ML), and Artificial Intelligence (AI). As an example, the financial services team coordinates the P2P process that includes invoices, which were originally handled manually. During the past years, these types of activities have been fully digitalised by means of RPA solutions. As P2P activities are rather straightforward and standardised, it was rather easy to seemingly automate these activities. The operations team is responsible for exceptions handling and quality control. As a result, P2P process activities are fulfilled as efficiently as possible.

As one of the interviewees mentioned: *“Originally, we had 15 FTE to support the P2P process, today we have 7 FTE in place, while the lead times to provide tasks are decreased. This was a gradual development as we transformed from manual to automated tasks. Today, we focus on E2E financial*

process chains, for instance spend analytics on a global level that is a scalable solution. We automated the last mile by adjusting existing platforms such as RPA and OCR” (Source: Product owner Process & RPA).

Currently, the enterprise as a whole is transforming into a digital enterprise by means of harmonising the enterprise’s IT landscape. Consequently, the FSSC and IT department are jointly working on future digital financial services and, in doing so, they have been better able to match clients and job seekers needs. The FSSC aims at digitalising the financial services as much as possible. Digital solutions that support financial processes are organised within the FSSC, such as RPA, process mining and task mining. From an organisational perspective, the FSSC implements the agile principle of “*tribes*”. By means of themes, such as legal, law, legislation, tribe participants develop new digital solutions. Next, they study the impact of future services and proofs of concepts and share lessons learned in which product owners coordinate activities. Consequently, the current IT and digital landscape is changing rapidly due to the overall digital transformation programme.

In this regard, one of the interviewees mentioned that: “*We organised RPA solutions closely related to the business. The challenge is to link automation to our business strategy and identify how digital solutions contribute to creating business value and benefits. At a strategic level this is quite a challenge as we also do not know what our business strategy looks like in five years. We use a reversed engineering approach and start with applying technological opportunities and learn on the spot. To some degree we fear digital solutions as we do not know their effect on aspects like jobs, privacy, organisation, and governance. From an IT view, this is much more clear. We aim at being a full digital enterprise which must be reflected in the capillaries of our organisation” (Source: IT director).*

Impact of Digitalisation on Employees

At the start, FSSC employees had the impression that RPA bots became a threat to replace their work. As the FSSC gradually changed over time and was impacted by fierce market competition, increase of job seekers, and new technologies, the employees did not experienced automation as a threat anymore. As both market conditions changed and internal employees experienced an increased work pressure, digital solutions were

embraced internally. The analysis of the content of the interviews shows that the degree of digitalisation needs to be increased to keep up pace with dynamic market conditions. This is mainly due to the short lead times to match clients and talent. Today, this matching process is expressed in hours and not days. By digitalising FSSC processes and corresponding tasks, employees are able to support the hiring of new internal talent more efficiently. The interviews revealed that some employees were not able to cope with these changes and left the enterprise as the pressure to provide tasks was perceived to be out of their comfort zone. As an effect of the rise of digital solutions, the retention rate of employees may increase. In turn, this causes a challenge as the FSSC financial services support both internal business units and external client organisations and job seekers. This may influence the quality and volume of the financial services provided by the FSSC in the long term.

One of the interviewees mentioned that: *“From an external view, the retention rate amongst temporary workers is extreme high. Our aim is to achieve a higher degree of bonding with temporarily workers, which positively affects their stay at client organisations. A low retention rate means a significant business value for our clients. Therefore, we have to develop and introduce new functions like ambassadors and trainers to create a nice environment and even locations, this could be attractive for the youngsters. Internally, we notice that some FSSC employees struggle with digitalisation, which is still a low percentage. We use dashboards to monitor our internal retention rate. The challenge is to find out what types of skills are required to develop new strategies to retain our own employees. As we are closely aligned with primary business services, we have to develop these strategies and create business driven insights”* (Source: Business director).

Today, the FSSC noticed a new challenge due to the raise of digital solutions. Employees only face the output of automated transactions that refer to exceptions, or, in other words, what goes wrong. This affects employees' behaviour as the impression could lead to the idea that employees caused these exceptions. This idea results in a reduced level of job satisfaction, which requires attention from an enterprise cultural perspective. Importantly, applying digital solutions requires a more holistic view on handling financial business services as processes need to be studied from an end-to-end (E2E) perspective. As an example, we find that it

is easier to hire employees with process knowledge and experience while having limited experience with digital solutions (RPA). The FSSC experienced that digital solutions can be learned more quickly compared to understanding complex E2E financial processes.

As an example, the administrative E2E matching process includes the following steps: find a candidate, search and match, hire a candidate, onboarding, and placement at a client organisation. The FSSC studied both perspectives and learned that the process approach is more successful in speeding up the digitalisation journey. In parallel, we find that the FSSC invested in the digital education of their employees to make them tech savvy; for instance, some employees are trained to become data specialists. All employees working with RPA solutions and process mining solutions were trained and learned various programming languages to adjust platforms and processes.

In the near future the FSSC expects that new competitors will appear as multiple financial services can be automated, and corresponding processes digitalised. To stay relevant and competitive, the FSSC develops new digital solutions in collaboration with Google, such as AI matching and execution of financial services to job seekers and clients. The rise of digital driven business services may even result in adjusting the enterprise's current business model by introducing Human Resource Outsourcing services, Recruitment Process Outsourcing services and Finance and Accounting Outsourcing services to create added value. Due to the rise of digitalising financial services, the enterprise representatives who were interviewed expect that exceptions will remain, which results in providing more customised type of financial services. As such, it is expected that the FSSC will transform from providing standardised services (operational excellence based on automated solutions) to customised services (operational excellence based on exceptions handling).

As one of the interviewees mentioned: *“Our development of dashboards shows that an employee's digital colleague handles x jobs per hour successfully (take the robot out of the human). In the near future, we expect that pop-ups on an employees' screen generated by bots will proactively collaborate with human colleagues in fulfilling financial tasks. This will result in a new type of people-centric coaches who will guide the interaction between humans and bots”* (Source: Principal staff manager Business Services).

7.2.1 Plural Sourcing Strategy

The employment agency as a whole includes multiple Operating Companies (OpCo's) that originally decided to implement and operate IT and digital systems and applications independently from other OpCo's. Since the enterprise focus had changed, deciding to apply a more holistic view on E2E business processes, each OpCo faces interdependency challenges with other OpCo's. To cater for changing circumstances, such as law and legislation, the enterprise initiated a digital transformation strategy and plan to harmonise the IT and digital landscape. Examples include Customer Relationship Management (CRM), Enterprise Resource Planning (ERP) and tracking systems. To bundle scarce resources and knowledge, Centres of Excellence were established at a local country level that provides support in case of specific digital challenges. In addition, a global operating model has been implemented to support the harmonisation approach while standardisation of IT systems and applications is used as a leading design principle.

From a plural sourcing strategy view, main platforms and applications (e.g. ERP, CRM) are outsourced to the market and based on a SaaS delivery model like treasury systems and payment systems. Some functionalities can be fine-tuned by the IT department. The IT department established an in-house team to customise digital solutions to support large-size OpCo's. IT infrastructure and cloud network related functionalities are fully outsourced to IT service providers, such as Amazon Web Services and Google.

IT and digital solutions within the enterprise are organised from a federative point of view. Traditionally, mainstream type of IT solutions (e.g. ERP, CRM) are organised from a centralised perspective as the IT department is better capable to cater for changing conditions, and, as such, create flexibility. Digital solutions like RPA and ML are organised within, and maintained by, the FSSC. This is an explicit choice as the FSSC is closely aligned with business departments, and as such able to validate if new digital solutions work in practice. Importantly, we observed that FSSC and the IT department jointly work on planning activities to create a heartbeat when implementing applications of new

functionalities. The mechanism of joint planning will accelerate the digitalisation of financial services and decreases operational risks. The enterprise under study applies a strict rule that new IT and digital solutions are business case driven. This means that solutions are studied from various perspectives to examine their impact such as quality of service, quantity of transactions, finance, law and regulations, security, privacy, and architecture. The aim is to achieve a coherent view between all these aspects before a decision is made to invest and implement a solution. As an example, the FSSC includes an RPA team (12 FTE), who co-develop digital solutions with IT architects, who are organised in the IT department. When a business case for a new digital solution is positively validated, the IT department focus is on integrating the RPA solution with the IT landscape.

One of the interviewees mentioned that: “*Robotisation, for instance, is used in case of positioning talent at our external clients. We do this for more than 200 external clients currently supported by local teams. In the mid-term, about 3 to 5 years, we will transform towards a global digital platform. Robotisation will support multiple functionalities from rerouting data and information up to full onboarding of job seekers by means of bots. These bots are connected to our digital mainstream platforms*” (Source: Business director).

7.2.2 Business Services Portfolio

Based on the interview results, we find that the financial services portfolio has not been automated any further. The portfolio consists of regular financial services and includes accounts payable and payroll, that support typical functionalities like time sheets, personnel files, salary sheets, and bank accounts. We find that the financial services of the FSSC in scope are automated to a large extend by means of portals and digital solutions such as RPA and ML that are interconnected with existing platforms like ERP and CRM. From a content perspective, changing law and regulations influence the type of services and as such, financial services need to be adjusted regularly.

7.2.3 Modularised Business Processes

To fulfil an essential role in the market of matching talent, business processes have been standardised to achieve business goals and as such a high market share. The FSSC aims at realising a 0% error rate based on the optimised business processes that are ultimately digitalised. With regard to the administrative organisation that matches job seekers and clients, digitalised business processes are all standardised (i.e. hiring, development, and onboarding). As a result, a digital backbone of core business processes is established that accelerates the provisioning of business services. Core business processes are closely related to financial business processes that support various administrative processes.

One of the interviewees mentioned that: “*We apply multiple RPA solutions to fulfil financial process related tasks. For instance, for checking cost codes on a daily basis, run Chamber of Commerce checks, and execute close-out orders automatically. The ambition is to increase the added value of digital solutions and make manual work less attractive. The precondition to deal with automation is to implement uniform and standardised business processes*” (Source: Principal staff manager Business Services).

In Fig. 7.1, the high-level P2P process is illustrated that provides insight in essential process steps.

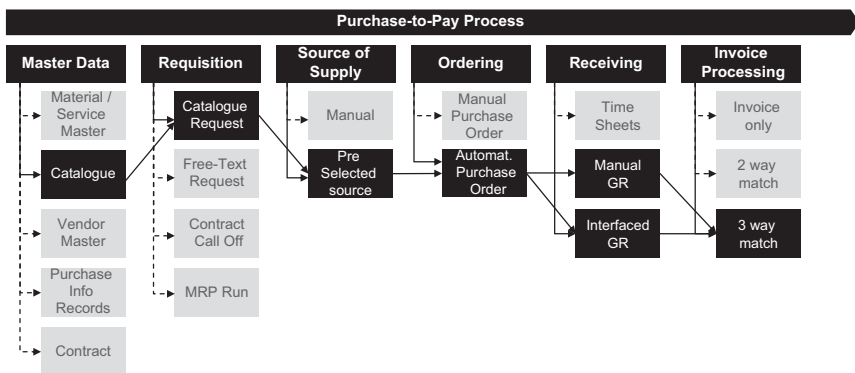


Fig. 7.1 P2P process (high-level)

In addition, the digitalisation of financial business processes; for instance, by means of RPA and process mining, provides insights to increase the optimisation of sub-processes. Based on the interview results, we find that FSSC employees adjust these sub-processes as a result of digital initiatives. To manage interdependencies between digitalised sub-processes, the FSSC decided to coordinate financial processes from an E2E perspective to achieve coherence. More importantly, enterprise guidance shows that business units remain accountable for coordinating E2E business processes. In case of large and complex E2E processes, the FSSC established process owners who are responsible for managing the chain from declarations up to costs per hour of employees. By using E2E financial processes as a guiding principle, the FSSC developed integrated digital solutions that may create challenges, as multiple sub-processes are interwoven and, as such, need to interact. Therefore, the digital transformation journey has to provide answers for these challenges.

One of the interviewees mentioned that: *“For the screening of employees we designed process flows that were implemented in practice. As a result of changes in regulations we noticed that sometimes process mining tools have become too slow to handle dynamics. Right now, bots do all the work as part of P2P processes, and we just have one hour left for exceptions handling. A reason not to apply process mining tools is that the logging of data must be exchanged with other toolsets. As log files do not correspond yet, we decided not to use process mining tools in this field”* (Source: Product owner Process & RPA).

In Fig. 7.2, the process steps with regard to purchase orders are shown, which are automated in the enterprise under study by means of RPA.

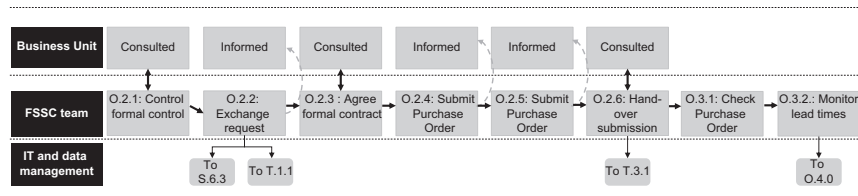


Fig. 7.2 Detailed P2P purchase order steps explained

7.2.4 Customer Orientation

The interview results reveal that FSSC employees and business representatives are continuously aligned to match business needs and digital solutions. To explore new opportunities, various proofs of concepts are initiated to reduce routine-oriented tasks (RPA, ML), improve business process efficiencies like process mining and task mining, and better forecast talents needs by means of AI based predictive analysis. As the FSSC has experience with business process thinking and digital solutions, they are organised at arms-length from business units. The collaboration between FSSC and business increased the degree of trust.

7.2.5 IS Standardisation

From an IT and digital perspective, we find that the FSSC designed a roadmap for future digital solutions. The roadmap was developed by using various design principles in which two were specifically addressed, (a) a uniform data model, and (b) a global information model. These principles are used as inputs for the digital transformation journey as strategically decided by the enterprise.

One of the interviewees mentioned that: *“We are in the middle of a digital transformation journey. The goal is to make work more attractive by reducing routine type of work and simplify business processes and tasks. Do more with less employees. From an external view the impact of corporate social responsibility and ESG affects our business as we have to adjust financial processes and show the evidence that we are transparent regarding labour conditions. Changing client demands shows that we have to provide information of the educational level of recruited staff automatically by using portals. So, the transformation journey aims to provide frictionless business services to internal and external users”* (Source: IT director).

The interview results show that architecture is key in designing and implementing a sound IT and digital landscape and will drive the digitalisation journey. IT services are standardised as much as possible to achieve agility, while the modularisation of functionality offers opportunities to cater for business needs. The IT landscape is divided into two

domains: (a) front-office solutions to support financial services predominantly supported by salesforce, and (b) mid-office and back-office solutions supported by JD Edwards. The IT department maintains ERP and CRM platforms that are widely used within the enterprise. These platforms comprise various functionalities that are modularised by design; however, difficult to unpack. The latter becomes an important challenge as changing conditions like regulations require platform modifications. Various data sources that correspond to ERP platforms are interconnected to multiple data lakes as a vehicle to collect and store data.

The first step of digitalisation is to design the process flows and next automate these steps. Interviewees argued that a lot of time savings can be achieved by executing both steps. A second step that was taken was to visualise the outcome of financial business process steps by means of digital dashboards. The main digital functionality is based on RPA solutions. In addition, process mining solutions are used to develop scalable financial process designs as they show the contribute to the added value of digital solutions.

One of the interviewees mentioned that: *“Now we have a process analyst working for 6 weeks to design a complete process flow. As a next step we use task mining to identify tasks at an end-user level to further improve the effectiveness of executing process tasks. However, we are not sure if we focus on an end-user level if we comply with privacy rules and regulations. The technology is in place, but privacy regulations may hinder the implementation of task mining solutions. In short, the organisation is not ready yet”* (Source: Product owner Process & RPA).

By analysing the interview data, we find that various digital tools and solutions are in place to support financial services in various areas like credit risk assessments and automated entry of files into business intelligence (BI) tooling. Besides the role of RPA, the FSSC uses intelligent document processing to automatically read documents and translate unstructured data into structured data. This application is based on ML and AI principles. Various other types of ML and AI solutions are tested to monitor and analyse financial processes and conduct compliance checks.

One of the interviewees mentioned that: *“Our data science architects and data engineers support AI solutions. We experiment with ethical AI*

solutions which is still in an early phase. We follow governmental regulations strictly as we want to avoid ethical profiling. An example is the Google AI as matchmaker between searching for a job and finding a job. Right now, the AI is not that developed to avoid ethical profiling. As such, we only apply AI for business financial related tasks. The future will focus on AI as predictive analysis solution. The condition is that data must be structured, complete and accurate” (Source: Product owner Process & RPA).

In addition, external websites are supported by chatbot functionality to support talent who search job opportunities. We find that both FSSC and the IT department have decided to invest in hyper automation in which all of the above technologies are integrated. To study hyper automation opportunities, a collaboration with Gartner has been established to continuously scan new opportunities to digitalise processes and tasks. It is expected that in the next three to five years, the existing IT and digital solutions will merge into one single platform that also act as an integrator.

To create a coherent digital landscape that supports mainstream ERP and CRM systems, micro-services, data lake solutions and fragmented digital solutions, the IT department have decided to implement an integrated platform. The current integration platform of the enterprise is based on the UiPath platform that provides multiple functionalities ranging from bots, chatbots, process mining, task mining, and process orchestration tasks. The IT department implemented two types of integration platforms to separate the support of enterprise business units and external client organisations. As such, the IT department designed a loosely coupled digital landscape. By applying an integrated approach, the enterprise avoids fragmented digital solutions that are unable to exchange data and, as such, may hinder operational performance. Changes in the integration platform are based on an agile approach (e.g. epics, stories) that fits with the aim to create scalable digital landscape. The results of the interview reveal that the IT department is responsible for orchestrating the digital landscape and integrating various in-house and outsourced systems and platforms. From an architectural view, the integration approach is based on API configurations that exchange information between the individual systems and platforms. An illustration of the digital landscape is depicted in Fig. 7.3.

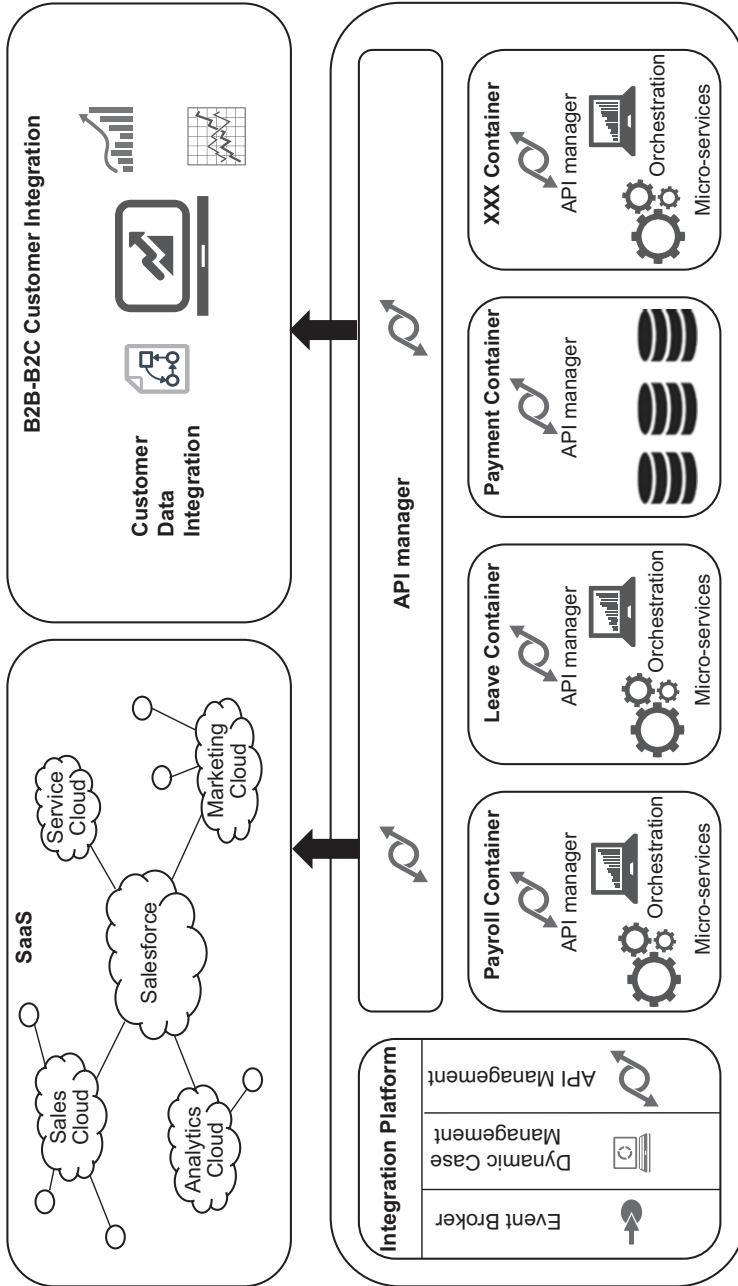


Fig. 7.3 Example of the digital landscape including APIs and micro-services

7.2.6 Managing Decision Rights

We find that decision rights are embedded in the IT architectural guidelines and implemented in the IT department's way of working. For instance, decision rights standards are distributed by a digital tool to the FSSC and business units. From a practical perspective, decision rights can be automated in case of routine-based process steps, in other words, when simple Yes or No decisions are requested. In a similar vein, FSSC has developed a planning tool based on an AI solution themselves, which creates a planning overview to fulfil financial tasks. Managing decision rights as part of agreed governance rules are automated in the tool, while employees (humans) conduct a final check. The same goes for a business unit task to hire external talent in which AI solutions will automatically onboard external job seekers. These examples show that routine-based and predictive types of decisions are automated. However, the authors could not find any examples in which decision rights are automated in case of dynamic circumstances.

7.3 Analysis

7.3.1 Resource Orchestration Theory

As a consequence, the agency's plural sourcing strategy, and its senior management's focus is to bundle internal and external resources effectively. Our analysis shows that at an operational level the IT department acts as an orchestrator for external service providers as well as to the FSSC. Outsourced ERP platforms and cloud services like Salesforce and JD Edwards, Amazon Web Services, and Google, are bundled with in-house IT services to create a coherent IT and digital landscape.

Our analysis demonstrates that the enterprise under study has a broad experience with the digitalisation of business services. As a result, their digital landscape has extended over time as various fragmented solutions were implemented. Consequently, the complexity to maintain a fragmented digital landscape has increased as dependencies between digital

solutions need to be coordinated. As multi-sourced arrangements are perceived to be the dominant modus operandi of firms' governance mechanisms may support the coordination of multi-sourcing arrangements (Plugge & Janssen, 2014). In particular, we find that the coordination mechanism "standardisation" is used in practice to decrease interdependence complexity. Standardisation corresponds to the flow type of dependency that relates to an activity that produces a resource that is used by another activity (Malone & Crowston, 1990). For instance, RPA, ML, and ERP resources provided by suppliers are used by the IT department's resources to support the provisioning of financial business services. To avoid indistinctness with regard to interdependencies between an increasing number of parties, the "standardisation" limits coordination problems within the external ecosystem. To support standardisation, senior management decided to opt for an integration strategy that supports openness as design principle. This is reflected by their API strategy, which is illustrated in the digital landscape architecture, and can be seen as a less complex subtype of digital infrastructure with specific control arrangements (Hanseth & Lyytinen, 2010). Senior management's decision to apply standardisation and openness as design principles allows the enterprise under study to redesign their business processes by reusing and combining web services (Fremantle et al., 2002).

It was found that senior management consciously modularised financial business processes to create E2E oversight. In summary, it can be concluded that the case study analysis provides evidence that E2E processes are modularised by means of enabling information systems, e.g. micro-services. This is supported by research of Van der Aalst (2012), in which the author argues that a firm's management aims to synchronise their business services portfolio via dynamic orchestration of their business processes, and, as such, is better able to adapt to changing conditions. As a result, modular independent services contribute to focus on a firm's core capabilities (Bharadwaj et al., 2013).

It was found that the initiated digital transformation programme at the enterprise under study aims to reduce the degree of complexity that contributes to a digital landscape bundling internal and external resources. This is consistent with findings of Sirmon et al. (2007) in which the authors posit that the ROT is one of the most important competencies a

firm can internalise. The outcome of our analysis also shows that senior management has decided to structure in-house and outsourced resources by means of integration platforms to achieve a frictionless landscape. In doing so, the degree of digital landscape complexity has been reduced. We suggest that the implementation of integrated platforms contributes to the transformation and disruptive impact of the enterprise under study and as such, affecting the business environment as a whole, which is consistent with the findings of Parker et al. (2016). In addition, the analysis reveals that the IT department acts as an internal orchestrator to bundle resources, taking FSSC's goals and digital solutions into account. As a result of the collaboration between the IT department and FSSC, it could be observed that the internal conflicts about mutual responsibilities have been mitigated. This is consistent with the concept of dynamic capabilities (Teece, 2014) in which resource orchestration is essential to mitigate internal conflicts and improving the resources' complementarities.

7.3.2 Boundary Resources

The findings of this study show that establishing integrated platforms based on micro-services support modularised processes effectively. The findings of this study operationalise the study of De Reuver et al. (2018), in which the authors argue that the transformation from monolithic systems to micro-services support flexible means for inter-organisational relations through a variety of distributed boundary resources. We find that integration platforms interconnect with other systems and platforms by means of boundary resources, e.g. APIs, which facilitates highly distributed and automated coordination of activities at arm's length. Research on digital platform ecosystems (DPE), and corresponding technologies shows that a platform owner, which in our case is UiPath, aims to secure its control over the platform (Panico & Cennamo, 2022). Complementors, which in our case study correspond to the IT department, create complementary products, often called complements, that can be used by platform users e.g. FSSC employees and end users. It is through boundary resources like APIs that the IT department resolves the paradoxical tension between the generativity, and control of the

integrated platform. The study findings correspond to the idea of tuning (Eaton et al., 2015) by demonstrating how boundary resources change over time, applying an agile approach. This study shows that in the context of a complex digital landscape with digital technologies, the IT department make sense of the technology, which in turn may affect other platform owners' processes and functionalities.

Since various systems and platforms are operated in-house and outsourced, we argue that the orchestration of integrated platforms does not only include the coordination of the enterprise digital landscape. It also orchestrates the dependencies towards and between multiple external suppliers. The decision of the enterprise to establish cooperating business services that are loosely coupled corresponds to the concept of service orientation (Cherbakov et al., 2005), in which applications span multiple information systems. By creating business services that are enabled by modularised technical solutions, the employment agency is better able to create business value in service relationships (Arsanjani, 2002). We argue that applying a service-oriented way of thinking leverages technology in a response to bundling internal and external resources.

The analysis demonstrates that the introduction of new digital solutions that support financial services to both internal employees and external client organisations orchestrated by integrated platforms contribute to implementation success of financial business services. Modularised financial processes coordinated from an E2E approach simplify the implementation complexity. Hence, it can be suggested that modularisation supported by a digital integration approach can be perceived as a strategy to overcome organisational barriers between silo-based internal business units.

One of the interviewees mentioned that: *“We are confident that the use of integration platforms will increase the implementation success of financial services as current challenges, such as suboptimal technologies or focus on sub-processes, will be solved. As such, the digitalisation of financial services will support multiple business departments at the same time”* (Source IT director).

7.4 Conclusion

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

We found that the FSSC standardised their financial business process and addressed the importance of digitalising financial sub-processes. This corresponds to the antecedent of modularised business processes. By applying an IS standardisation approach, the FSSC and IT department explored and implemented a range of digital technologies and platforms. The decision to standardise IS can be seen as a prerequisite to further digitalise business services. As a result, the implementation effort of business services decreased. This effect was entered by the FSSC's need to improve the quality of financial business services (customer orientation). The research results further revealed that only routine-based decision rights were digitalised by means of digital tools. We may conclude that the business services portfolio became fully digitalised although the type of services did not change. In addition, we conclude that the IT department acts as an orchestrator that bundles internal and external business services by means of boundary resources. Senior management's strategy to foster the collaboration between the FSSC and IT department resulted in faster digital innovations. Consequently, financial business services were managed from a holistic view to avoid operational issues.

To summarise, we found evidence that the FSSC paid attention to all antecedents as part of our research model. We may conclude that modularised business processes can be seen as an essential antecedent in which they act as a mediator for IS standardisation specifically. This finding is consistent with the outcomes of the fsQCA analysis where IS standardisation is an essential condition in four out of seven solutions.

References

- Arsanjani, A. (2002). Developing and integrating enterprise components and services. *Communications of the ACM*, 45(10), 30–34.
- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital Business Strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471–482.
- Cherubakov, L., Galambos, G., Harishankar, R., Kalyana, S., & Rackham, G. (2005). Impact of service orientation at the business level. *IBM Systems Journal*, 44(4), 653–668.
- De Reuver, M., Sørensen, C., & Basole, R. C. (2018). The digital platform: A research agenda. *Journal of Information Management*, 33(2), 124–135.
- Eaton, B., Elaluf-Calderwood, S., Sørensen, C., & Yoo, Y. (2015). Distributed tuning of boundary resources: The case of Apple's iOS service system. *MIS Quarterly*, 39(1), 217–244.
- Fremantle, P., Weerawarana, S., & Khalaf, R. (2002). Enterprise services: Examining the emerging files of web services and how it is integrated into existing enterprise infrastructures. *Communications of the ACM*, 45(10), 77–82.
- Hanseth, O., & Lyytinen, K. (2010). Design theory for dynamic complexity in information infrastructures: The case of building Internet. *Journal of Information Technology*, 25(1), 1–19.
- Malone, T. W., & Crowston, K. (1990). What is coordination theory and how can it help design cooperative work systems? In *Proceedings of the 1990 ACM conference on Computer supported cooperative work* (pp. 357–370).
- Panico, C., & Cennamo, C. (2022). User preferences and strategic interactions in platform ecosystems. *Strategic Management Journal*, 43(3), 507–529.
- Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). *Platform revolution: How networked markets are transforming the economy and how to make them work for you*. WW Norton & Co.
- Plugge, A. G., & Janssen, W. F. W. A. H. (2014). Governance of multivendor outsourcing arrangements: A coordination and resource dependency view. In I. Oshri, J. Kotlarsky, & L. P. Willcocks (Eds.), *Governing sourcing relationships*, LNBIP 195 (pp. 78–97). Springer. https://doi.org/10.1007/978-3-319-11367-8_6

- Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review*, 32(1), 273–292.
- Teece, D. J. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies*, 45, 8–37.
- Van der Aalst, W. M. P. (2012). A decade of business process management conferences: Personal reflections on a developing discipline. In A. Barros, A. Gal, & E. Kindler (Eds.), *Business process management, LNCS 7481*. Springer.