Cross-Case Analysis

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Cross-Case Analysis

Based on the empirical descriptive results of the four case studies, we relate our findings to the antecedents as described in Chap. 4. Our cross-case analysis comprises of four sections. First, we analyse the antecedents as used in our research model. In addition, we compare the cross-case findings with the outcomes of our fsQCA analysis in Chap. 5. Second, we discuss and show how we use Resource Orchestration Theory (ROT) as a theoretical lens to analyse and explain our findings. Third, we theorise on how enterprises may apply an ecosystem approach to orchestrate the studied antecedents in a coherent manner. Finally, we summarise our findings and provide cross-case study conclusions.

10.1 Analysis of Antecedents

10.1.1 Plural Sourcing Strategy

Our analysis shows that all enterprises under study made a distinction between make and buy decisions, which corresponds with our quantitative findings. As we focus on the impact of digitalisation on financial services, we studied the impact of digital technologies specifically and

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identified three avenues. First, mainstream IT solutions that support financial services are predominantly outsourced to the market, such as IT infrastructure, end-user computing and application maintenance (see the Logistic Service Provider and Employment Agency). These solutions support generic financial services and are applied across enterprise departments. This finding is consistent with literature (Lacity et al., 2017) as enterprises will not be able to achieve competitive advantage when maintaining these solutions in-house.

A second avenue corresponds to a hybrid solution in which platform-oriented application services are outsourced to the market. Examples include functionality like SAP, Salesforce, data analytics, and emerging digital technologies. The management of application functionality, however, is managed by the enterprises in collaboration with service providers (see Construction and Building Company, Financial Service Provider). The main rationale is that various financial services need to be customised to cater for business needs. Hence, this requires specific business insights, knowledge and understanding in order to customise functionality based on ERP and CRM platforms. This avenue corresponds with the findings of Dibbem et al. (2005), which found that the provision of application services requires a large amount of firm-specific human assets. As such, enterprises may distinguish between various options with regard to in-house customisation of functionality and maintenance of outsourced ERP platform services. We find that the decision to provide services in-house or outsourced is affected by the intrinsic motivation of internal and external professionals. For instance, our case studies demonstrate that internal employees were driven to increase the service quality of financial services (see Logistic Service Provider and Employment Agency). Consequently, they support business departments by customising functionality due to their clear perspective on business needs.

The third avenue indicates that digital technologies, which are used as an extension of financial ERP and CRM based applications (e.g. RPA, ML, process mining), are predominantly managed in-house (see all four case studies). Interviewees responded that the rationale to develop and maintain these solutions in-house provide new insights and learnings as experimenting digital technologies contribute to innovate financial services. This finding is consistent with research of Willcocks et al. (2018)

who argued that capabilities required for digital innovations are developed over time, which are in contrast to a transactional or ad-hoc approach.

10.1.2 Orchestration of Business Services Portfolio

Our findings show that the orchestration of business services portfolio as a whole did not change from a financial services perspective. However, the way financial services can be used in practice and accessed by business users changed due to the introduction of digital technologies, such as digitalised business processes, financial services functionality, AI, Robots, and digital portals. The business services portfolio can be considered as an essential antecedent as it acts as a bridging role (boundary spanner) between in-house and outsourced financial services and IT services. When providing business users access through a digitalised business services portfolio, knowledge sharing is perceived to be an important aspect to exchange information of financial services (Jin et al., 2014; Madsen et al., 2015). We find that the role of business services portfolio as boundary spanner is directly related to knowledge transfer in the interplay between in-house and outsourced financial services, which supports communication and trust between an enterprise and its service providers. This approach contributes to a more homogeneous plural sourcing strategy (Wareham et al., 2014).

10.1.3 Modularised Business Processes

Our analysis demonstrates that modularised business processes form an essential antecedent and influencing factor in providing global business services. This finding is consistent with our empirical (quantitative) findings in our study as business processes act as both a mediator and moderator between antecedents and the business services portfolio. All case studies show that business processes are intertwined with financial business services, which means that if business services are adapted due to changing business needs, business processes have to be adjusted as well.

The digitalisation of financial business processes, however, increases the optimalisation of sub-processes. Interestingly, digital modularised business processes (e.g. RPA, ML, AI) contribute to process optimalisation purposes as interdependencies between sub-processes can be coordinated more easily. Based on our analysis, we argue that the digitalisation of business processes contributes to the decomposition of enterprises with a focus on global business services, which operationalise the findings of previous research (Menor & Roth, 2007).

Addressing the importance of business process maturity, our findings can be related to the study of Ulbrich (2012) who identified three categories, namely (1) low process standardisation, (2) balanced process standardisation, and (3) excessive process standardisation. Our analysis shows that the Construction and Building Company is in its early stage of improving financial business process which corresponds to the first category. The Logistic Service Provider on the other hand focuses on the second category by standardising and automating process steps as much as possible. The Employment Agency and Financial Services Provider, however, are in the process of optimising modularised business processes that fits the third category. The latter can be explained by the enterprises digital transformation journey in which optimised processes are a prerequisite to achieve their journey.

As business processes span various organisational entities, digitalisation supports the implementation of GBS functionality as process interdependencies can be automated more easily. This accelerates the GBS implementation acceptance by business users. As such, it is suggested that senior management defines a clear strategy on the decomposition of an enterprise to further reduce organisational and process complexity. Consequently, attention is needed to optimise business process continuously.

10.1.4 Customer Orientation

The interview findings provide evidence that FSSC employees align customer needs with business representatives, although the intensity varies amongst the case studies. At the Logistic Service Provider, for instance,

FSSC and business departments continuously discuss business needs to explore if existing financial services need to be adapted. On the other hand, the Employment Agency also touches upon business requirements, but with less frequency. The Construction and Building Company, however, demands some form of management from the customer perspective in order to align their needs. The Financial Services Provider applies an agile approach in which the COE discusses business needs continuously. As a similarity, all case studies demonstrate that digital technologies are proactively discussed between FSSC and business departments.

We find that knowledge sharing between FSSC, and business departments is an important and yet a vital component in applying customer orientation, which is consistent with literature (Wang & Hou, 2015; Zhang, 2018). More precisely, we find that the FSSCs and COE under study proactively share insights with business departments regarding digital technologies aiming at improving the quality of service by decreasing manual tasks of the employees. By conducting Proofs of Concepts and organising mutual events, business departments create new insights in how digital technologies may improve their daily routines. Hence, knowledge sharing between FSSC, and business departments can be seen as a mechanism to overcome uncertainty. To actualise financial services on a regular basis, it is vital to verify if the required quality of business services (e.g. service levels) still fits with the provided business services functionality (Buell et al., 2016). Therefore, we suggest that organisations invest in building knowledge sharing mechanisms to support the exchange of information. By monitoring customer demands and sensing business changes actively, enterprises are able to improve their own value-generating process.

10.1.5 IS Standardisation

We find evidence that all enterprises focus on reducing routine type of work and simplify business processes by means of IS standardisation. For instance, the Employment Agency standardised their information systems first as a mean to standardise their financial business processes. More specifically, by standardising interfaces between information systems, the

IT department is able to modularise production systems, which reflects the work of Sturgeon (2002).

An essential driver to standardise IS interfaces is the use of data. This is shown in the case of the Employment Agency and the Financial Services Provider as they streamline data flows and visualise data through dashboarding. As a result, they create insight into business operations while increasing their responsiveness and decision making. Importantly, we find that the Logistic Service Provider and Construction and Building Company struggled to establish a data-oriented framework that supports the use of digital technologies such as RPA, ML and AI. Taking legal and regulatory agreements into account, data-oriented frameworks must provide insights demonstrating how data can be exchanged between in-house and outsourced data sources. This reflects the findings of Lee (2020) who also addressed the importance of these frameworks in financial services.

Importantly, enterprises that lack clear data policies may face difficulties with regard to the completeness and correctness of data that may hinder the reliability of AI driven outcomes. Meyer et al. (2015) argued that a data model-driven approach is a necessity condition to automate business processes to support data exchange within and across enterprises. In this regard, the use of data principles like Findable, Accessible, Interoperable and Re-usable (FAIR) are essential in applying digital technologies effectively (Van der Aalst et al., 2017). We find that the Financial Services Provider apply these principles to optimise the use of their data platform that supports their customers' financial services.

Information Systems that are based on the interoperability principle may re-use existing services and assemble them into new business services, which is key to enterprise integration. As such, enterprises are able to decrease the degree of business services complexity, while business services can be more easily adjusted to respond to endogenous developments. We suggest that standardised information systems and clear data policies provide flexibility to support financial business processes and the adaptation of modular business services (Fremantle et al., 2002). As a result, enterprises are better able to apply digital technologies (e.g. ML, AI, process mining) that are supported both in-house and outsourced.

10.1.6 Managing Decision Rights

Our analysis shows that predictive type of decisions has been digitalised as demonstrated in the Logistic Service Provider and Employment Agency of the case studies. Essentially, more routine-based and uniformed process steps can be robotised easily by means of RPA and ML technologies. The example of the Employment Agency study shows that decision rights as part of developed planning tool based on an AI solution can be automated. The case study of the Financial Services Providers shows an example of automated decision making that corresponds to customers Know Your Customer (KYC) type of activities. The case studies did not show examples in which more complex financial decision making is conducted by digital technologies, such as AI. The Financial Services Provider explicitly argues that automated digitalised decision making, such as automated calculations when using AI bots, may result in financial risks and compliance issues in the financial sector. This is consistent with research of Miller (2018) and Duan et al. (2020) in which the authors stated that AI predominantly has been studied from an augmentation perspective, arguing that AI should support humans in decision making. However, when automated decisions rely on low quality, missing or inconsistent data, enterprises are challenged by successfully integrating data. This may result, however, in biased or incorrect decision making. This was found in the Employment Agency study in which AI is not "trusted" when it comes to ethical concerns and profiling. This can be explained by recent studies which show that data-driven decision making relay on the development of predictive models, which are at the core of automated decision-making systems (Brynjolfsson & McElheran, 2016). To overcome data challenges and utilise decision-making opportunities, enterprises are increasingly developing advanced data governance (Ladley, 2020) capabilities as found in all case studies. We suggest that enterprises need to develop policies and frameworks in which data, processes and digital technologies are promoted to control data and as such, enable trusted information sharing within an enterprise.

Summary

Comparing the cross-case analysis with our fsQCA analysis (see Chap. 5), in which we included the size on an enterprise, we found seven solutions. Importantly, all solutions include one of more antecedents in which modularised business processes was found to be a core condition (twice). This is consistent with the findings of the cross-case analysis, which provided evidence that modularised business processes are essential in supporting an enterprise business services portfolio. Although the portfolio as a whole did not change, individual business services did change due to the rise of digital technologies. This finding acknowledges the importance of the orchestration of a business services portfolio and its effect on implementing GBSs. The cross-case analysis demonstrates the importance of the studied antecedents in the context of digitalisation of business services specifically. We found that all antecedents were found to be important, namely: plural sourcing strategy, customer orientation, modularised business processes, managing decision rights, and IS standardisation. We argue that the antecedents under study can be perceived as essential when orchestrating a business services portfolio. Both the qualitative research, the fsQCA analysis, and cross-case analysis support this claim.

10.2 Resource Orchestration Theory

We operationalise Sirmon et al.'s (2011) resource orchestration framework and followed the resource management elements that include structuring, bundling, leveraging processes. We also took asset management elements into account that comprise of search/selection, configuration/deployment processes. Next, the antecedents as analysed in the case studies are mapped to the resource orchestration framework elements. In doing so, we aim to identify how enterprises deal with resource management and asset orchestration tasks in the context of financial global business services.

10.2.1 Resource Management

Structuring Process

The first element of Sirmon et al. (2011) framework corresponds to the structuring of resources that includes the sub-elements acquiring and accumulation resources. These sub-elements predominantly refer to the plural sourcing strategy of an enterprise. At strategic level an enterprise has to make a decision as to what type of resources are needed to be applied and were to attract them. This analysis corresponds to the make and buy decision of an enterprise, for instance, what type of external resources need to be acquired and accumulated. Our analysis demonstrates that enterprise management explicitly develop and implement a plural sourcing strategy with the aim to create and capture value. Managers proactively acquired external resources (e.g. financial and IT services) from the market by structuring them with internal resources while developing new ones. This corresponds to the findings of Carnes et al. (2017) who argued, that in the process of acquiring external resources, firms also eliminate inefficient ones. Our case studies reveal that a balanced mix is created that comprise of value-adding resources both in-house and acquired from the market (i.e. outsourced). Research of Thomke and Kuemmerle (2002) showed that developing resources internally and acquiring external resources are important actions that are independent of an enterprise degree of maturity in orchestrating resources.

Bundling Process

Our observations demonstrate that incremental improvements were made to existing capabilities, such as modelling financial business processes by means of digital technologies (e.g. Logistic Service Provider, Employment Agency, Financial Services Provider). This refers to stabilising activities as a part of bundling resources. We found that current capabilities were enriched by using state-of-the-art digital technologies. An example corresponds to Employment Agency managers that focus on optimising business process by using process mining tools and the Financial Services Provider managers tasks on digitalising their

customer's onboarding process. As a result, financial process became more efficient as unnecessary and unvaluable process steps were eliminated. Our interview analysis acknowledges that all enterprises investigated the use and value of latest digital technologies with the aim to understand their value and contribution. This relates to the pioneering sub-element of bundling resources specifically. For instance, Sirmon et al. (2011) argued that pioneering contributes to create new capabilities, which is consistent with our findings. Importantly, the bundling of related activities (e.g. stabilising, enriching and pioneering) all corresponds to an enterprise's business services portfolio in which digital technologies play an essential role. Hence, the stimulation of business and digital innovations strengthens an enterprise business services portfolio. Our findings operationalise the previous findings of Makri et al. (2010) in which the authors underpin the relevance of the mutual influence between a firm's resource portfolio and degree of innovation.

The results of our research go beyond the findings of Sako et al. (2016), who applied a transaction cost lens and found that the design of a service provider portfolio affects an enterprise plural sourcing strategy. We built on this finding by addressing enterprises' orchestration activities towards their business services portfolio, which include the provisioning of both internal and external business services by making use of the ROT framework. Therefore, we argue that a business services portfolio orchestrates the production of in-house and outsourced business services.

Leveraging Process

Based on our analysis, the mobilisation and coordination of resources are crucially influenced by the actions of managers who strategically leverage them to achieve organisational objectives. In particular, we found various examples in which managers mobilised both internal and external resources. For instance, FSSC (Logistic Service Provider case) and COE (Financial Services Provider case) managers proactively aligned their processes with business managers and IT department managers to explore business improvements by means of digital technologies. By mobilising resources, they discussed the way business processes and information systems can be standardised to further improve the effectiveness of financial

business services. When creating alignment on the use and applicability of digital technologies, managers were able to foster integration across the enterprise. Addressing the aspect of coordination, we found that managers paid attention how to integrate certain activities and resources in the domain of business processes. By splitting up business process into smaller process steps, corresponding information systems were identified to integrate and automate these steps.

This is consistent with the findings of Grøgaard et al. (2022) who find that firms that integrate certain activities and resources are better able to free up resources that were used for non-value creating activities. We found that agreements were made about who will be responsible to coordinate these activities, which refer to the antecedent managing decision rights. In particular, all case studies illustrated that organisational teams were identified and selected regarding the deployment of digital technologies and information systems. When analysing these findings, we noticed that information systems, business processes and managing decision rights all apply to the leveraging process as described by Sirmon et al. (2011). Our analysis demonstrated the interdependencies between IS standardisation and managing decision rights to business processes, which in turn affect an enterprise business services portfolio.

10.2.2 Asset Management Process

Search/Selection Process

Helfat et al. (2007) argued that managers' goal of the search/selection process is to identify assets, make investments, and design organisational and governance structures for the enterprise. In this study, identifying assets and making investments corresponds to our findings on customer orientation in which enterprise management explores if and to what degree existing financial services need to be adapted and remain fit for purpose. Examples of the Logistic Service Provider and Employment Agency on customer orientation corresponds to the concept of sensing, which is an enterprise ability to detect changes in the direct (internal organisation) and indirect (external service providers) environment. By

reaching out to representatives of internal and external departments, insights can be collected to verify if the current plural sourcing strategy still fits to support end users and customers. If required, the enterprises should be able to make a decision to adjust the plural sourcing strategy and create a new resource mix that exists of internal and external resources. Our analysis supports the findings of Teece and Leith (2016) who argued that an early detection of internal and external changes allows an enterprise for more time to prepare and reactive on changes. An example could be seen in the case study of the Financial Services Provider as they explore and align new digital technologies that are provided by multiple technology suppliers. Based on our analysis, we found evidence that managing decision rights and organisational structures are perceived to be essential in developing a plural sourcing strategy and making investments to attract external resources.

We found evidence that the enterprises also grasp opportunities as they arise, which corresponds to seizing. Although seizing is perceived to be complex specifically in large organisations (Haarhuis & Liening, 2020), we found various examples in which the enterprises under study were able to apply an agile business model to restructure their resource mix of internal and external resources. For instance, the intensive collaboration between the FSSC and IT departments of the Logistics Service Provider, Employment Agency and Financial Services Provider shows a sense and seize process to adjust financial services when necessary. When relevant digital technology opportunities were identified the FSSC and IT department explored how financial business processes could be digitalised (e.g. ML and process mining). Importantly, we found that the search/selection process affects the resource management element of the structuring process. This fit demonstrates the dependency between both processes as identified in literature (Sirmon et al., 2011). Enterprises that acknowledge and embrace this fit are more able to realise their potential to attract internal and external resources as part of their plural sourcing strategy, and thus to facilitate the creation of competitive advantages.

Configuration/Deployment Process

The configuration/deployment process as argued by Helfat et al. (2007) requires the coordination of cospecialised assets, providing a vision for those assets, and nurturing innovation. The coordination of cospecialised assets refer to the roles of both the FSSC and IT department as found in our case studies. More specifically, acquiring new digital technologies is predominantly initiated by the FSSCs, while the integration of those technologies with existing information systems was handled by their respective IT department. We found that the FSSCs under study focus on developing a vision in how digital technologies may improve or optimise existing financial business processes. Multiple examples were found that corresponds to RPA, ML, and process mining in particular. Research of Teece (1986) shows that complementary assets are costly to acquire. Consequently, Ceccagnoli and Jiang (2012) argue that "innovative type of firms is more likely to avoid duplicating these assets and ally with incumbents that already possess these assets" (p. 406). Our study shows that the FSSCs in cooperation with their IT departments decide on the make and buy decision (plural sourcing) to determine who should provide those assets. In doing so, they create oversight and avoid the duplication of assets and costs. Importantly, the specialised knowledge that is generated by the FSSCs and IT departments during the exploration and deployment of digital technologies can be considered as cospecialised assets. This type of knowledge is typically developed over time (path dependency) and difficult to acquire in the market.

A relevant example corresponds to the Financial Services Provider case study, who implemented digital technologies as part of financial kiosks in their customers' branch offices. As a result, the customer was better able to support financial customer services while the customer's business services portfolio was extended due to innovations. This example shows that sensing changing environments (e.g. digital technology opportunities), which is part of the search/deployment process, provide input for the configuration and deployment process as digital technologies were seized. In turn, the configuration/deployment process affects the bundling and leveraging process identified by Sirmon et al. (2011) as the enterprises' business portfolio was enriched. In a similar vein, the enterprises experienced the value of new digital technologies that corresponds to the pioneering sub-element of bundling resources specifically.

Summary

With regard to resource management, our study provides insights in to how these antecedents act as a system of complements, which are consistent with our quantitative findings. The findings go beyond the research of Rai et al. (2012) as we demonstrated how IS standardisation and digital technologies, managing decision rights, and modularised business processes affect the concentration and orchestration of a business services portfolio. Addressing asset management, we provided insights in an enterprise transformation approach that is based on sensing and seizing to identify changes that may affect the antecedents in scope. Enterprise management is able to integrate, build and reconfigure internal and external capabilities to cater for business services portfolio changes. Based on the findings of the case studies we created insights in how digitalisation affects the implementation of global business services. Importantly, we found evidence that the enterprises' used an ecosystem approach to orchestrate the antecedents in scope. Therefore, we explore the effects of applying an ecosystem approach to orchestrate an enterprise GBSs in more detail.

10.3 An Enterprise Ecosystem Approach

Today enterprises still struggle how to organise their firm taking the orchestration of a continuous changing resource mix (make and buy) into account. The fact that digital technologies are perceived to be an accelerator of change urges enterprises to pay attention to organisational and collaborative issues. Garten (2002) argued in his bestseller business book "How to organise a company for global operations?" that "internationally experienced business leaders experiment for no one has the right formula", (p. 91). This challenge continues as change within the context of global operating enterprises is here to stay. From a historical perspective, research into the organisation of multinational corporations has been productive, with the development of the integration-responsiveness framework inspiring further exploration into organisational design that was initiated by Prahalad (1975). Although this framework focuses on two distinctive sets of environmental forces (e.g. global and local), the

challenging topic is how to integrate and coordinate resources both in-house and outsourced. Many attempts have been made to extend the integration-responsiveness framework to conceptualise the organisational fit of enterprises. Based on the analyses of the case studies, we found that the transactional type of fit still seems to be the more popular organisational form. Benito et al. (2014) argued that the loosely coupled structure of enterprises is based on resource dependency logic where enterprise departments are seen as rather autonomous. Each department has its own network based on strategic decision making. Hence, there is no formal orchestration unit or department that coordinates in-house and outsourced resources. Porter's (1985) value chain model on the other hand, addresses the importance of achieving efficiencies by creating synergies when optimising similar business processes. A central unit or department will perform orchestration activities mainly driven by the logic of cost and value creation. However, the development of a globally siloed organisational structure hinders the implementation of financial services specifically as financial business services requirements and implementations have to be discussed with multiple departments. As such, the traditional organisational forms create various negative effects like extended service lead times, internal disputes about allocating resources, and financial services underperformance.

The enterprises under study are organised in various departments in which they focus on key areas such as, business, FSSC, and IT. This silo-based approach is typical for enterprises as their organisational structure facilitates specialisation, and as a result contributes to value creation. In addition, organisational boundaries are helpful to create focus for each department and avoid internal competition between departments. We argue that traditional approaches, such as the integration-responsiveness framework and value chain model seem to be ripe for change as enterprises need to be more agile to cater for changing circumstances. Implementing financial business services that are supported by digital technologies affect various enterprise departments, thus addressing the aspect of end-to-end business processes. Hence, horizontal collaboration is supposed to be the predominant mechanism. A study conducted by Casciaro et al. (2019) show that colleagues who can reach outside their silo and find complementary knowledge and expertise, lean more and

gain skills faster. As such, horizontal collaboration is widely recognised. Consequently, breaking down existing silos virtually is a prerequisite to implement business services effectively and foster innovation. Our analysis shows that enterprises that apply a plural sourcing strategy within a continuous changing environment need some type of coordination unit to orchestrate internal and external resources. Our study reveals two type of coordination units, that we term as the "*business services orchestrator*" and the "*technology orchestrator*".

First, the FSSC, and COE in case of the Financial Services Provider, specifically orchestrates the relationship between both business departments in exploring and improving financial services and the IT department in aligning digital technology solutions. We use the term "*business services orchestrator*" as they focus on financial business services specifically. These orchestration activities comprise of creating digital awareness, exploring how digital technologies may improve financial business processes, and decision making on when to adjust the business service portfolio regularly.

Figure 10.1 shows an example of the relationship between the FSSC and business. In the example of purchasing orders, the FSSC acts as a business services orchestrator while processing process steps. Some process steps require alignment with representatives of business units to complete purchase tasks. The bold arrows show a direct relationship between FSSC and business unit representatives that are based on reciprocity. The dotted lines illustrate an indirect relationship in which the orchestrator exchange information towards business units.

The IT department on the other hand, focus on the integration of technology resources or in other words, various digital solutions and consequently, acts as a "*technology orchestrator*". The technology orchestrator integrates various existing and new technologies, such as applications,

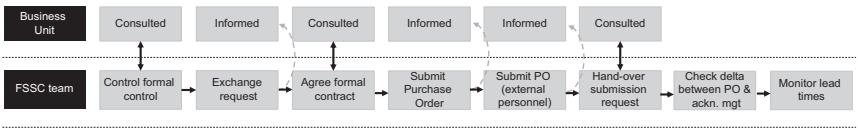

Fig. 10.1 FSSC as business services orchestrator

integration platforms, RPA and ML solutions and process mining solutions, which are provided through in-house and outsourced resources.

Figure 10.2 illustrates the role of the IT department as technology orchestrator when integrating technology related tasks. In this example, the IT department aligns technology related tasks with the FSSC. The bold arrows show a direct relationship between representatives, which are based on reciprocity, to enrich databased business information. The dotted lines illustrate an indirect relationship in which the orchestrator only exchanges information to FSSC representatives.

Both orchestrators are organised separately, however, they intensively coordinate their activities to provide a coherent solution for customers and internal business employees. To support financial business services that spans across departments, the orchestrators did not change the organisational structure and position as this is a risky and time-consuming process. Rather the orchestrators decided to build horizontal mechanisms to exchange information. In doing so, they act as boundary spanners to overcome silo-based thinking.

More specifically, ROT underpins the importance of managers to bundle, structure and leverage resources. In our case studies, FSSC and IT managers initiated horizontal mechanisms, such as joint collaboration meetings and agile PI events across organisational boundaries. We also found that horizontal mechanisms are also supported on an operational level. Subject matter experts, like engineers, business analysts, and RPA developers share their knowledge proactively across departments when exploring new digital technologies. In this regards, Teece (2007) argued that when managerial hierarchies exist, the quality of information that is exchanged between managers commonly decays. Our findings provide evidence that the quality of information; for instance, the applicability of

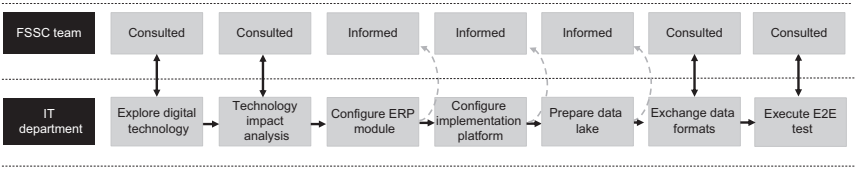

Fig. 10.2 IT department as technology orchestrator

digital technologies, can be improved due to the exchange of knowledge and expertise of involved subject matter experts across departments. As such, information is effectively, and regularly exchanged in agile sprint meetings and impact analyses sessions on financial business processes and digital technologies.

From an organisational perspective, our findings provide support for the coalitional organisational model as described in Chap. 2. The coalitional model corresponds to a market-like partnership where departments are bounded together in a loosely coupled system. Based on the case studies, we found that related tasks and activities in the enterprise system are not directly interdependent and often comprise of specific expertise. The enterprises loosely coupled system model builds on the resource dependency logic where enterprise departments are seen as rather autonomous. Importantly, the ties between departments have become stronger as each of them is aware of dependencies in the enterprise ecosystem. This was found, for instance, in the close alignment between subject matter experts of business, FSSC and IT departments in discussing, exploring, and implementing digital technologies to further improve financial business processes.

Our analysis illustrates four dominant enterprise ecosystem characteristics. First, we found the absence of a formal central actor who orchestrates the enterprise ecosystem as a whole. As a result of an existing power equilibrium the "*business services orchestrator*" and "*technology orchestrator*" filled this gap by orchestrating tasks across departments from a social view. By means of building symbiotic relationships, exploring digital technologies while sharing insights, orchestration took place in practice. Second, the "*business services orchestrator*" and "*technology orchestrator*" showed a collective intension by determining common goals that are supported by all involved organisational departments. This was found to be a necessity to achieve business and technology-driven objectives which is consistent with ecosystem literature (Jacobides et al., 2018; Senyo et al., 2019; Trischler et al., 2020). Third, during an orchestrator's integration resource task, they are likely to learn something new that makes the next iteration slightly different in adapting to a changed context, making the ecosystem self-adjusting and self-organising. This is shown as a part of FSSC's management to develop roadmaps in order to plan data and

digital initiatives together with the business and IT departments (e.g. Logistic Service Provider, Employment Agency). Fourth, each department (e.g. Business, FSSC, IT) focuses on a specialisation that ultimately contributes to creating and capturing enterprise value. In doing so, the loosely coupled structure of each department can be seen as a complementor within the enterprise value network.

These four enterprise ecosystem characteristics portray Guggenberger et al. (2020) ecosystem type of a "symbiotic collective ecosystem". The authors described this type of ecosystem as "closed communities focussing on symbiotic relationships to evolve their individual specialisations" (p. 9). When applying an ecological view, the interdependencies between various enterprise departments (e.g. business, FSSC, IT) as shown by their strong social ties, corresponds to the concept of symbiosis. Khanangha et al. (2020) argued that symbiosis is a purely mutualistic approach, in which enterprises provide complementary value by focusing on distinct but nonoverlapping value (symbiosis) between departments. The findings of our research suggest that the benefits of applying a mutualistic approach by the orchestrators (*business services orchestrator* and *technology orchestrator*) contributes to the value an enterprise ecosystem generates. The orchestrators strategy to assure that their relationships between various departments will be one of symbiotic mutualism which safeguards the enterprise ecosystem from closing down silos and thus create internal competition.

10.4 Theoretical Implications

Our case studies findings contribute to the existing literature in several ways. First, we use resource orchestration theory (Sirmon et al., 2007, 2011) as a theoretical lens to study financial services in a plural sourcing context. Our findings of a business services orchestrator and technology orchestrator are congruent with the role of a keystone player or sponsor (Trischler et al., 2020) in a business-oriented ecosystem. Our analysis identified four ecosystem characteristics that underpin the relevance of an enterprise ecosystem. Based on our in-depth findings we suggest that enterprises, which provide services in a plural sourcing context, need to

act as an ecosystem to cater for changing circumstances. Consequently, enterprises should apply a systemic approach when organising business services as endogenous and exogenous actors are mutually dependent and as such, affect each other.

Our findings go beyond the ecosystem insights of Fayoumi (2016) who developed a conceptual model of an ecosystem-inspired enterprise in the context of manufacturing enterprises. We empirically demonstrated that enterprises could organise and build an enterprise that is capable to cater for changes and as such, is configurable and adaptive. Consequently, our analysis demonstrates that the various antecedents in scope must be orchestrated as a whole to ensure coherence in case of changing business portfolio needs. This corresponds to the relevance of applying a systemic approach. Therefore, we argue that enterprises need to apply an orchestration lens to manage and coordinate antecedent dependencies in a coherent manner in order to adapt adequately. Recent research (Kristoffersen et al., 2021) indicates similar findings in the context of circular economy in which firms changes from coordinating bilateral relationships between antecedents towards orchestrating antecedents as a whole. Importantly, the antecedents in our study can be perceived as part of an enterprise dynamic capability. Teece et al. (1997) argued that enterprises require dynamic resources to manage and organise both content and processes to achieve sustainability.

This dynamic capability is needed to implement and sustain a business services portfolio in the context of a plural sourcing strategy. We build on the findings of Kristoffersen et al. (2021) and provide evidence that enterprises who coherently orchestrate the antecedents in scope are able to establish a dynamic capability. Our analysis shows how dynamic changes in a distributed sociotechnical system, such as financial services enabled by digital technologies, can be orchestrated effectively.

Second, we found that enterprises that apply an ecosystem strategy based on symbiotic mutualism are better capable to create and capture value creation. When bundling nonoverlapping expertise, an enterprise ecosystem is built on collaboration rather than competition, which is a valuable strategy to overcome silo-based barriers. Silos are not as much a technological phenomenon as they are a cultural phenomenon. Casciaro et al. (2019) studied the phenomenon of cross-silo leadership and found

that cultural brokers promote cross-boundary work. The authors made a distinction between the role of a cultural broker as bridge (knowledge exchange) or aversive (build mutual relationships). In contrast to Casciaro et al. (2019) our study suggests that the two orchestrators act both as bridge (i.e. boundary spanner) and aversive as they mutually share and develop knowledge with other departments while strengthen the mutual relationships. In doing so, the orchestrators contribute to an effective synthesis of orchestrating internal as well as external resources.

Research of Serrat (2010) shows that silos are often used as a metaphor to describe organisations "that lack the desire or motivation to coordinate (at worst, even communicate) with other entities in the same organisation, p1–2". Our case studies, however, shows that the business services orchestrator and technology orchestrator act as intrapreneurs bridging the gap across silos to foster business services innovations by exploring digital technologies. Gulati (2007) state that within traditional silo's "collaboration is not rewarded—whether internally among employees of different silos, or externally with customers, suppliers, and partners, p 32". Based on our analysis we argue that collaboration between various departments (silos) must be rewarded as future business services are enabled by digital technologies, which change over time. An essential mechanism is the exchange of knowledge between departments that avoid an "'us versus them' mindset" and ultimately contribute to business services performance.

Third, our analysis sheds new lights on the exchange of information between departments as the case studies demonstrate that orchestration take place on a horizontal level (breadth) as well as vertical level (depth). Hence, the structuring, bundling, and leveraging of subprocesses of resource orchestration differ by managerial level and across organisational departments. Our analysis reveals that the use of digital technologies can be seen as an accelerator to intensify the orchestration of business services portfolio. The complexity of digital technologies and corresponding degree of uncertainty of business and technological effects urges departments to mitigate business and operational risks. This is consistent with research of Kotlarsky et al. (2020) in which the authors found that to manage uncertainties and unanticipated obligations in the provisioning

and reliability of business services orchestration is a prerequisite to encourage desirable behaviour in the use of resources.

Our findings are in contrast with previous research of Sirmon et al. (2008) and Holcomb et al. (2009) in which the authors argued that resource orchestration-related research focus on top-level managers that support the exchange of information on a vertical level (depth). The findings of previous research studies can be explained by the organisational strategies that were derived from rational models in which tasks were organised in dedicated subunits (e.g. highly specialised) (Astley & Zajac, 1991). However, our research shows that also subject matter experts exchange information between departments (horizontal level) as part of resource orchestration tasks. We argue that since resource orchestration varies in breadth and depth it can be considered as a multi-level concept spanning various organisational teams.

10.5 Practical Implications

Our research contributes to practitioners and specifically enterprises' management. Our results suggest that leadership must manage the interplay between a plural sourcing strategy, business services portfolio, modularised business processes, IS standardisation, managing decision rights and commercial orientation effectively and simultaneously. We postulate that an enterprise's executive management should pay a close attention to identify and uncover interdependencies across the discussed antecedents. On a practical level, managers must invest in building an orchestration capability to structure, bundle, and leverage internal and external resources to support their business services portfolio. The rationale to establish an orchestration capability is threefold.

First, we may assume that an enterprise business services portfolio will change regularly as a result of plural sourcing strategy changes. As a result, this requires intensive coordination as interdependencies between the antecedents will cause effects. The orchestration capability has to fulfil these coordination tasks to ensure coherence between the antecedents. Second, as change is constant, enterprise management has to develop a transformation approach to structure, bundle, and leverage internal and

external resources. Such a transformation approach is based on sensing and seizing to identify changes that may affect antecedents and next, act immediately. In doing so, enterprise management is able to integrate, build and reconfigure internal and external capabilities to cater for rapidly changing environments (Teece et al., 1997).

Third, we suggest organising an internal entity that becomes responsible to orchestrate internal and external resources. This "orchestration hub" needs to identify changes as a result of a dynamic plural sourcing strategy, adapt modularised business processes, allocate enabling digital technologies and so forth. Such an "orchestration hub" requires skilled personnel, adequate tooling, and a transformation mindset as alignment between departments and external parties is essential. In turn, this requires an intensive exchange of knowledge between management and subject matter experts. In other words, an "orchestration hub" is a Centre of Excellence (COE) that has the mandate to interact continuously between departments and external partners and as such, become a dynamic resource. The "orchestration hub" should have the mandate to attract dissimilar service providers and gain various types of external resources, which in turn will contribute to value co-creation by means of information exchange and shared knowledge. The "orchestration hub" must safeguard enterprise ecosystems characteristics, ensures that loosely coupled departments comply to common goals, and apply reciprocal behaviour. As a result, these agreements contribute to the robustness of an enterprise ecosystem. To support an "orchestration hub", enterprise management must define their exact role and boundaries, as otherwise the demarcation between an enterprise ecosystem and their role in an external ecosystem will become obscured. In practice, the role and position of an "orchestration hub" may vary taking various factors into account, like the width and depth of an enterprise business services portfolio, degree of plural sourcing strategy, geographical range, to name a few.

10.6 Conclusions

This section addresses the objective 4: *Demonstrate how digitalisation may overcome business services implementation barriers*.

Based on the analysis of four case studies in the context of financial services, we argue that not only digital technologies will act as an accelerator to overcome organisational boundary challenges (e.g. silo-based structures), but also it requires interdisciplinary skills and knowledge to implement and utilise digital business services effectively. In fact, exploring and implementing digital technologies that enable financial business services caused a disruption that triggered a strategic response. We found that both the FSSC (*business services orchestrator*) and IT department (*technology orchestrator*) apply an enterprise ecosystem strategy to orchestrate activities across organisational boundaries of departments. The orchestrators are supported by four dominant enterprise ecosystem characteristics, which acknowledge the strategic importance of ecosystem thinking. We argue that applying an enterprise ecosystem approach can be considered as a paradigm shift compared to a traditional hierarchal way of organising GBS activities. A traditional silo-based approach neglects horizontal mechanisms to exchange information which result in GBS implementation issues. Our findings demonstrate that by applying an ecosystem approach, enterprises are able to overcome traditional GBS implementation challenges.

The overall results show that the core aim of enterprises is to capture sustainable value from perceived value-creating advantages (e.g. Pitelis & Teece, 2009). The orchestration of a global business services portfolio, which is affected by various antecedents, implicates more than the strategic decision to implement a plural sourcing strategy. In fact, it requires an orchestration capability that focuses on the enterprise ecosystem as a whole rather than on the individual relationships between antecedents and the business service portfolio. Pioneering bundling resources, derive from exploratory learning that represent an avenue through which managers are able to create a new orchestration capability by integrating existing and/or new resources that were previously unrelated (Ahuja & Morris Lampert, 2011). By establishing an "orchestration hub", enterprises are able to structure, bundle, and leverage in-house and outsourced resources that are valuable, rare, imitable, and non-substitutable. Resources that satisfy these criteria become "strategic resources", which help enterprises to outperform their rivals. Therefore, we conclude that enterprises develop and implement an enterprise ecosystem strategy encompassing a multi-perspective approach that contributes to achieve competitive advantage.

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