Quantitative Research

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Quantitative Research

This chapter describes the quantitative research that we conducted to examine the path relationships depicted in the conceptual research model (see Fig. 3.1). We employed Partial Least Squares Structural Equation Modelling (PLS-SEM) technique (Hair et al., 2016) to test the hypotheses and the relationships between the antecedents of business services portfolio. This approach seems to be appropriate for the research at hand. Overall, PLS-SEM offers a flexible and robust approach to test relationships and hypotheses, particularly in situations where sample size is small, and the conceptual model (see Fig. 3.1) is complex, and the research is exploratory or prediction-oriented.

4.1 Measurement Model

To establish a comprehensive list of measures and validate measurement reliability, we performed an extensive review of the current literature on plural sourcing and GBS. As such, we identify and create a list of 20 survey items in total for measuring the constructs used in the model, ranging from 2 to 5 items per construct. While all survey items used in this research were adopted from previously validated items, the wordings of

some of the items were slightly modified to fit the research context. For example, to measure plural sourcing strategy, we used items from Parmigiani (2007), Janssen and Feenstra (2010) and Aier et al. (2011), or to measure orchestration of business services portfolio, we used items from studies of Ulbrich and Schulz (2014), Wirtz et al. (2015), Richter and Brühl (2017), and Maatman and Meijerink (2017).

We asked respondents to reflect on the following question "How do you personally evaluate the importance of the following statements", using five-points Likert scales. We opted for a five-point scale to prevent overwhelming respondents with an excessive number of response choices and because our research question was straightforward or pertained to a less intricate construct. Literature shows that two main criteria influencing an enterprise's business services portfolio are (a) number of business services and (b) degree of outsourcing. As per number of business services, we opted to select the four most common business services as discussed in literature (Lacity et al., 2017), namely Finance & Accounting (F&A), Information Technology (IT), Human Resources (HR), and Supply Chain Management (SCM). Addressing the degree of outsourcing, literature on plural sourcing shows three levels of outsourcing, namely low (less than 20% of the annual budget spent on outsourcing), medium (between 20% and 50% of the annual budget spent on outsourcing), and high (more than 50% of the annual budget spent on outsourcing) (Dahlberg & Lahdelma, 2007). Both the number of business services and degree of outsourcing were used as control variables.

Literature shows that other variables such as an enterprise size (Aier et al., 2011), geographical location (Ciarli et al., 2012), and level of the maturity (Lacity et al., 2017), may impact the enterprise's orchestration of business services portfolio. Therefore, in addition to the degree of outsourcing, we included the enterprise size accounted by the number of employees (small = < 10,000 and large > 10,000 employees), geographical location (1 = North and South America, 2 = Europe and Asia Pacific and Africa), and maturity level based on the year of establishment (1 = before 2006, and 2 = after 2006). In this study, these variables have been used as control variables to examine whether the proposed relationships in the model are affected by these variables.

4.2 Sampling Strategy

Based on two assumptions, we set out to collect unique and representative data from enterprises that applied a business services portfolio in the context of a plural sourcing strategy. The first assumption is that enterprises that support many types of business services both in-house and outsourced, are more likely to orchestrate their business service portfolio. Second, we assume that the degree to which business services are outsourced affect the orchestration of an enterprise's business services portfolio. In addition, we considered additional three criteria for choosing the enterprises. The first criterion was that the plural sourcing strategy must have been established in the last three years prior to data collection. Another criterion was that the enterprises' business services portfolio includes the four most common business services (F&A, HR, IT, and SCM). The last criterion was that enterprises need to be engaged with developing plural sourcing strategy and have some degree of outsourcing in their business services. The initial sampling frame comprised a commercial mailing list encompassing globally operating enterprises across diverse industries. We inquired whether they utilised business services and if they were interested in participating in a global study. By reading practitioner magazines and informal meetings with advisors, the research team was able to compose the initial list. Next, we reached out to all the enterprises by phone, which were willing to participate to explain the context of the study and to locate a knowledgeable informant. To encourage their participation, informants were promised full confidentiality of their personal information and responses. We relied on the informants' profiles for collecting data and their engagement of the plural sourcing strategy in their respective enterprise to participate in the research. As we were interested in collecting data from the most involved representatives in an enterprise, only executives (directors, vice presidents, etc.) who were actively involved in developing a plural sourcing strategy were invited to participate. In addition, we only allowed senior managers who were involved in orchestrating business services portfolio to participate in the research.

4.3   Data Collection

Following a two-stage procedure, we collected data between January 2015 and February 2019. We developed an English questionnaire and pre-tested it with fifteen potential respondents, who represented both scientists and practitioners. Attached to the survey was a short cover letter explaining the purpose of the research. While it is acknowledged that the dataset utilised in this research may be relatively old, the uniqueness associated with this dataset cannot be overlooked. We sent out 267 invites and received 121 complete responses (45% response rate). We found three main reasons for not being able to complete the survey: (i) their portfolio did not match the criteria, (ii) not being involved in establishing a plural sourcing strategy, and (iii) lack of time. Table 4.1 shows the distribution of the enterprises.

This rich dataset is rather unique, as it was collected on a global scale, representing enterprises operating internationally in different industries. We anonymised the data of participants because of confidentiality reasons. The enterprises represent ten different industries, mostly from Education, Energy & Utilities, Pharma, and Public Sector, and less from Consumer Products and Technology & Telecom (see Table 4.1 and Appendix B2). Most of the enterprises in different industries had a low (less than 20% of the annual budget) degree of outsourcing: F&A

Table 4.1 Distribution of enterprises within their industries

Industry	Firms	Percentage
Consumer Products	6	5%
Diversified Conglomerate	8	7%
Education	10	8%
Energy & Utilities	18	15%
Financial & Professional Services	9	7%
Food & Beverages	9	7%
Manufacturing & Logistics	8	7%
Pharma	15	12%
Public Sector	11	9%
Technology & Telecom	6	5%
Other	21	18%
Total	121	100%

Table 4.2 The degree of outsourcing

Degree of outsourcing	Finance & accounting		Information technology		Human resources		Supply chain management	
	Firms	%	Firms	%	Firms	%	Firms	%
Low (<20%)	69	57%	103	85%	48	40%	104	86%
Medium (20%-50%)	43	36%	13	11%	47	39%	12	10%
High (>50%)	9	7%	5	4%	26	21%	5	4%
Total	121	100%	121	100%	121	100%	121	100%

(n = 69), IT (n = 103), HR (n = 48) and SCM (n = 104). However, 26 enterprises had more than 50% of their HR outsourced, as presented in Table 4.2.

4.4   Data Analysis and Results

4.4.1   Context

Partial Least Squares Structural Equation Modelling (PLS-SEM) is employed for this evaluation. Following the recommendation provided by Gefen and Straub (2005), first the measurement model and then the structural model were assessed. We examined and evaluated the items and assessed the constructs' reliability and validity. In the first step, we accounted for the items loadings, and then examined the values of the composite reliability (CR), and the average variance extracted (AVE), as recommended by Hair et al. (2012). Except for one item, all items' loadings were consistent with the cut-off value of 0.70, see Table 4.3. The Cronbach's alpha (α) test was performed, and all values were above the cut-off value of 0.70, with lowest for orchestration of business services portfolio (0.720), and the highest for modularisation (0.901). Following the recommendation of Bagozzi and Yi (1988), and Hair et al. (2012), we examined the composite reliability (CR) values, and they were all above 0.70, see Table 4.3. Finally, the convergent validity was assessed via the AVE values with lowest for plural sourcing strategy (0.583), and 0.790 for customer orientation (Bagozzi & Yi, 1988).

Table 4.3 Descriptive statistics, internal consistency, and reliability of items

Antecedent	Items	Factor loadings	Mean	Std	α	CR	AVE
Modularised business processes	MBP-1	0.871	2.256	1.210	0.901	0.926	0.716
	MBP-2	0.849	2.287	1.294			
	MBP-3	0.844	2.482	1.541			
	MBP-4	0.799	1.933	1.333			
	MBP-5	0.865	2.317	1.285			
Customer orientation	CO-1	0.900	2.384	1.319	0.735	0.883	0.790
	CO-2	0.878	2.223	1.400			
Managing decision rights	MDR-1	0.870	2.073	1.318	0.865	0.903	0.650
	MDR-2	0.773	1.858	1.305			
	MDR-3	0.767	1.881	1.291			
	MDR-4	0.809	2.452	1.360			
	MDR-5	0.809	2.321	1.536			
IS standardisation	ISS-1	0.896	2.437	1.103	0.730	0.881	0.787
	ISS-2	0.878	1.890	1.117			
Orchestration of business services portfolio	OBSP-1	0.849	3.200	1.327	0.720	0.818	0.693
	OBSP-2	0.815	3.118	0.911			
Plural sourcing strategy	PSS-1	0.728	2.837	1.387	0.779	0.846	0.583
	PSS-2	0.612	2.737	0.880			
	PSS-3	0.842	2.850	0.963			
	PSS-4	0.848	2.766	1.338			

4.4.2 Common method bias and non-response bias test

As we collected self-report data, we assessed Common Method Bias (CMB) following Harmon's single-factor test, and a more robust method, i.e. Common Latent Factor (CLF; Podsakoff et al., 2003). The Harmon's single-factor test resulted in six factors accounting for 69% of the variance; as such no evidence of CMB issue was found in the data. In addition, the result of CLF, using the values of the chi-square difference test between the unconstrained model and a model where all paths were constrained to zero, did not show any evidence of CMB (Kock, 2015; MacKenzie & Podsakoff, 2012). As the items used to measure each construct are highly correlated and interchangeable, we used reflective constructs. Therefore, multicollinearity is not an issue of concern in this research. In addition, multicollinearity is typically a concern in multiple

linear regression rather than PLS, as PLS is designed to handle collinearities between predictors more effectively. In PLS, the focus is on capturing the shared variance (constructs' latent variables) between predictors and the dependent variable. PLS regression uses latent constructs rather than individual predictors to mitigate the impact of multicollinearity. However, to assess multicollinearity in SmartPLS, we consider the following indirect methods such as Variance Inflation Factor (VIF) in the inner model (see Table 4.4). The values of VIFs were all below the threshold of 10 (in our case all below 4.4); therefore, we concluded that the data is considered free of collinearity issue, or suggesting low multicollinearity (Henseler et al., 2015).

A non-response bias test was performed in which sample framing excludes a certain type of respondents in a non-homogeneous population. In doing so, the first and last quarters of responses were compared by using a *t*-test on the average scores for the main variables of the first quartile (n = 30), and the last quartile (n = 30) of the respondents (Lau et al., 2010). The test result did not show any significant differences between the mean scores of the two groups. Following that, we examined the sample bias, using Levene's Homogeneity of Variance Test. We ran the test on several items and did not find any major differences between the groups based on the sample of firms.

For assessing discriminant validity, we followed the Fornell and Larcker (1981) criterion and examined the values of the square root of AVE for each latent variable. As recommended, the values must be greater than other correlation values among the latent variables to assure that a

Table 4.4 VIF analysis

Path relationships	VIF
Customer orientation ➜ Modularised business processes	1.331
Costumer orientation ➜ Orchestration of business service portfolio	1.610
Managing decision rights ➜ Modularised business processes	1.574
Managing decision rights ➜ Orchestration of business service portfolio	1.817
IS standardisation ➜ Modularised business processes	1.531
IS standardisation ➜ Orchestration of business service portfolio	1.896
Modularised business processes ➜ Orchestration of business service portfolio	2.172
Plural sourcing ➜ Orchestration of business service portfolio	1.376

Table 4.5 Discriminant validity: Fornell-Larcker criterion

Antecedents	MBP	CO	ISS	MDR	PSS	OBSP
Modularised business processes	**0.846**					
Customer orientation	0.749	**0.889**				
IS standardisation	0.748	0.689	**0.887**			
Managing decision rights	0.772	0.750	0.740	**0.806**		
Plural sourcing strategy	0.742	0.688	0.633	0.683	**0.764**	
Orchestration of business services portfolio	0.392	0.224	0.242	0.340	0.411	**0.832**

Table 4.6 Discriminant validity: Heterotrait-Monotrait (HTMT) criterion

Antecedent	MBP	CO	ISS	MDR	PSS	OBSP
Modularised business processes						
Customer orientation	0.808					
IS standardisation	0.715	0.840				
Managing decision rights	0.750	0.687	0.508			
Plural sourcing strategy	0.669	0.334	0.123	0.585		
Orchestration of business services portfolio	0.424	0.394	0.667	0.617	0.842	

construct in the model has not been measured through other constructs in the model (Henseler et al., 2015). As shown in Table 4.5, the square roots of AVE values in bold on the diagonal are in line with the criterion.

In addition, the discriminant validity was assessed through a more robust approach, namely Heterotrait-Monotrait (HTMT) ratio. To assess discriminant validity using HTMT, the common threshold is 0.85. If the HTMT value is less than 0.85 (Franke & Sarstedt, 2019), it indicates satisfactory discriminant validity and suggest the constructs are distinguishable from one another (Hair et al., 2017). In HTMT analysis, all values were below the threshold (see Table 4.6).

4.5   Structural Model Analysis

PLS-SEM was used to assess the path relationships proposed in the research model. PLS-SEM is a flexible and robust approach that enables testing of relationships and hypotheses, particularly in situations with small sample sizes, assumptions on multivariate normality, using of both

reflective and formative constructs, complex conceptual models, and exploratory or prediction-oriented research (Henseler et al., 2015; Ringle et al., 2012). In addition, PLS-SEM allows for assessing indirect and total effects, reducing error associated with the model by assessing the relationships between multi-item constructs (Yoshikuni et al., 2023). To assess the significance of the path relationships in the model (level of 5%), we used bootstrapping and created 5000 sub-samples from the data and examined the t-statistics values. The explained variance of orchestration of business services portfolio was 52% ($R^2 = 0.516$). This means that the latent variables plural sourcing strategy, modularised business processes, and customer orientation explained nearly 52% of the variance in orchestration of business services portfolio. IS standardisation, managing decision rights and customer orientation explained 70% of the variance of modularised business processes. It should be noted that as we used PLS-SEM approach using the Smart PLS software, we cannot provide an extensive list of values corresponding to model fit data and relied only on the path coefficients and their significance (Hair et al., 2014). Nevertheless, Hooper et al. (2008) suggested using the standardised root mean square residual (SRMR ranged from 0 to 1) values for reporting the model fit data.

As recommended, the values lower than 0.08 are considered a good fit, the SRMR value in our analysis is 0.069. The path relationship between plural sourcing strategy to orchestration of business services portfolio was significant ($\beta = 0.23$, $t = 2.186$, $p < 0.05$), providing support to accept H1. The path relationship between customer orientation and orchestration of business services portfolio was significant ($\beta = 0.18$, $t = 2.088$ $p < 0.05$). Thus, H2a is supported by the data. The path between customer orientation and modularised business processes was statistically significant, thus supporting hypothesis H2b ($\beta = 0.23$, $t = 4.102$, $p < 0.001$). The results showed that the path between modularised business processes to orchestration of business services portfolio was also significant ($\beta = 0.29$, $t = 2.291$, $p < 0.05$). Therefore, the data support H3. The paths from IS standardisation to orchestration of business services portfolio and managing decision rights to orchestration of business services portfolio were not significant, thus rejecting hypotheses H4a and H5a. Nevertheless, the path relationships from IS standardisation and managing decision rights to modularised business processes were both
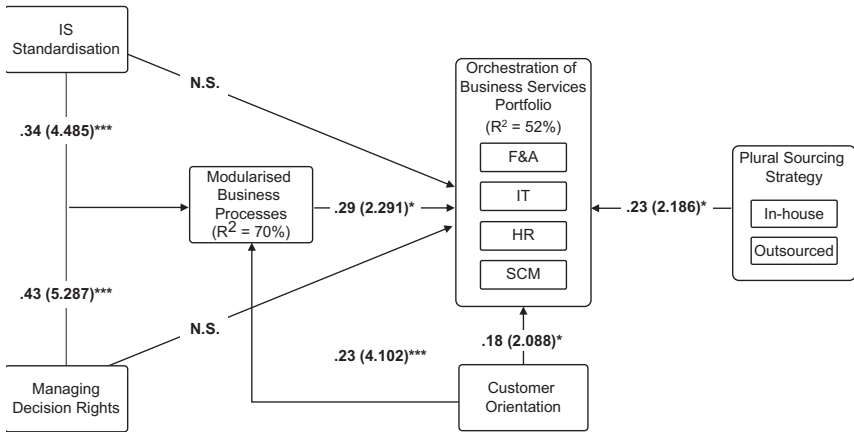
Fig. 4.1 Research model results. (Notes: *** *p* < 0.001; ** *p* < 0.01; * *p* < 0.05)

significant (β = 0.34, *t* = 4.485, *p* < 0.001; and β = 0.43, *t* = 5.287, *p* < 0.001). Thus, hypotheses 4b and 5b were supported by the data. In summary, we conclude that plural sourcing strategy, modularised business processes, and customer orientation are important antecedents that directly affect a firm's orchestration of business services portfolio, as shown in Fig. 4.1.

4.5.1 Mediation and Moderation Effects

The results of the mediation test indicate that the antecedent modularised business processes fully mediate the relationships from IS standardisation, managing decision rights, and customer orientation (partially) to orchestration of business services portfolio. The specific indirect effect value between customer orientation ➜ modularised business processes ➜ orchestration of business services portfolio was (β = 0.11, *t* = 1.99, *p* < 0.05) (see H2c). The specific indirect effect value between IS standardisation ➜ modularised business processes ➜ orchestration of business services portfolio was (β = 0.10, *t* = 1.198, *p* < 0.01), and for managing decision rights ➜ modularised business processes ➜ orchestration of business services portfolio (β = 0.11, *t* = 2.078, *p* < 0.05), (see H2d and H2e).

Given that the direct paths between IS standardisation and managing decision rights to orchestration of business services portfolio were not significant, we conclude that modularised business mediate the relationships of both antecedents with orchestration of business services portfolio (see Table 4.7). These mediation results show that modularised business processes form an essential component needed to orchestrate a firm's business services portfolio effectively.

We ran multigroup analysis using the finite mixture partial least squares (FIMIX-PLS) algorithm, see Table 4.8 (Matthews et al., 2016; Yoshikuni et al., 2023). The FIMIX-PLS algorithm can detect subpopulations by prespecifying subgroup sizes and can classify data of the inner path models estimates based on heterogeneity (Hair et al., 2017). It our analysis, two segments solution was most appropriated due to subgroup size.

Table 4.7 Mediation effect

Hypothesis	Path relationships	Specific indirect effects	VAF	Mediation
H2c	Customer orientation ➤ Modularised business processes ➤ Orchestration of business services portfolio	0.11 (1.99) *	31%	Partial
H4c	IS standardisation ➤ Modularised business processes ➤ Orchestration of business services portfolio	0.10 (1.198) **	100%	Full
H5c	Managing decision rights ➤ Modularised business processes ➤ Orchestration of business services portfolio	0.11 (2.078) *	100%	Full

Table 4.8 Cross tab of FIMIXPLS segment

Observed variable	FIMIX-PLS segments			Sample % by segments		
Degree of outsourcing	1	2	Sum	1	2	Sum
Low (less than 20% of the annual budget spent on outsourcing)	59	9	68	87%	13%	56%
Medium (between 20% to 50% of the annual budget spent on outsourcing)	17	2	19	89%	11%	16%
High (more than 50% of the annual budget spent on outsourcing	18	16	34	53%	47%	28%

We used enterprises' degree of outsourcing (Low = < 20%, Medium = more than 20% and less than 50%; High = >50%) to assess the moderating effect of this variable on the relationships shown in Table 4.9. The moderation test results showed that the paths from plural sourcing strategy

Table 4.9 Moderation effect

Path relationships	β	T-stat	PLS-MGA	Parametric test	Welch–Satterthwait test	Degree of outsourcing
Plural sourcing strategy ➜ Orchestration of business services portfolio	0.354	1.977	Sig*	Sig*	Sig*	Low
Customer orientation ➜ Orchestration of business services portfolio	-0.420	2.520	Sig**	Sig**	Sig**	Low
Customer orientation ➜ Modularised business processes	0.328	3.015	Sig***	Sig***	Sig***	Low
IS standardisation ➜ Modularised business processes	0.312	3.090	Sig***	Sig***	Sig***	Low
Managing decision rights ➜ Modularised business processes	0.301	2.410	Sig**	Sig**	Sig**	Low
Managing decision rights ➜ Modularised business processes	0.782	1.962	Sig*	Sig*	Sig*	Medium

*** Significant at 0.001 (two-tailed), ** Significant at 0.01 (two-tailed), * Significant at 0.05 (two-tailed)

and customer orientation to orchestration of business services portfolio were moderated by the organisations' degree of outsourcing. This effect suggests that for enterprises having a low degree of outsourcing, the impact of customer orientation and plural sourcing strategy is stronger than for those enterprises with a high degree of outsourcing. Interestingly, we also found moderating effects of degree of outsourcing on the relationships of customer orientation, IS standardisation, and managing decision rights with modularised business processes for enterprises with a low degree of outsourcing. This corresponds to enterprises that decide to outsource a limited part of their services to the market (low degree of outsourcing). The path between managing decision rights and modularised business processes was also significant in case of a medium degree of outsourcing.

Regarding the maturity of the enterprise, we divided the data into two groups; group 1 includes enterprises established before 2006 ($n = 47$) and group 2 includes enterprises established after 2006 ($n = 74$). The multi-group analysis (MGA) results show that the maturity of an enterprise impacts three path relationships in the model. The path between managing decision rights to modularised business processes was significant for enterprises in group 1 ($\beta = 0.46$, $t = 2.630$, $p < 0.001$). The MGA results show that the path between managing decision rights to orchestration of business services portfolio was significant only for the enterprises in group 2 ($\beta = 0.15$, $t = 1.996$, $p < 0.05$). Finally, the path between IS standardisation to modularised business processes was significant for enterprises in group 1 ($\beta = 0.10$, $t = 2.100$, $p < 0.05$).

Regarding the size of the enterprises, we divided its size into two groups according to the number of employees (group 1; small = < 10,000 ($n = 51$), and group 2: large > 10,000 employees ($n = 70$)). The MGA results show that enterprise size impacts three path relationships in the model. The paths between managing decision rights to orchestration of business services portfolio ($\beta = 0.50$, $t = 3.056$, $p < 0.001$), and customer orientation to modularise business services ($\beta = 0.61$, $t = 2.223$, $p < 0.05$) were significant for the enterprises in group 1 (small firms). The path between IS standardisation to modularised business processes was significant for enterprises in group 2 (large firms) ($\beta = 0.58$, $t = 4.826$, $p < 0.001$). This indicates that while small businesses understand the value of

customer orientation, and managing both their operations and their business services, large businesses place more emphasis on using technology to modularise their business services.

Regarding the location of the enterprises, we divided enterprises into group 1 (North America, and South America, n = 56), and group 2 (Europe, Asia Pacific, and Africa, n = 65). The MGA results show that the enterprises' geographical location impacts three path relationships in the model. The path between managing decision rights to orchestration of business services portfolio was significant only for the enterprises located in group 2 (β = 0.38, t = 2.054, p < 0.05). The path between customer orientation to modularised business processes was significant for enterprises located in Europe, Asia Pacific, and Africa (β = 0.78, t = 5.617, p < 0.001). In addition, the path between plural sourcing strategy to orchestration of business services portfolio was significant for enterprises located in group 1 (β = 0.38, t = 2.054, p < 0.05). Finally, the geographical location of the enterprises impacts the path between IS standardisation to modularised business processes for enterprises located in group 1 (β = 0.32, t = 2.352, p < 0.01).

4.6   Discussion

Our findings show that the antecedents plural sourcing strategy, customer orientation, and modularised business processes have a direct and significant effect on enterprises' orchestration of business services portfolio. The results of the present research go beyond the findings of Sako et al. (2016), who found that supplier portfolio design affects plural sourcing from a transaction cost perspective. We extend this finding by focusing on enterprises' orchestration of business services portfolio that include the provisioning of internal as well as external business services by applying an ROT lens. Based on the findings, it can be argued that a business services portfolio orchestrates the production of in-house and outsourced business services.

The research findings suggest that the antecedent modularised business processes directly influence the orchestration of business services portfolio positively, and as such, contributes to creating business process

flexibility (Van der Aalst, 2012). The results show that the modularised business processes is essential to support enterprises in accomplishing business services portfolio flexibility in a plural sourcing context. In addition, the results show that IS standardisation and managing decision rights indirectly impact the enterprises' orchestration of business service portfolio through modularised business processes acts as a mediator. The SEM results show that customer orientation has both direct and indirect effect on the dependent variable, i.e. orchestration of business services portfolio. The outcome of the study demonstrates that an enterprise's plural sourcing strategy, modularised business processes, and customer orientation are perceived to be critical antecedents to establish a business services portfolio. In the present study, IS standardisation and managing decision rights do not influence a business services portfolio directly but only indirectly.

4.7   Conclusions

This chapter addresses main objective 2: *Theoretically develop and empirically validate a business services portfolio model and its corresponding antecedents.*

Within the context of a plural sourcing strategy, the five identified antecedents were discussed more in-depth. By studying relevant literature, we proposed eight important relationships between the antecedents under study to orchestration of business services portfolio. In addition, we argue that the role of modularised business processes may act as a moderator between the antecedents and a business services portfolio. As a result, we developed three additional hypotheses. The various relationships as proposed were translated into a conceptual research model that shows the expected path relationships. As a next step, we examined the path relationships by employing Partial Least Squares Structural Equation Modelling (SEM) technique (Hair et al., 2016). Our analysis provides evidence and support for the following hypotheses: H1, H2a, H2b, H3, H4a, and H4b. However, in contrast to our expectations, hypotheses H4a and H5a were rejected in the proposed conceptual model.

In addition, this chapter addresses the objective 3: *Show how business processes act as a mediator towards a business services portfolio.*

Our survey on GBS drivers (see Table 2.2) addresses the role of business process excellence as enterprises in most industries acknowledge its importance. An exception is organisations that correspond to Education and Public Sector. As discussed, scholars underpin the importance of business processes to support a business services portfolio. Hence, we decided to conduct mediation and moderation tests to find evidence for the role and importance of the business processes. The results of the mediation test indicate that the antecedent modularised business processes fully mediate the relationships from IS standardisation, managing decision rights, and customer orientation (partially) to orchestration of business services portfolio. As a next step, we used enterprises' degree of outsourcing as a control variable to assess the moderating effect of the antecedent modularised business processes. Five significant path relationships were identified in the case of a low degree of outsourcing in practice. In other words, we found five paths where the low degree of outsourcing has a moderating effect. However, the path relationship (e.g. managing decision rights to modularised business processes) was identified in case enterprises apply a medium degree of outsourcing. By analysing mediation and moderation effects, we answer main objective 3.

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