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An Exploration of Shared Services Types in Higher Education

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ABSTRACT

The emerging global Higher Education (HE) market challenges all universities to reconsider their mission, in order to function effectively and efficiently, and to be responsive to changing marketplace demands. Universities are considering co-operating or sharing in a wide range of areas, in order to achieve sought after cost savings and improvements in performance. Studies suggest that a wide range of services could potentially be shared across Higher Education Institutions (HEIs), offering several potential benefits. While there are many individual documented examples of how shared services have been applied in the Higher Education sector, there has been little synthesis, conceptualization or discussion (in general or in the HE sector) around the different types of possible shared services options and how they are structured. A deeper understanding of potential types of sharing arrangements will be of value to those universities considering shared services, implementing shared services, and managing shared services. Through analysis of 36 documented case studies of shared services in HE, this study sought to synthesize a typology of sharing arrangements. An inductive approach was used to identify the core differentiating dimensions. The findings present eight types of sharing arrangements that occur in the HE sector, with descriptions and examples from the case studies observed.

Keywords

Shared services types, Higher Education, shared services, archival analysis, case studies, typology

INTRODUCTION

Anecdotal evidence suggests universities are good candidates for shared services (Dove, 2004; Yee et al., 2009). Globally, Higher Education Institutions (HEI) are challenged to improve their services and become more efficient. The comparatively homogenous business requirements of Universities (compared to many other sectors), combined with strong impetus to respond to a raft of common influences across the Higher Education (HE) sector worldwide, suggest potential for the sharing of related activities and resources via shared services. Environmental drivers that influence the interest for shared services from HEIs include: continuing growth in student numbers, changes in the nature of academic work, increasing competition between institutions, government pressure to improve operational efficiency, and generally diverse and shifting expectations of stakeholders (KPMG, 2006; Deloitte.Touche.Tohmatsu, 2001). These substantial and continuing shifts in the sector demand more efficient and improved processes. Universities thus seek to identify services that can be managed more effectively and at a lower cost and to determine the most effective means of delivering those services. In order to achieve sought after cost savings and improvements in performance, they are considering co-operating or sharing in a wide range of areas. Information technology is an important driver and enabler of shared services. Moreover, one of the areas where shared services is gaining prominence is the IT function itself.

Sharing typically aims to gain benefits of scale, such as: (1) reduce duplication of effort (2) help control costs, (3) solve common problems, (4) access expertise and advanced technology, and (5) provide more services with limited resources (Dove, 2004; Miskon et al., 2010; Yee et al., 2009). Benefits of shared services are also often cited in the commercial press where they highlight aspects such as: costs savings, improved customer service and efficiency (Fiserv, 2009). While payroll, human resource and IT are the services most often involved in sharing arrangements, studies suggest that a wide range of services could potentially be shared across Higher Education Institutions (HEIs) (KPMG, 2006).

The concept of shared service itself needs clarification. A widely accepted, precise definition is lacking. Miskon et al. (2010) synthesize (based on the frequency of key words) from several definitions often used in the IS literature, the following -

shared services is “the internal provisioning of services by a semi-autonomous organizational unit to multiple organizational units, involving the consolidation of business functions supported by a sharing arrangement”. However, some of the elements in this definition can be disputed. For instance, in the Higher Education sector, services are often shared inter-organizationally (for example, Albrecht et al., 2004; Boyle and Brown, 2010). Moreover, the terms ‘shared services’ and ‘shared service centre’ are often used interchangeably, while only the latter explicitly implies the use of a semi-autonomous organizational unit. To achieve progress toward a widely agreed definition of shared services and the development of related theory; as with every relatively new research area, advancing from concepts to theory requires the ordering or classification of the objects within the research domain (Lambert, 2006).

IS has contributed to the growth of shared services, as driver and enabler, by providing the necessary applications and infrastructure. As computer-based corporate information systems have become standardized, and the internet pervasive and increasingly the backbone of administrative systems, the technical impediments to sharing have come down dramatically (Hoffman, 2009; JISC, 2007; LeFevre, 2005; Ulbrich et al., 2010). There is also a growing desire and willingness within universities to share information, solutions and skills amongst each other (Boyle and Brown, 2010; Hoffman, 2009; KPMG, 2006; Millet et al., 2005).

Though shared services are proliferating in practice, there has been a dearth of empirical research in the area, this work especially scarce in IS (Miskon et al., 2010). Shared services in HE is relatively new and novel, but attracting growing interest. This lack of research on shared services generally, and more specifically within the IS domain, and particularly within the HE sector, is the driving motivation for this study.

Thus, this paper specifically aims to answer the question “*What are the different types of shared services?*” In attention to this question, we consider the dimensions that differentiate core types of shared services, and seek patterns that explain how the different shared services types are structured. An understanding of common types of sharing arrangements is important for the progression and success of shared services in practice and academe. Such results will, for example, help yield improved understanding of: how to position sharing arrangements in organizations (Queensland.Government, 2002), the relevant stakeholders involved in sharing arrangements, how to support the design, deployment, structure and governance of shared services (Firecone, 2007), and help unfold the commonly acknowledged complexity found within shared services organisations (A.T.Kearny, 2004).

The contributions of this paper can be summarized as follows. First, we evidence strong interest in implementing shared services in the HE sector. Second, we present an evidence-based taxonomy of types of sharing arrangements observed in practice. Finally we suggest future research needed in this space.

The remainder of this paper will proceed as follows. The next section presents the research approach applied in the study. Findings and related discussion are presented in the following section. The paper concludes with a summary of the findings and presents several recommendations for future research.

RESEARCH METHOD

The study was aimed to understand the different types of shared services arrangements in the HE sector. An initial literature review on shared services (which focused on the shared services domain in general, shared services in IS, and shared services in the HE sector) confirmed that no prior work on conceptualizing types of shared services had been reported. The aim was to contribute towards addressing this gap by providing an initial conceptual framework of shared services types (a typology) in the HE sector.

Conceptual frameworks are important in emerging areas as they can form an essential basis for theory building and further investigation (Carroll and Swatman 2000). IS research relies heavily on conceptual framework developments (Chen and Hirschheim 2004). A typology (a form of conceptual framework) synthesizes the diverse facets of complex, possibly confused phenomena (Ortenblad, 2002); such as shared services. A typology can be used to explain phenomenon and can serve as an analytical tool for researchers interested in investigating the phenomenon further (Shrivastava, 1983). A typology of shared services can assist the field by providing a framework to position diverse shared services arrangements and to better understand the variety of shared services structures. While conceptualizations of this nature are only a springboard to broader themes, they are an essential starting point for deeper understanding (following Miles and Huberman, 1994, p. 18).

A literature study can be used to derive conceptual frameworks. (Ahluwalia and Varshney, 2005; Beyer and Trice, 1982; Gable et al., 2010) are examples of prior studies solely dedicated to deriving literature based conceptual typologies. This approach is becoming more common due to increased accessibility to documented evidence (i.e. with better indexed systems, digitization of resources, search engines and databases that have a wide coverage, and the content most closely matches the term entered) (Almpanidis et al., 2007, Chua et al., 2007) and the growing acceptance of the use of literature as

secondary evidence in IS studies (Bandara et al., 2011; Srivastava and Teo, 2008). The study reported herein employed a similar approach, where documented cases studies of shared services in HE were sought and analyzed, to derive a typology of shared services types in the HE sector. Following Levy and Ellis (2006), we employed a three-stage approach to extract, codify and interpret the evidence. The procedures for extraction of relevant documentation and preparation for analysis are presented following. The subsequent section presents overall findings.

Extraction of relevant documentation

A comprehensive search for published cases of shared services in the HE sector was commenced. Early efforts quickly revealed disparate relevant sources (e.g. reports, white papers, slide presentations and web site information etc.), suggesting the search for documented evidence, be conducted via a structured internet search strategy; using Google.

Analyzing cases drawn from publically accessible content, available via internet searching, has been practiced by other researchers in IS (e.g. Chua et al., 2007; Tomiuk and Pinsonneault, 2008). This approach has tended to be employed in similar circumstances; where the required information is scattered across multiple disciplines and not available from formal academic outlets. Google was used for its recognized retrieval effectiveness and advanced search features, and the fact that it has become the 'default' search engine used by most individuals (Garoufallou et al., 2008). We adapted our approach based on procedures and lessons shared by past researchers, also following guidelines for conducting effective literature-based studies in IS (e.g. Webster and Watson, 2002; Bandara et al., 2011). We acknowledge potential limitations (and potential bias) of the search outcomes based on aspects such as; the search terms used, how the large volumes of resulting information from the searching was processed, the authenticity and accuracy of the information extracted, and the fact that where information was not publically accessible - they were not included or captured.

The key phrases 'shared service*' AND ('higher education' OR 'university') were searched for through a Google advanced search. Results, including reports, web pages, white papers and slide presentations, were downloaded. Forward and backward searching (following Levy and Ellis 2006, Webster and Watson 2002) based on this initial set of resources, was also conducted in order to discover additional possibly relevant resources. These resources were systematically reviewed and prepared for analysis; then indexed and filtered. Identified resources were first checked to confirm *actually* about shared services within the HE context. Those that were not, were removed and those that were within the scope of interest and context, were saved in a digital repository. Those saved resources belonging to the same case, were saved under a separate sub-folder, and duplicate resources removed. The overall search via the internet yielded 221 resources that discussed shared services in the HE sector. Ninety-two of these represented examples of sharing arrangements in the HE sector that derived from 36 different case studies (identified from this effort).

Preparing for the analysis

The research was qualitative in nature, the extracted documentation analyzed employing a basic content analysis approach. Content analysis is an extensively used data codification and synthesis technique. Given the exploratory nature of the study, a conventional inductive content analysis approach was used, with coding categories derived directly from the text data without theoretical perspectives or predetermined categories (Miles and Huberman, 1994). A detailed coding-protocol was devised by the researchers, to confirm the coding plan and procedures.

The analysis took place in multiple iterative rounds. The documentation was analysed with a focus on 'types' of shared services. Special attention was given to grouping the cases (based on available information) along similarities and differences of emerging themes. Once a theme was identified, the documents were re-analysed in search of further instantiations of the theme, and to identify sub-themes. The details coded under each of these themes were reviewed in depth to conceptualise how the shared services were structured. The overall research findings and the analytical activities that supported these findings are presented in detail in the next section.

STUDY FINDINGS

The data analysis resulted in three main themes related to the types of shared services environments. They form the main dimensions of the typology presented here and are briefly described below. When a theme was identified, the researchers also sought supporting literature (outside the cases- via a general shared services literature search); to further understand the concepts, as means of triangulation (to check if what was identified from the data made sense), and to see if what was observed here was similar to information reported in other similar contexts in other studies (following Yin, 2009). In addition, the themes that emerged have face validity in that they cover important organizational design issues at the enterprise level (e.g., Nadler et al., 1997) with respect to the organizational boundaries (D1 and D3) and structure (D2).

D1 (Theme 1) Sharing Boundary- This captures whether the sharing is within the boundary of a single organization (intra-organizational shared services) or if the sharing is between multiple organizations (inter-organizational shared services). Intra-organizational involves a single organization consolidating and centralizing a business service where the sharing activities occur within the organization (Yee et al., 2009). Inter-organizational involves two or more organizations sharing common services (Borman, 2010, Wang, 2007; Yee and Chan, 2008).

D2 (Theme 2) Separate organizational entity- This captures if there was a separate organizational entity, responsible for providing the shared services. Often, such a unit is referred to as a shared services center (SSC). Hochstein et al. (2009) identified seven criteria that represent the various forms of shared services centers. They focus predominantly on global shared services arrangements but most of the criteria such as; the contract forms, product portfolios, and center concept are relevant in the HE sectors. There is a strong relation with the sharing boundary (D1) as the organizational entity can be expected to be quite different for intra-organizational shared services, where it is part of an overarching corporate governance and structure, or for an inter-organizational shared services, where this is not the case.

D3 (Theme 3) Third Party Involvement- This captured if there is a third party (external to the sharing organizations) involved in providing the shared services. While some shared services may perform many of their business processes themselves and are responsible for their own information systems, others may make use of external suppliers of business and IT services. Moreover, in some cases shared services may be an intermediate stage on a trajectory to outsourcing rather than an alternative organizational solution (e.g. Gospell and Sako, 2010).

The next section(s) presents a summary of how the case study data instantiated and supported the derivation of the above mentioned three dimensions (themes). This information is analyzed further (as summarized in Table 2) to derive the different types of shared services in HE [see Figure 1 and 2 (in the Appendix)] as observed from the dataset.

CASE STUDIES

As mentioned earlier, descriptions of 36 different cases on shared services in the higher education sector were identified from the web search. Table 1 lists summary results of these 36 case studies, coded against the three themes (D1, D2 and D3). Though shared services are not widespread in the HE sector at this time, the 36 cases provide an interesting insight into current practice.

Cases ID	University(ies)	Supporting Sources ¹	D1: Sharing Boundary (Intra/ Inter-organizational)	D2: Separate Organizational Entity	D3: 3rd Party involvement
1	Ohio University	http://www.ohio.edu/outlook/08-09/October/100.cfm	Intra-organizational	No	No
2	University of Cornell, USA	http://dcb.cornell.edu/documents/1000405.pdf	Intra-organizational	No	No
3	University of Melbourne, Australia	http://www.unimelb.edu.au/publications/docs/budget2007.pdf	Intra-organizational	No	No
4	University of California, Davis, USA	http://oe.ucdavis.edu/SSC/SSC_documents/ARM%20SSCs_Challenges_Efficiencies.pdf	Intra-organizational	No	No
5	Macquarie University, Australia	http://www.mq.edu.au/provost/reports/docs/report_to_council.pdf	Intra-organizational	No	No
6	University of Newcastle, Australia	http://www.caudit.edu.au/educauseaustralasia09/assets/papers/monday/Ann-Walters.pdf	Intra-organizational	No	No
7	University of York, UK	http://www.york.ac.uk/admin/hr/training/forums/administratorforum/Shared%20Services%20presentation%20Nov.06.pdf	Intra-organizational	No	No
8	University of Wollongong, Australia	http://www.uow.edu.au/content/groups/public/@web/@its/documents/doc/uow002213.pdf	Intra-organizational	No	No
9	University of Nebraska, USA	http://www.educause.edu/Resources/ExtendingSharedServicesAcrossM/163304	Intra-organizational	No	Yes
10	University College Cork (UCC), USA	http://techtransfer.ucc.ie/documents/4C_Abrtan_25Feb10.pdf	Intra-organizational	No	Yes
11	Massachusetts Institute of Technology (MIT), USA	http://web.mit.edu/annualreports/pres07/04.13.pdf	Intra-organizational	No	Yes
12	University of Sydney, Australia	http://www.cisco.com/en/US/solutions/collateral/ns340/ns517/ns224/case_study_sydneyuniversity.pdf	Intra-organizational	No	Yes
13	University of South Queensland, Australia	Millet et al. 2005	Intra-organizational	No	Yes
14	University of Buffalo, USA	http://www.cio.buffalo.edu/Annual_Report_2006-07.pdf	Intra-organizational	No	Yes

¹ Last accessed 29th February 2011

15	Monash University, Australia	http://www.adm.monash.edu.au/shared-services/ss-objectives.html	Intra-organizational	No	Yes
16	Drexel University, USA	http://www.tonybates.ca/2010/12/03/an-example-of-shared-services-drexel-university/ Albrecht et al. (2004)	Inter-organizational	No	No
17	University of Maryland, USA	Knight and Hedges (2007)	Inter-organizational	No	No
18	University of California @ Berkeley, USA	http://aco.artsnet.org/Portals/10/documents/technology_intellectual_property_2004/3-4_Best_Practices-Shared_Services_Update.pdf	Inter-organizational	No	Yes
19	University of Akron, USA	http://www.innovation-alliance.org/NR/rdonlyres/D7D4974F-D1D4-40CA-87E4-D18802099285/5235/LCCCUASharedServicePR.pdf	Inter-organizational	No	Yes
20	University of New South Wales, Australia	https://www.it.unsw.edu.au/SPUSC2010/docs/presentations/IT_Shared_Services_%20DBlack.pdf	Intra-organizational	Yes	No
21	University of Main Sytem, USA	http://www.maine.edu/pdf/Arena1Appendices.pdf http://net.educause.edu/ir/library/pdf/ers0407/cs/ECS0409.pdf	Intra-organizational	Yes	No
22	Texas A&M University, USA	http://vpapit.tamu.edu/files/AnnualReport2009.pdf	Intra-organizational	Yes	Yes
23	University of Auckland, New Zealand	http://www.caudit.edu.au/educauseaustralia07/authors_papers/Chaffe-80.pdf	Intra-organizational	Yes	Yes
24	Purdue University / Indiana University, Indianapolis, USA	http://www.planning.iupui.edu/	Inter-organizational	Yes	No
25	UK HEI	Boyle and Brown (2010)	Inter-organizational	Yes	No
26	HE in South and Mid Wales, UK	http://hepcw.procureweb.ac.uk/3178.file.dld	Inter-organizational	Yes	No
27	University of Limerick / NUI, Ireland	http://www2.ul.ie/pdf/201509185.pdf	Inter-organizational	Yes	No
28	Minnesota State Colleges & Universities, USA	http://www.finance.mnscu.edu/budget/budgetrequests/pdf/mnscu_profile.pdf	Inter-organizational	Yes	No
29	University System of Georgia, USA	http://www.atlm.edu/irpa/sharedservices/documents/white_paper.pdf	Inter-organizational	Yes	No
30	Finnish Virtual University, Finland	http://www.tieke.fi/mp/db/file_library/IMG/12865/file/11_Peitola_KIECPresentation15102004.pdf	Inter-organizational	Yes	No
31	University of Texas System, USA	http://www.utsystem.edu/news/features/shared_services_summer07.htm	Inter-organizational	Yes	Yes
32	The University of North Carolina, USA	http://facultypages.ncat.edu/hr/Documents/Banner-HR%20Payroll%20Introduction.pdf	Inter-organizational	Yes	Yes
33	UK Higher Education & several universities in UK	Apps (2006) http://ie-repository.iisc.ac.uk/477/1/IESR_Final_Report_Phase_2.pdf	Inter-organizational	Yes	Yes
34	Missouri HE Institutions, USA	http://www.more.net/pdfs/committee_testimony_080123.pdf	Inter-organizational	Yes	Yes
35	CAUDIT, Australia	http://www.dest.gov.au/NR/rdonlyres/B6F765A7-DD2C-432B-9064-2F9CD4E17E66/10518/InterimReport2.doc	Inter-organizational	Yes	Yes
36	Ohio Public Universities, USA	http://cscwww.cats.ohio.edu/compass/stories/10-11/4/Shared-Services-974.cfm	Inter-organizational	Yes	Yes

Table 1: Summary of 36 case studies coded to the 3 themes.

TYPES OF SHARING ARRANGEMENTS

Mapping and analysis of the case study data yielded 8 different combinations of the three dimensions, or 8 shared services types in the HE sector which are graphically depicted in Appendix A: (1) Intra-organizational shared services, (2) Intra-organizational shared services (with third party), (3) Inter-organizational shared services, (4) Inter-organizational shared services (with third party), (5) Internal SSC, (6) Internal SSC (with third party), (7) SSC Alliances/Consortium , and (8) SSC Alliances/Consortium (with third party). Table 2 describes these shared services types; illustrating; how they mapped to the combinations of the identified Dimensions (D1-3) and pointing to evidence from the cases.

Types of Sharing Arrangement	Description	Dimensions				Case study evidence	
		D1: Sharing boundary (Intra/ Inter-organizational)		D2: Has a Separate organizational Entity	D3: 3rd party involvement exists	Supporting sample cases (ID)	Total number of cases
		Intra-organizational	Inter-organizational				
Type I: Intra-organizational SS	Individual academic departments, business units and campuses within a single university share common	Yes	No	No	No	1 – 8	8

	services such as enrollment and administrative functions.						
Type II: Intra-organizational SS (with third party)	Similar to Type I with respect to the boundary and entity. The difference is that this type of shared services has substantial involvement of a third party provider.	Yes	No	No	Yes	9 – 15	7
Type III: Inter-organizational SS	Two or more universities or related organizations share common services. In this type of shared services, there is no separate shared service entity. A single university might share common services with others.	No	Yes	No	No	16 - 17	2
Type IV: Inter-organizational SS (with third party)	Similar to Type III with respect to the boundary and entity. The difference is that this type of SS has substantial involvement of a third party provider. .	No	Yes	No	Yes	18 - 19	2
Type V: Internal SSC	A semi-autonomous organizational unit provides internal services through sharing arrangement to multiple organizational units within the organization. .	Yes	No	Yes	No	20 - 21	2
Type VI: Internal SSC (with third party)	Similar to Type V with respect to the boundary and entity. The difference is that this type of SS has substantial involvement of a third party provider.	Yes	No	Yes	Yes	22 - 23	2
Type VII: SSC – Alliances/Consortium	Two or more universities or related organizations share common services. They are voluntarily members of a particular group (i.e. Higher Education System, Consortium) to achieve common or particular mission. The single group coordinates the provision of various services to the individual universities/organizations involved in the alliances or consortium. This group is formed and governed internally by the partner organizations.	No	Yes	Yes	No	24 - 30	7
Type VIII: SSC – Alliances/Consortium (with third party)	Similar to Type VII with respect to the boundary and entity. The difference is that this type of shared services has substantial involvement of a third party provider.	No	Yes	Yes	Yes	31 - 36	6
Not Applicable	-	No	No	No	No	-	-
Not Applicable	Outsourcing	No	No	No	Yes	-	-
Not Applicable	-	No	No	Yes	No	-	-
Not Applicable	-	No	No	Yes	Yes	-	-
Not Applicable	-	Yes	Yes	Yes	Yes	-	-
Not Applicable	-	Yes	Yes	No	No	-	-
Not Applicable	-	Yes	Yes	No	Yes	-	-

Table 2: Introductions to the types of shared services and supporting case based evidence

As shown in Table 2, there are 16 possible combinations, but several combinations do not make sense (they are not applicable or feasible) as shared services. For instance, the combination of four (4) times ‘No’ does not give any meaning to the study. In another example, combination of three (3) ‘No’ and one (1) ‘Yes’ for ‘External Party’ refers more to an outsourcing approach, where an external third party is paid to provide a service. We also observe that a majority of universities chose to implement intra-organizational shared services (8 cases), intra-organizational shared services incorporated with third party (7 cases), SSC Alliance/Consortium (7 cases), and SSC Alliance/Consortium incorporated with third party (6 cases). Figure 1 depicts the summary view of how the 8 feasible types of shared services are positioned within the 3 dimensional framework.

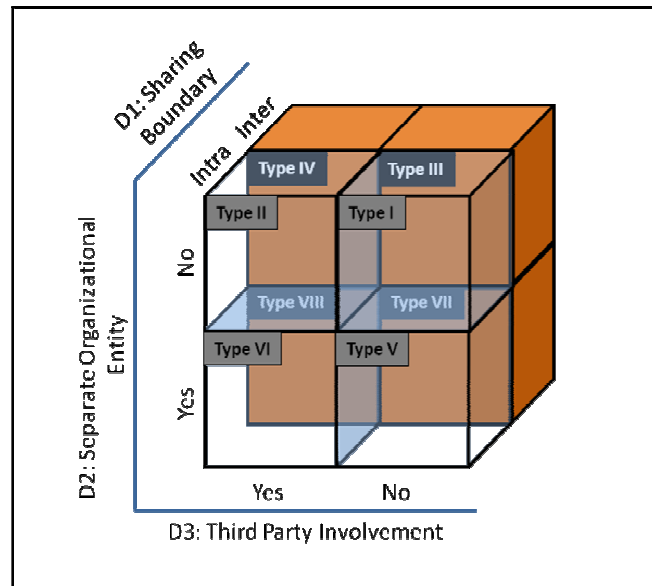


Figure 1: Positioning the types of shared services within the 3 dimensional framework

CONCLUSION

Many universities are adopting shared services and there has been a significant presence of shared services in the recent trade press. The potential to leverage ICT related benefits through shared services has been recognized and more and more IT related shared services solutions are predicted to develop in response to calls for efficiency and reduced costs, common technology problems, and the need to provide more services with limited resources. While shared services in practice has been growing, it has thus far garnered little attention from academe.

This paper investigated and reported on the types of shared services observed in the HE sector as evidenced through an archival based content analysis of 36 published cases. Understanding these different types of sharing arrangements will be of value to organizations - considering shared services, implementing shared services, and managing shared services (i.e., for the business case, governance structure, and performance measurements). Because we used a literature study to derive the types, there are several limitations. The data analysis pointed to (only) three themes. While most qualitative research is based on thematic analysis; findings can appear subjective and lacking in transparency on how the themes are developed. There may be other dimensions that are valuable for a shared services typology that we have not uncovered. Furthermore, as the analysis was limited to secondary data (of the extracted case documentation), there was no way to test the overall typology or to confirm the correct mapping of the cases to the different types. In addition, there are many unanswered questions which suggest a gap in the literature. Areas for further possible investigation include: (1) further re-specify and validate the framework on the types of shared services (in particular identify further dimensions of interest and value), (2) investigate the benefits (advantages), and challenges (disadvantages) associated with the types, (3) understand what contextual factors may influence the effective implementation and operation of each of these different types and (4) provide evidence-based guidance on how to proceed with implementing these different types of shared services.

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Appendix A: Graphical overview of the identified types of shared services in the HE sectors

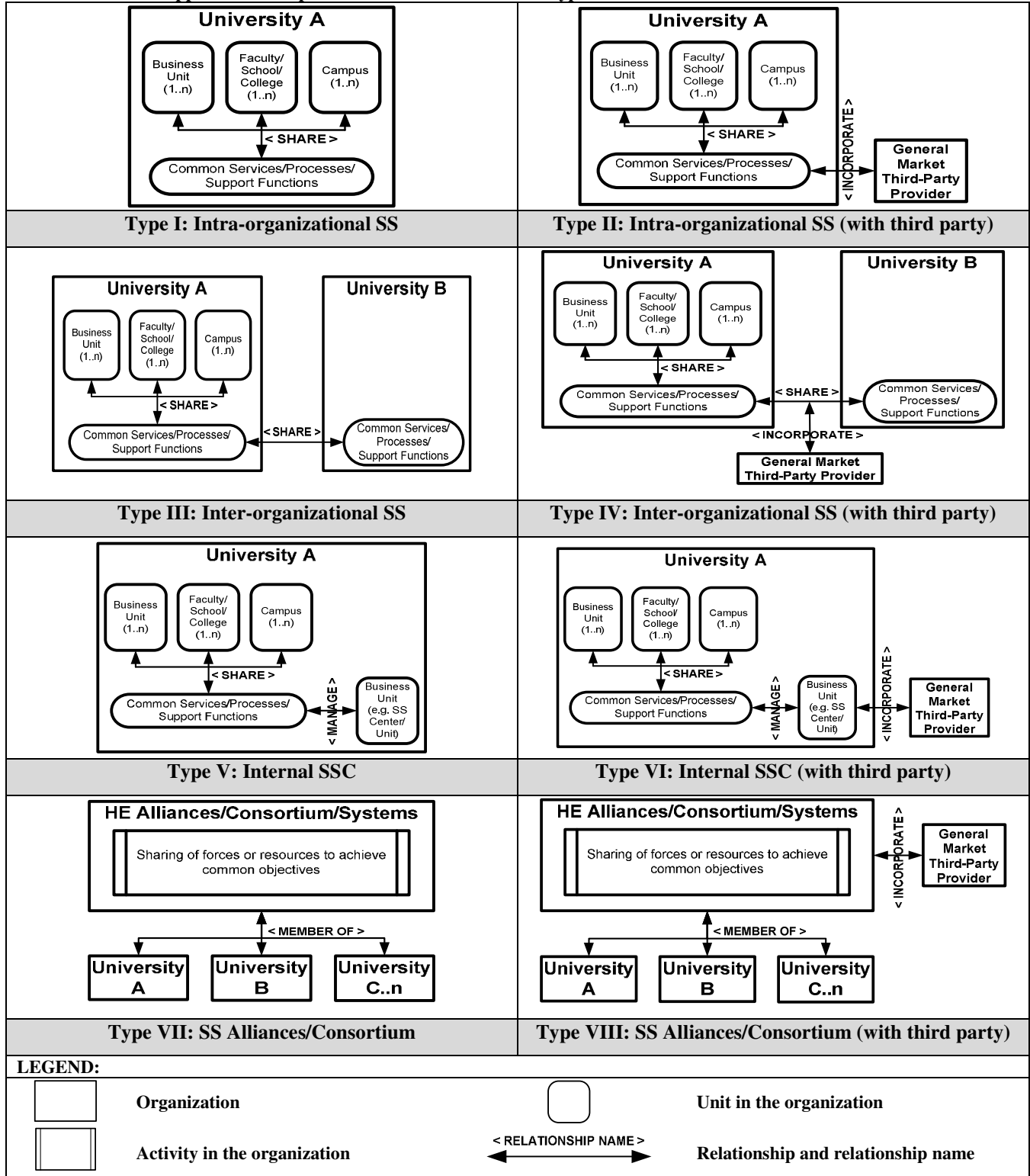


Figure 2: Typology of Shared Services Arrangements