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ORGANISATIONAL STRUCTURE'S INFLUENCE ON IT ALIGNMENT IN A PUBLIC ORGANISATION: A CONFIRMATORY CASE STUDY ANALYSIS

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Abstract

IT alignment in public organisations is considered to be one of the missing pieces in the otherwise rich research area in the IS domain. Researchers also criticise the lack of studies addressing practical issues related to IT alignment, particularly in public organisations. One such area of concern is the contradictory findings of prior studies on the role of formal and informal organisations on IT alignment. A case study was conducted in one public organisation to establish the influence of different forms of organisational structure on IT alignment. A theoretical model was proposed based on a previous study and literature, which is then tested with data collected from a survey among 163 IT and administrative personnel in a Swedish public organisation. The results suggest that centralised organisational structure as well as the two forms of informal organisational structures—interpersonal relationships and cross-departmental relationships influence IT alignment. However, the influence of professional networks on IT alignment is not significant. The findings are important for researchers and practitioners in public organisations.

Keywords: IT Alignment, Strategic Alignment Maturity Model, Formal Organisational Structure, Informal Organisational Structure, Organisational Structure, Public Organisation, Sweden

1.0 Introduction

IT alignment, also referred to as business-IT alignment, or strategic alignment, has been and remains to be among one of the top concerns for IT executives (Coltman et al., 2015; Luftman et al., 2017; Kappelman et al., 2019). Even though IT alignment has been defined and conceptualised in many different ways in the academic literature (e.g.,

Kanellis et al., 1999; Knoll and Jarvenpaa, 1994; Ra'ed and Wheeler, 200; Reich and Beinbast, 2000), there is little disagreement among practitioners and researchers about the important role it plays on an improved organisational performance (Benbya and McKelvey, 2006; Gerow et al., 2014; Chan and Reich, 2007).

A closer look into the extant IT alignment literature indicates that there are two areas of concern that have not attracted the attention of researchers. First, despite the findings of previous research confirming the relevance of contextual factors in IT alignment studies (Chan et al., 2006), some industries and organisational settings have not been proportionally represented in the extant literature. For instance, past empirical studies have investigated IT alignment issues in the airline industry (Althonayan and Sharif, 2010), manufacturing firms (Abareshi, 2011), financial services (Miller et al., 2014; Jonathan et al., 2019), small and medium enterprises (Ismail and King, 2007), and large organisations (Avison et al., 2004; Byrd et al., 2006). On the other hand, only a few studies have targeted public organisations (Rusu and Jonathan, 2017; Winkler, 2013). Given the inherent differences between public organisations and firms in the private sector (Caudle et al., 1991; Hendriks and Tops, 2003; Poliitt and Bouckaert, 2004), there are calls for IT alignment studies in the public sector (Meijer and Thaens, 2010; Yayla and Hu, 2009). According to Vogt and Hales (2010), researchers have not sufficiently addressed the lack of knowledge that could help leaders in public organisations to meet the difficult task of achieving and maintaining IT alignment. Two important differences between the public and private organisations are found to have significant implication on how IT alignment is pursued (Meijer and Thaens, 2010; Muhammad, 2009; Vander Elst and Rynck, 2014; Winkler, 2013). To start with, unlike their counterparts in the private sector, public organisations rely on non-financial metrics to measure the value of IT investments. Second, public organisations are expected to meet social, economic and political objectives. Thus, demonstrating the value derived from IT through the integration of IT missions, objectives and plans into various aspects of administration functions—also referred to as IT alignment—is a timely issue for public organisations.

On the other hand, scholars argue that most of the IT alignment studies have dwelled on conceptual debates while important timely and pragmatic issues are overlooked (Chan et al., 2006; Karpovsky and Galliers, 2015). One of such practical issues that did

not garner the attention of researchers is the relationship between organisational structure and IT alignment (Chan, 2002; Coltman et al., 2015; Fonstad & Subramani, 2009; Lee et al., 2008). Thus, the aim of this study is to investigate the influence of formal and informal organisational structures on IT alignment in a public organisation.

The rest of the paper is structured as follows. The next section presents the research background and the theoretical foundations of the study. The subsequent section describes the research methodology describing the research strategy as well as the data collection and data analysis methods. The theoretical model underpinning the study will also be presented along with the hypotheses posited. Next, the results of the data analysis will be discussed. The last section concludes with highlights of the implications of the findings and provides suggestions for future research directions.

2.0 Research Background

2.1 Organisational Structure and IT Alignment

Review of the scarce studies on IT alignment and its relationship with organisational structure confirms the significant role of organisational structure on IT alignment (for instance, Chan, 2002; Currie, 1996; Jonathan, 2018; Leifer, 1998; Reymond et al., 1995). However, such studies are criticised for lacking a comprehensive approach to capture the different organisational structure forms within an organisation, before investigating their influence on IT alignment (Chan, 2002; Jonathan, 2018). For instance, some researchers focused their study on exploring the influence of the formal organisational structure—the rational and deliberate arrangement which is sanctioned by leaders (Mintzberg, 1989; Scott, 1981; Sine et al., 2006)—on IT alignment while various forms of informal organisational structure—connections and procedures used by employees to get their work done (Chan, 2002; Selznick, 1948; Tshuman and Nadler, 1986)—are overlooked. On the other hand, the few studies focusing on the role of different forms of informal organisational structure seem to minimise or overlook the role of the formal organisation as well as formal processes and procedures on IT alignment (Zolper et al., 2015). Besides, the authors argue that the dyadic view of one particular informal organisation structure type (for instance, solely focusing on individual relationships between actors while other types of social networks are not considered) provides an incomplete understanding of the interactions in an organisation

(Burt, 1982; Granovetter, 1982; Zolper et al., 2015). This study takes a comprehensive perspective subscribing to the view that the influence of both formal organisational structures, as well as the different forms of informal organisational structures influence on IT alignment, need to be investigated.

The importance of recognising the different formal and informal organisational structures within an organisation is confirmed in the literature. Zenger et al. (2000) argue that informed leaders who have an overview of the organisational structures in their organisations can make assessments whether these structures can support or undermine the overall objectives. In the IT alignment context, scholars (Chan and Reich, 2007; Chan, 2002; Kyobe, 2008) argue that different forms of formal and informal organisational structures determine how the employees do their job. It is worth noting that no formal organisational structure can stand on its own without the support from one or other form of informal organisational structure (Simon, 1976). Thus, it is logical to assume the different dimensions of IT alignment (Luftman, 2000; Luftman et al., 2017) are influenced by various forms of organisational structure. For instance, the IT decision-making process efficiency in many organisations is not dependent only on the formal rules or lines of hierarchy (Boar, 2002), but it is also affected by the informal relationship between employees, and political processes (Pfeffer et al., 1974). The role of both formal and informal organisational structure on effective communication, organisational learning, shared understanding, shared goals, as well as the creation of social and trusting environment, is recognised among researchers (Chan, 2002; Lant, 2000; Simmons et al., 2009).

2.2 Strategic Alignment Maturity Model (SAMM)

Despite the rich IT alignment literature, the different definitions and conceptualisations of the construct have resulted in various models and frameworks. Since the objective of the paper is to address the lack of empirical studies that could help organisations improve alignment, the study adopts the Strategic Alignment Maturity Model (SAMM) (Luftman, 2000; Luftman et al., 2017) shown in Figure 1.

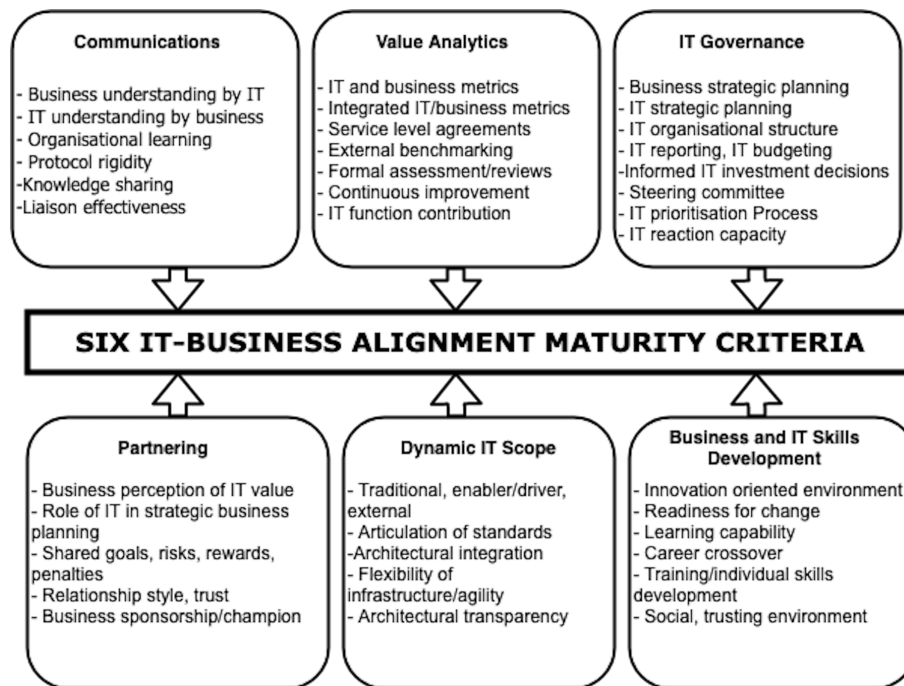


Figure 1. Strategic Alignment Maturity Model (Luftman, 2000 p. 12; Luftman et al., 2017)

The six dimensions shown in Figure 1 comprise lists of attributes (activities) that are relevant for both business and IT units within an organisation. For instance, the communications dimension contains activities related to knowledge sharing that foster understanding between IT and other departments. Value Analytics is concerned with activities that help organisations to measure the contribution of IT in such a way that it is understood by IT and other departments. The activities under IT Governance relate to the IT decision-making arrangements in the organisation. Partnering dimension lists activities that could help foster a relationship between IT and remaining departments where IT is considered a partner rather than a service provider. The adaptability or flexibility of IT in foreseeing emerging technologies and provision of solutions based on the needs of an organisation is improved by assessing and making adjustments to the activities related to the dimension Dynamic IT Scope. The Business and IT Skills Development dimension attribute help organisations by looking into the arrangements in place to create a social and trusting environment which fosters to develop employees' IT and business skill sets.

The choice of SAMM for this study is justified, given the model's practical relevance as it focuses on various areas within an organisation that are related to activities that

can be acted upon to improve IT alignment. Besides, SAMM is one of the widely adopted IT alignment models in prior empirical studies (Shihab and Rahardian, 2017). The model is tested and validated in 16 different industries (Luftman et al., 2017) which makes it appropriate for this study conducted in a public organisation.

3.0 Research Methodology

3.1 Research Strategy

A case study, one of the widely used research strategy among researchers in the IS research domain (Oates, 2005) is chosen for this study. The strategy has also been adopted in prior IT alignment studies (for instance, Benbasat et al., 1987; Rahimi et al., 2016; Vander Elst and De Rynck, 2014). Review of IT alignment studies in the context of public organisations has also revealed that case studies are the most preferred research strategy (Rusu and Jonathan, 2017). According to Denscombe (2014), case studies provide researchers with various data collection and analysis methods.

The case organisation (later referred to as SM) is one of the municipalities in Sweden with a population of around one hundred thousand, and over seven thousand employees organised in seven departments as well as three wholly owned enterprises. A previous study (Jonathan et al., 2020) found that SM has centralised formal organisational structure whereby IT, finance, HR, research and development, procurement and other common services are run from the central administration. Departments and the municipality-owned enterprises are responsible for running their core services and providing these services to residents and businesses in the municipality. The same study also identified three informal organisational structures (interpersonal relationships, cross-departmental relationships, and professional networks) at SM.

3.2 Data Collection Method

Data for this study was collected using an online survey in a Swedish municipality. The respondents were selected with due consideration for their potential of providing relevant data to test the hypotheses posited (Denscombe, 2014). In order to make sure only respondents with the knowledge on IT alignment and organisational structure of the municipality are included in the study, a non-probability sampling strategy was adopted to select participants from the IT and remaining departments in the

municipality. The heads of the IT and directors of departments were approached to distribute the online survey link. Studies assessing the maturity level of IT alignment and the different factors influencing alignment requires the respondents not only to possess IT knowledge but also to have an overview of their organisation’s strategy (Luftman, 2000). The online survey which was made available for two months was completed by 163 respondents.

As shown in Table 1, the five constructs—IT alignment, central organisational structure (COS), interpersonal relationship (IPR), professional networks (PRN), cross-departmental relationships (CDR)—were measured by multiple items. IT alignment was measured based on the six dimensions, according to SAMM (Luftman, 2000; Luftman et al., 2017).

The hypotheses were formulated based on IT alignment literature and the findings from the study (Jonathan et al., 2020). Each organisational structure identified at SM and the proposed influence on the dimensions of IT alignment was used to define the measurement items. For instance, the centralised organisational structure at SM was found to improve communications as well as the three attributes of IT Governance according to SAMM (Luftman, 2000; Luftman et al., 2017), i.e. IT prioritisation, strategic planning, and IT budgeting. Thus, the influence of centralised organisational structure on IT alignment was measured with four items. The remaining three forms of informal organisation were measured with three items. On the other hand, IT alignment at the case company was measured with the six dimensions (Luftman, 2000; Luftman et al., 2017).

Hypotheses (dep. variable)	Short code (dep. and indep. variables)	Measurement Item	No. of Items
H1	COS	COS to Organisational Learning COS to IT Prioritisation COS to Administration Strategy COS to IT Budgeting	4
H2	CDR	CDR to Knowledge Sharing CDR to Partnership Relationship CDR to IT Infrastructure Agility	3
H3	IPR	IPR to Protocol Rigidity IPR to IT Reporting IPR to Social Environment	3

H4	PRN	PRN to Liaison Effectiveness	3
		PRN to IT Investment Decisions	
		PRN to Championing IT Projects	
IT Alignment	ITA	Communications	6
		Value Analytics	
		IT Governance	
		Partnering	
		Dynamic IT Scope	
		Skills Development	

Table 1. Overview of the theoretical model variables and measurement items

To measure the items, respondents were asked to give a score on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The measurement instrument used for the study is attached as Appendix.

3.3 Data Analysis Method

Partial Least Structural Equation Modelling (PLS-SEM), one of the second-generation multivariate data analysis method (Fornell and Larcker, 1981), is chosen for this study. Information Systems studies employing PLS-SEM has been in the rise in recent years (Hair et al., 2017). Previous IT alignment studies have also used the method (For instance, Abdolvand and Sepehri, 2016; Chan et al., 2006; Tu et al., 2018). Besides, the choice of PLS for this study was justified, given the small sample size and non-parametric nature of the scale used to measure the items. In comparison with other SEM techniques, PLS is considered to be a better alternative when sample sizes are small or when well-established theories are not available (Hwang et al., 2010; Wong, 2013). However, Hoyle (1995) suggests a sample size of between 100 and 200 for PLS modelling. The data analysis was conducted using the SmartPLS software, version 3.2.8 (Ringle et al., 2015). The assessment criteria and reference values used to test the measurement model and the structural model is shown in Table 2.

Type of assessment	Criteria	Reference value	Source
	<i>Convergent validity</i>		
	• Item loading	≥ 0.4	Hair et al. (2017)
	• Composite reliability	≥ 0.6	Fornell and Larcker (1981)
	• AVE	≥ 0.5	Fornell and Lacker (1981)
Measurement model	• Cronbach's alpha coefficient	≥ 0.6	Hair et al. (2017)
	<i>Discriminant validity</i>		

	<ul style="list-style-type: none"> Item cross loadings to construct correlations 	<i>Item loads on its own construct</i> \geq <i>to others</i>	Fornell and Lacker (1981)
	<ul style="list-style-type: none"> Square root of AVE of each construct correlation with others 	<i>Square root of AVE between construct and its measures</i> \geq <i>to others</i>	Fornell and Lacker (1981)
Structural Model	<ul style="list-style-type: none"> Coefficient of determination (R^2) 	≥ 0.5	Chin (1998) Hair et al. (2017)
	<ul style="list-style-type: none"> Path coefficient significance 	≥ 0.1 <i>small</i> ≥ 0.3 <i>moderate</i> ≥ 0.5 <i>strong</i>	Cohen (2013)

Table 2. Assessment criteria for measurement model and structural models

In comparison with other SEM techniques, PLS is considered to be a better alternative when sample sizes are small or when well-established theories are not available (Hwang et al., 2010; Wong, 2013).

3.4 Theoretical Model and Hypothesis Development

The theoretical model is developed to demonstrate the conceptualisation of the aim of this study (see Figure 2). The model has five constructs derived from the IT alignment and organisational studies literature as well as the findings of a previous study (Jonathan et al., 2020). The four constructs (organisational structure forms)—centralised organisational structure, interpersonal relationships, professional networks, cross-departmental networks—are measured by the instrument designed to indicate their influence on the different attributes of the IT alignment dimensions. The fifth construct, IT alignment, is measured with questions that ask respondents to give a score for the six dimensions according to the SAMM (Luftman, 2000; Luftman et al., 2017).

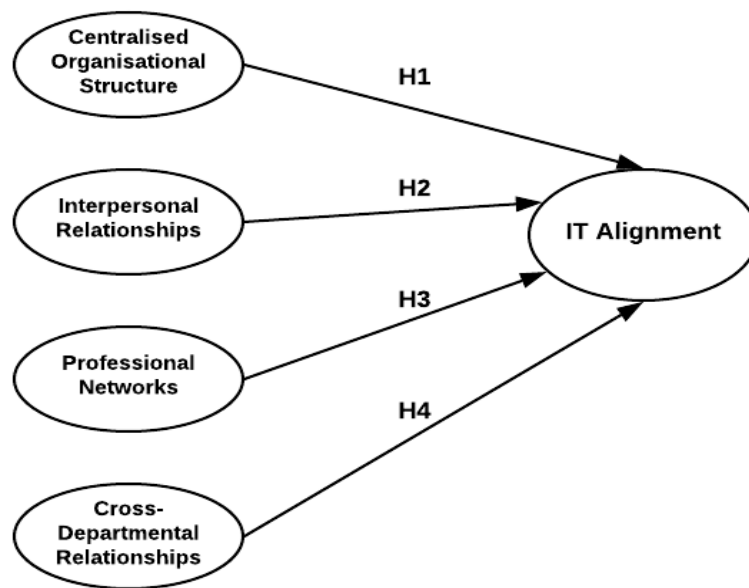


Figure 2. Theoretical model

Although the theoretical model (Figure 2) builds on the findings of previous studies confirming the relationship between organisational structure and IT alignment (for instance, Broadbent and Weill, 1993; Chan, 2002; Chan and Reich, 2007; Kyobe, 2008), it is worth noting some departure from the prior research. First, this study empirically attempts to explore whether the influence of the different forms of organisational structure on IT alignment can be established in a public organisation setting. Second, in examining these relationships, the study looks into how the simultaneous existence of formal and informal organisational structure can influence IT alignment—unlike prior studies that focused on either formal or informal organisational structure.

Centralised Organisational Structure

Centralised organisations are known to maintain interdependence between different departments or units within an organisation. According to Simon (1976) and Gulati and Puranam (2009), the identifying characteristics of organisations with a centralised structure include standardised and centralised planning as well as formalised control and communication. The results of empirical studies (e.g., Jonathan et al., 2020) also suggest that organisations with a centralised structure are likely to have clearly stated formal roles as well as formally sanctioned communication arrangements. Effective communications between IT and other departments is found to be one of the most

important factors that determine whether an organisation can reach IT aligned position (Chan and Reich, 2007; Luftman and Brier, 1999; Reich and Benbasat, 2000). Besides, Jonathan et al. (2020) found that an organisation with a central organisation structure puts in place regularly scheduled meetings with an explicitly stipulated list of attendants and times, and a common protocol outlining routines for organisational learning and knowledge sharing. On the other hand, a centralised organisational structure is found to influence the different dimensions of IT alignment (Luftman et al., 2017). For instance, organisations will be able to resolve the issue of redundancy making reporting, budgeting and strategic planning consistent across departments when the decision-making process is centrally coordinated (Mintzberg, 1989; Gulati and Puranam, 2009). Centralised organisation structure also makes it possible for leaders to resolve the issue of redundancy and support transparent decision-making process (IT governance).

Hypothesis 1: Centralised organisational structure is positively related to IT alignment.

Interpersonal Relationships

Interpersonal relationships, in the organisational structure's context, refers to the personal relationships between individuals working in the same or different departments in an organisation that is built based on benevolence and trust (Kase et al., 2009). The relationship between different actors within an organisation has been cited to be one of the critical factors that can influence IT alignment. For instance, the implication of personal relationships, particularly among leaders of the IT and other departments has been investigated in prior studies (e.g., Chan, 2002; Simmons et al., 2009). According to Campbell (2003), interpersonal relationships can improve IT governance as it affects the planning as well as the IT reporting procedures and decision-making processes where the participation of both IT and the remaining departments is vital. The study by Zolper et al. (2015) also suggests that the personal relationship between IT and other department employees at the tactical and strategic level is also important as it takes more people to implement IT solutions and manage them in the daily basis. Prior studies also suggest that interpersonal relationships are important to making protocols flexible and fostering effective working arrangements that are related to various dimensions of IT alignment. Jonathan et al. (2020) found that interpersonal relationships in a public organisation have improved knowledge sharing

and played an important role in creating a social and trusting environment, which is critical for *skills development* among employees across the organisation. Besides, the significance of interpersonal relationships for organisations that have already managed to achieve IT alignment is established. According to Chan (2002), interpersonal relationships are found to be effective in improving and maintaining IT alignment in a long-term basis than the formal procedures and structures.

Hypothesis 2: Interpersonal relationships is positively related to IT alignment.

Professional Networks

Professional networks within an organisation refers to the alliance or series of connections between individuals sharing a profession and areas of expertise (Chua et al., 2008). The existence of professional networks (employees joining normative forces) to further a common cause has been recognised in the literature (Swan et al., 2000). In the context of IT alignment, studies have shown that professional networks have implications on the different dimensions. For instance, professional networks might be used as instruments to improve innovation and productivity—*skills development*—(Swanson and Ramiller, 2004), liaison effectiveness—*communications* (Nicolaou, 1999), and the decision-making—*IT governance*—effectiveness (Gosain, 2004). Jonathan et al. (2020) also found that members of professional networks positioned in different units within a public organisation have improved the communications between these departments and tend to forge a relationship based on mutual respect, shared domain knowledge and common professional goal. The results of the same study also seem to suggest professional networks might be important to mobilise their members to speed-up the IT decision-making process.

Hypothesis 3: Professional network is positively related to IT alignment.

Cross-Departmental Relationships

Cross-Departmental relationships refers to a voluntary relationship between two or more departments and those who work in these departments based on trust and benefits in the relationship (Hill & Lin, 2003). Unlike the interpersonal relationships and those in the professional networks, cross-departmental relationships are the connection between two or more departments, regardless of the people who might be placed in

these departments. According to Zacarias and Martins (2011), interpersonal relationships between employees in different departments need to be formalised and promoted to cross-departmental relationships lasting the knowledge sharing and collaboration longer. Tarafdar and Qrunfleh (2010) argue that it is in an organisation's best interest to identify and cultivate a cross-departmental relationship in order to realise the synergies. A closer look into prior studies indicate that a departmental relationship between IT and departments could improve the different IT alignment dimensions. Jonathan et al. (2020) found that departments that managed to develop a close relationship with the IT department are better informed (*communications*) about the IT capabilities of their organisation and consider IT as a partner (*partnering*). The IT department, in turn, has a better understanding of the department's IT needs and is able to provide the right IT solutions (*dynamic IT scope*).

Hypothesis 4: Cross-departmental relationships is positively related to IT alignment.

4.0 Result

As discussed above, PLS-SEM was performed to estimate the measurement and the model which tested the construct validity as well as the structural model respectively. The analysis is discussed in two steps in the following sections.

4.1 Measurement Model

As depicted in the theoretical model, the study comprises five constructs. According to Wong (2013), the reliability and validity of items need to be established to ensure rigour when conducting PLS-SEM. The composite reliability, Cronbach's alpha coefficient as well as the extracted average variance (AVE) were calculated to assess the reliability and validity of all constructs (Fornell and Larcker, 1981) as presented in Table 3. The AVE is the extent of the variance explained by a latent variable in relation to the value attributed to the measurement error. The literature suggests a cut-off value for AVE to be 0.5, which indicates that more than half of the variance from the indicators is attributed to the latent variables (Johnston and Warkentin, 2010).

Construct	Composite Reliability	Cronbach's Alpha	AVE	COS	CDR	ITA	IPR	PRN
COS	0.769	0.600	0.663	0.680				
CDR	0.812	0.652	0.592	0.474	0.770			
ITA	0.751	0.618	0.747	0.662	0.731	0.589		
IPR	0.746	0.529	0.608	0.482	0.545	0.612	0.713	
PRN	0.668	0.467	0.488	0.516	0.527	0.551	0.496	0.699

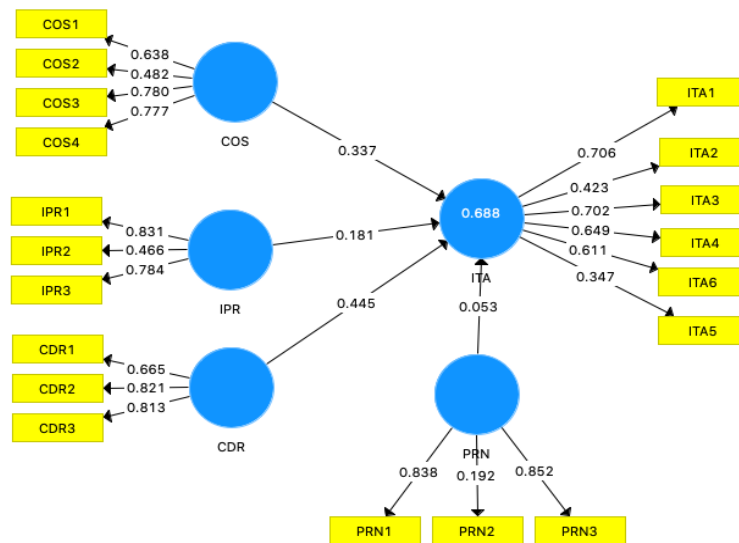
Table 3. Inter-construct correlation and square roots of AVEs

The Cronbach's alphas of three of the five constructs—centralised organisational structure, cross-departmental relationships, and IT alignment—meet the acceptable level of .60 (Fornell and Larcker (1981), but the Cronbach's alpha of interpersonal relationships (.52) and professional networks (.47) falls below the suggested threshold. On the other hand, the composite reliability of all constructs but professional networks are greater than the accepted value of .7 (Fornell and Larcker, 1981). While the composite reliability of professional networks falls slightly under the acceptable value, the remaining constructs range from .74 to .0.81. The AVE indicates that except the professional networks, the values for the remaining constructs range between .59 and .66 which is above the recommended level of .5.

According to Fornell and Larcker (1981), the average variance extracted may be a more conservative estimate of the validity of the measurement model. Thus, composite reliability alone may be sufficient to declare the validity of a construct. Composite reliability is also preferred in PLS-SEM (Bagozzi and Yi, 1988; Hair et al., 2017). Based on the calculations, the composite reliability index for each construct exceeds 0.6, which is considered to be satisfactory for exploratory research (Hair et al., 2017).

4.2 Structural Model

Unlike other SEM techniques that rely on maximising model fit, PLS model's estimates are based on the variances explained (Wong, 2013). Thus, the hypotheses of the theoretical model (shown in Figure 3) were tested by evaluating the significance of hypothesised relationships. R² (coefficient of determination) was used to test the predictive power of the theoretical model.



that the hypothesised path relationship between PRN and ITA with the path coefficient of 0.053 is not statistically significant (Cohen, 2013).

5.0 Discussion and Conclusion

The study attempted to confirm the influence of different forms of organisational structure on IT alignment. By adopting PLS-SEM technique, the study empirically tested the proposed theoretical model and four hypotheses. The hypotheses were posited based on the extant IS and organisational studies literature along with the findings of a previous empirical study exploring the influence of both formal and informal organisational structure on IT alignment (Jonathan et al., 2020). The four different formal and informal organisational structure forms identified in the case company (SM) and the hypothesised relationships were tested. The evaluation of the path coefficients suggests that all of the hypotheses except H3 were supported. The results also indicate that cross-departmental relationships have the strongest influence on IT alignment, followed by centralised organisational structure and interpersonal relationships. On the other hand, the influence of professional networks could not be established.

This study has several theoretical contributions. First, although prior studies have explored the role of organisational structure on IT alignment (for instance, Chan, 2002; Coltman et al., 2015; Fonstad & Subramani, 2009; Lee et al., 2008), to the best of our knowledge, this is the first empirical study to have studied the influence of both formal and informal organisational structure on the various dimensions of IT alignment. As organisations go about making adjustments to their structure in response to the dynamic environment, recognising the significance of different organisational structure forms is invaluable (Zolper et al., 2015). In contrast with prior IT alignment studies focusing either on the formal or informal organisational structure, the result of this study provides a comprehensive view which might be informative for organisations as they plan their activities to improve IT alignment. For instance, Zenger et al. (2000) argue that leaders with an overview of different forms of organisational structures are in a position to assess whether informal organisational structures support or undermine the formally sanctioned organisational structure. Our findings confirm that, in a public organisation with central organisational structure, cross-departmental relationships and interpersonal relationships have a positive influence on IT alignment.

Second, this study has also identified the relative importance of different forms of organisational structure on IT alignment in public organisations. The empirical test shows that cross-departmental relationships has the most significant influence on IT alignment, particularly in relation to three of the six dimensions—communications, partnering, and dynamic IT scope. The finding is consistent with the previous studies confirming the important role of a cross-departmental relationship on forging a trusting relationship as well as knowledge sharing (Hill & Lin, 2003; Tarafdar and Qrunfleh, 2010; Zacarias and Martins, 2011). On the other hand, centralised organisational structure's influence on IT alignment (particularly on IT governance) was also confirmed. Possible explanations for this result might be found in previous studies. For instance, Simon (1976) and Gulati and Puranam (2009) argue that centralised strategic planning, as well as formalised control and budgeting, are important to effectively deploy resources with little redundancy. The centralised organisation structure is also found to improve transparency and accountability which is considered to be one of the most important order of business in the public sector (Mintzberg, 1989; Gulati and Puranam, 2009). The influence of interpersonal relationships on the different dimensions of IT alignment—communications, IT governance, and skills development—is also confirmed. According to Chan (2002) and Zolper et al. (2015), interpersonal relationship at strategic, tactical and operational levels are important predictors of IT alignment as these are important to foster flexible working arrangements.

The result of this study provides empirical support for the argument that organisational structure has a role to play on whether organisations achieve and maintain IT alignment. The results suggest that different forms of organisational structure are related to the various activities that are necessary to achieve IT alignment. As Tarafdar and Qrunfleh (2010) pointed out, it is in leaders' best interest to identify and cultivate informal organisational structure to improve IT alignment. Adjustments can also be made on formal organisational structure to achieve and sustain IT alignment.

Some limitations that limit the generalisability of the findings of this study might also guide us to propose future research directions. First, this study is conducted in one Swedish municipality (public organisation) with centralised organisational structure,

thereby potentially limiting the generalisability beyond the case company. Another related limitation is that the study relies on relatively small sample size. Even though the number of responses meets the minimum requirements (Hoyle, 1995), larger sample size might improve the validity of the findings. Future studies might also explore the influence of organisational structure on IT alignment in other public organisations, with different formal organisation structure types, in Sweden and other countries.

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Appendix: Measurement Instrument

Dependent/independent Variables		Questions*
IT Alignment	ITA 1	There is a shared understanding between IT and other departments.
	ITA 2	We have metrics that can help us account the contribution of IT in the municipality.
	ITA 3	We have effective IT decision making arrangement
	ITA 4	IT is viewed as a partner rather than a service provider by other departments.
	ITA 5	IT is flexible and is capable of meeting the current and future IT needs of other departments.
	ITA 6	Skills development arrangement for employees in the municipality is well developed.
Centralised Organisational Structure	COS 1	The COS has made organisational learning possible with consideration for the entire municipality.
	COS 2	The COS made it possible to have a fair IT prioritisation across departments in the municipality.
	COS 3	The COS is necessary to put well established administration strategy in the municipality.
	COS 4	The COS is necessary to have effective IT budgeting.
Interpersonal Relationships	IPR 1	IPR helps to make protocols flexible and their interpretations favourable.
	IPR 2	IPR speeds up IT reporting procedures.
	IPR 3	IPR helps the municipality as it fosters social and trusting environment.
Professional Networks	PRN 1	PRN helps to liaison between IT and other departments through their networks.
	PRN 2	PRN is instrumental for informed IT investment decisions.
	PRN 3	PRN helps to champion and support IT initiatives through their networks.
Cross Departmental Relationships	CDR 1	CDR helps to improve the knowledge sharing between the IT and other departments.
	CDR 2	CDR makes it possible for other departments to view IT as a partner, not a service provider.
	CDR 3	CDR is necessary to make IT flexible and meet the current and future IT needs of other departments in the municipality.

* Respondents were asked to give scores (7 - strongly agree, 6 - agree, 5 - somewhat agree, 4 - neutral, 3 - somewhat disagree, 2 - disagree, 1 - strongly disagree).