

# **Achieving Business and IT Alignment in Digital Service Redesign: A Study of UK E-government**

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**Glossary of abbreviations**

<b>Glossary of Abbreviations</b>	<b>Stands for</b>
BIA	Business-IT alignment
DCLG	Department of communities and local government.
GDS	The Government Digital Design
IT	Information Technology
NPM	New Public Management
SAM	Strategic Alignment Model
SDK	Shared Domain knowledge

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## Abstract

Prior research has shown that there are a variety of ways in which business-IT alignment (BIA) can help an organisation. BIA can increase the UK's e-government maturity level, improve the quality of e-government and service redesign process, and ensure the establishment of an integrated, coherent, user-centred, and agile digital culture. However, business-IT alignment is challenging when there are many organisations (central and local government organisations) involved in the process. This research aims to increase our understanding of the 'process of aligning' - vertically (between central and local government), and horizontally (across government agencies). Data analysis was conducted by the use of grounded theory. A number of factors that influence alignment in UK service redesign were identified and discussed as 'enablers' or 'inhibitors' of alignment.

This thesis captures alignment in both 'theory and practice'. It includes multiple case studies to explore business-IT alignment in the context of the UK government. Additionally, this study not only provides 'theory for explanation', making it scientifically useful, but also offers 'theory for design', for practical uses. During the analysis of the case studies governance is found to be one of the alignment enablers, and a number of governance frameworks were designed to facilitate alignment in UK service redesign. This thesis presents a theoretical model which demonstrates the interrelationships found between the alignment key factors (i.e. standardisation, shared domain knowledge, business-IT engagement and silo-based systems associated with localism) with the core factor: communication. Network theories are used in this research to propose actions. It therefore proposes the adoption of a goal-directed network aimed at alignment in service redesign. This research links alignment, e-

government, service redesign and networks together, a connection which is not fully explored in the literature.

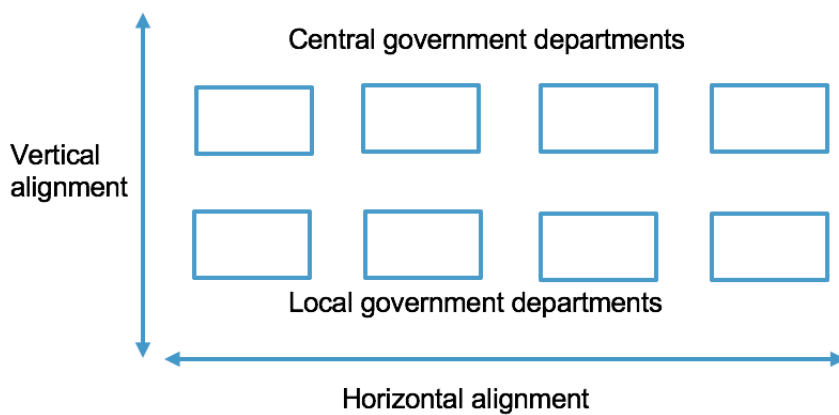
**Key Words:** Business-IT alignment, e-government, UK service redesign, communication, Networks, governance, grounded theory.

# Chapter 1: Research introduction

Over time, government agencies are becoming more reliant on IT for their e-government initiatives and service redesign. The literature has recognised that alignment facilitates a strategic and more effective use of IT (Karpovsky et al., 2015). The UK is continuously increasing its IT investments and re-shaping how it uses and buys technology (Bracken, 2015). Alignment can help maximise the return on those IT investments and in ensuring that they fit with their business strategy, goals, and service redesign needs.

Business-IT alignment is a concept which has been well known since the late 1970s (Luftman, 2000). According to Henderson and Venkatraman (1989) business-IT alignment is “the degree of fit and integration between business strategy, IS strategy, business infrastructure, and IS infrastructure”. The authors, nonetheless, have identified the lack of frameworks that facilitate an understanding of business-IT alignment. Therefore, they have developed a Strategic Alignment Model (SAM) framework, which is widely referenced in the alignment literature such as, by Luftman (2000) and Charoensuk et al. (2014). This research uses this framework as a starting guide, and for an understanding of the business-IT alignment process. It is also used to assist in the design and data collection process.

This study aims to understand how alignment between business and IT strategy is being managed in the digital redesign of UK public services. It captures both vertical alignment between central and local government, and horizontal alignment across government agencies, as depicted in Figure (1). As well as examining the challenges and difficulties faced in aligning, and how they affect alignment in public service redesign. This research study also explores the role of business-IT alignment in enabling the UK to reach the highest e-government maturity level which, according to the European Digital Capability EDC Framework, is to have a strong, agile, user-centred, innovative and responsive digital culture (Cabinet office, 2013). Additionally, this study argues that by illustrating and drawing on the importance of the factors influencing business-IT alignment, the UK government will be in a better position to increase their level of business-IT alignment.



**Figure 1: Horizontal and vertical alignment in public service redesign**

## **1.1 Research aims and questions**

### **Research aim**

The aim of this thesis is as listed below:

- To understand how business-IT alignment is being managed to facilitate the digital redesign of UK public services.

### **Research questions**

The main questions of this thesis are as follows:

- (1) What is the process by which government departments and local authorities align their business and IT strategies, as well as supporting business processes and technological infrastructures?
- (2) How can business-IT alignment can facilitate the digital redesign of UK public services?
- (3) How does alignment come into practice in the UK departmental and local government to support service redesign of public services?

## **1.2 The study's theoretical contribution and outcome**



As part of any research it is important to explore what constitutes a theoretical contribution, and also to examine the literature that synthesises theoretical contributions, here this is specifically in relation to organisation and management studies. Corley and Gioia found (2011, p. 15) that “the idea of contribution rests largely on the ability to provide original insight into a phenomenon by advancing knowledge in a way that is deemed to have utility or usefulness for some purpose”. As such, they identify two dimensions of theoretical contribution: originality (incremental or revelatory) and utility (scientific or practical).

The outcome of this thesis is considered to be a substantive theory. Charmaz (2006, p. 8) stated that “most grounded theories are substantive theories because they address delimited problems in specific substantive areas”. A substantive theory is a theory which applies to the main subject of the research, but could also be relevant in a completely different context (Glaser and Strauss, 1967).

### **1.2.1 The first dimension of theoretical contribution: originality**

The first dimension of theoretical contribution regarding this study is its originality. The originality of this study is of an incremental nature, because it provides original concepts, ideas and insight by progressing and building on existing knowledge and understanding of business-IT alignment in the context of UK government digital service redesign. This research study presents a number of alignment concepts that have not been identified in previous alignment literature (e.g., integration between the strategic and operational level,

strategic thinking and planning, strategy formulation and implementation, silo-based systems associated with localism, and silo-based systems in UK service redesign).

As mentioned previously, this research contributes to the wider body of knowledge by linking alignment, service redesign, e-government, and networks together, a connection which is not adequately explored in the literature. It provides a new insight and an understanding of the processes by which government departments and local authorities align their business and IT strategies, as well as supporting business processes and technological infrastructures. It also explores alignment in both ‘theory and practice’, as will be covered in the next section.

### **1.2.2 The second dimension of theoretical contribution: utility**

This section of the chapter therefore explains the utility or usefulness dimension of the theoretical contribution of this thesis. This study’s utility is divided into two categories: ‘theory for explanation’ and ‘theory for design’. It is seen to include both ‘scientific and practical usefulness’.

#### **The utility of ‘Theory for explanation’ and the ‘scientific usefulness’ utility**

This research is useful in both scientific and practical terms, as it captures alignment in both ‘theory and practice’. It also provides ‘theory for explanation’, making it scientifically useful.

Scientifically useful concepts and ideas are “critical to the larger project of establishing theory that is conceptually rigorous” (Corley and Gioia, 2011, p. 15). According to Gregor's (2006, p. 619) classification of Information Systems theories: ‘theory for explanation’ offers “an explanation of how, why, and when things happened, relying on varying views of causality and methods for argumentation”. Nonetheless, the ‘theory for explanation’ in this research also provides guidance on the ‘theory for design’ (Gregor, 2006). The propositions provided as part of the ‘theory for design’, which are based on the research findings, are one example of this, and are included later in Table (5) and also discussed in Chapter (7). Another example is the Local Digital Coalition (LDC) governance case study, where a governance framework and structure was designed and shared with the LDC, and is thus seen to contribute to practical usefulness. This is discussed in section (5.2).

In addition, this research agrees with Sutton and Staw (1995, p. 374) that “data is not theory”. The data collected is characterised by solely providing descriptions, and the theory provides, “an explanation for the characteristics” (Whetten, 1989, p. 491). Adding to this is the definition of good theory by Whetten (1989, p. 491) as one that comprises “plausible, cogent explanation for why we should expect certain relationships in our data”. Accordingly, this thesis provides ‘theory for explanation’, as it explains how business-IT alignment is being managed - as well as the ‘process of aligning’ - in the digital redesign of UK public services, including explanations of the relationships found among the research constructs, illustrated later in the findings, Chapter (4), and (Figure 15, interrelation of key factors of alignment in UK service redesign). The main constructs of this research are: *business-IT alignment key factors*; communication, standardisation, Shared Domain Knowledge (SDK), business-IT level of engagement, and silo-based systems associated with localism.

## **The utility of ‘Theory for design’ and ‘practical usefulness’**

This study also offers ‘theory for design’, which means that it is practically useful. Gregor (2011, p. 620) explains that ‘theory for design’ is “theory that gives explicit prescriptions (e.g., methods, techniques, principles of form and function) for constructing an artifact”. This research is of practical utility due to the prescriptive statements it makes as part of the ‘theory for design’. According to Gregor (2011, p. 620), prescriptive statements are statements that identify “how people can accomplish something (e.g., construct an artifact or develop a strategy)”. This thesis does not provide prescriptions for creating an artifact, but it prescribes how e-government practitioners can enhance the level of business-IT alignment and overcome issues of misalignment. For example, it proposes and suggests that embedding IT across an organisation will enable better communication between business and IT, and therefore increase the level of business-IT alignment to support public service redesign. Other propositions are included in Table (5). Another example stated earlier is the governance framework designed for the LDC governance case study, Chapter (5). In addition, this research proposes a network arrangement to increase the level of alignment in the UK service redesign, included in the discussion, Chapter (7).

These design propositions are guided by the explanations made, and the relationships found among the research constructs or factors (Gregor, 2006), as will be discussed in more detail next. The practical utility of this research thesis comes from the belief that by providing an insight into how alignment is being managed in the digital redesign of UK public services, and by illustrating and drawing on the importance of the factors influencing business-IT alignment, the UK government will be able to increase their level of business-IT alignment so as to enhance innovation and quality in digital service redesign. As also stated by Van

de Ven (1989, p. 486), if theory is well-produced it can be of practical use in influencing future research and the practices of management.

### **1.3 The research design propositions**

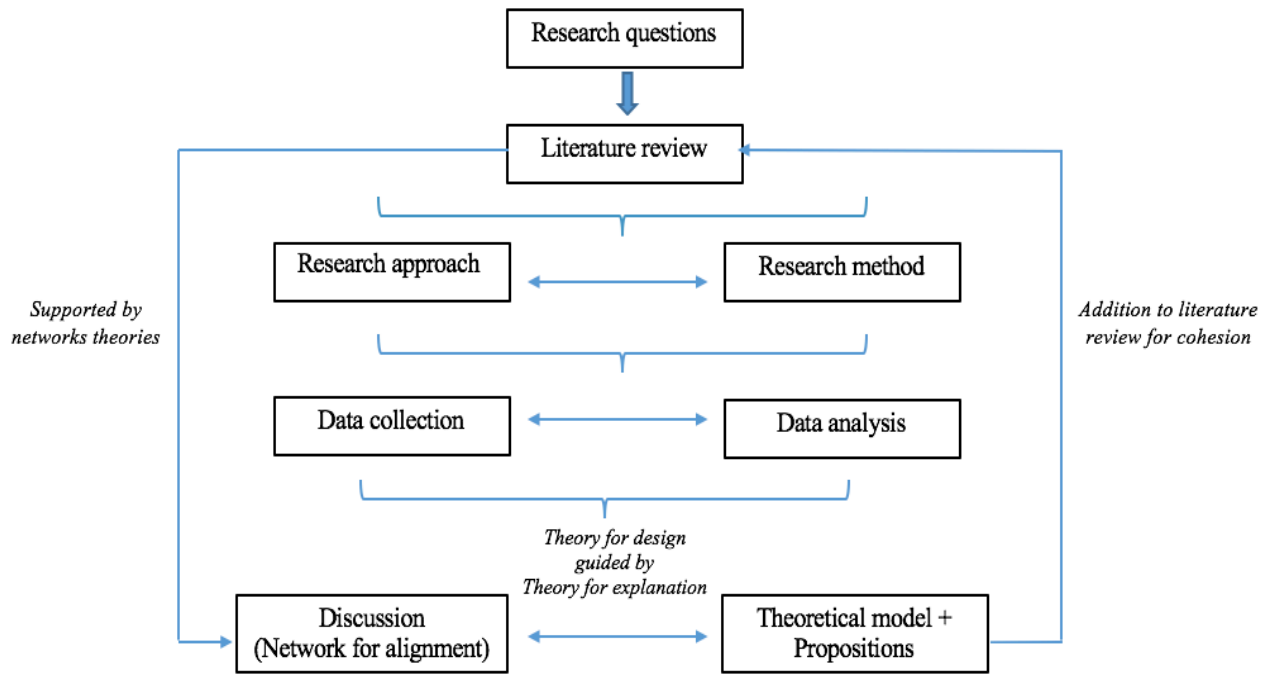
It is important to note that the main goal of a 'theory for explanation', which is intended to be one of the outcomes of this thesis, is to *explain* phenomena, rather than providing predictions (see also Gregor, 2006). As noted by Whetten (1989, p. 491), "propositions involve concepts, whereas hypotheses require measures". The relevant concepts or key factors in this research include communication, standardisation, Shared Domain Knowledge (SDK), levels of business-IT engagement, and silo-based systems associated with localism. This research provides a number of propositions related to those key concepts, illustrated in Table (5). Whetten (1989, p. 491) added that "propositions should be well grounded in the why's, as well as the 'how's' and the 'what's'. He explained that 'what' and 'how' provide descriptions, and 'why' offers explanations. This is aligned with the focus of this research, which is to provide theory grounded in the data that explains the 'what' at the alignment level (and process) in service redesign, and the 'how' of the practice and management of alignment, as well as describing the 'why' of those aspects, as set out by Whetten (1989).

### **1.4 Overview of the research process**

This section explains the research process and the way that this research has been carried out, as also depicted below in Figure (2). The research process started with defining the

research questions, as listed in the previous section. Before starting data collection, a literature review was conducted (Chapter 2), and therefore this thesis is based on an awareness of the literature. The purpose of this is to show an understanding of previous research, and also of the research context which is UK service redesign. This is in line with Strauss and Corbin's (1998) grounded theory version and perspective of *theoretical sensitivity* employed by this research, as explained in Chapter (3).

The next stage involved concurrently defining the research approach, which includes the research paradigm and ontological stance (Chapter 3), and the research method which includes grounded theory and case study (Chapter 3). It was important at this stage to ensure that the research approach fitted the research philosophical and theoretical perspective, and that the research method and the nature of grounded theory adopted did not contrast with the research approach and philosophy. This was followed by a concurrent data collection and analysis, explained in detail in Chapter (3). The outcome of this stage is a theoretical model with a number of propositions for increasing the level of business-IT alignment in UK service redesign (Chapter 6). The outcome also includes suggesting or proposing the adoption of a network arrangement for increasing alignment, and at this point, network theories were used for insight and to support this research proposition (Chapter 7). Network theories were then added to the literature review to ensure cohesion of the thesis. The 'theory for design' that this research offers is guided by the 'theory for explanation', which is mainly covered in the Findings (Chapter 4), and also the Case Studies (Chapter 5). Nonetheless, the outcome of this research and the 'theory for design' emerged from data analysis, and is not based on a previous preconception or influenced by the literature, and is therefore aligned with the inductive nature of grounded theory method used in this research, as explained in detail later in this thesis.



**Figure 2: The research process**

## **Chapter 2: Literature review**

This chapter aims to establish an in-depth understanding of the existing literature and seeks to build linkages between ideas and theories on alignment, service redesign, e-government, networks and governance.

This is achieved by firstly covering and then providing a detailed overview of e-government literature. This research provides a number of contributions to knowledge. This section presents a summary of e-government definitions by different organisations and institutions. It also shows the different e-government maturity models that have been proposed and created since the year 2000, by various researchers and organisations to guide e-government implementation. Since this study is contextual, the literature review therefore also considers e-government in the UK, including its history.

This second part of this chapter is concerned with exploring digital services and e-services literature. To investigate e-government phenomena and service redesign, this research study also looks at ideas around business-IT alignment, which is an under explored approach to the topic. Therefore, the third part of the literature review covers the different alignment frameworks, and also the studies concerned with alignment impact on IT investments and organisational performance. Alignment inhibitors and enablers are presented next, followed by alignment practices and actors, which have been the chosen focus by some alignment researchers.



The next section of this chapter is concerned with governance and its relation to alignment. The reason for this is that governance is one of the alignment concepts identified in this research during data collection. Additionally, as part of the 'theory for design' that this research offers, a number of governance frameworks are designed and proposed for one of the research case studies, as will be covered later in Chapter (5). Therefore, governance is added to the literature review for the cohesion of this thesis.

In addition to exploring the connection between governance and alignment, this chapter provides new insight and fills the gap in the literature, by also exploring the connections and linkages between network and alignment. This is then followed by an overview of governance in networks, and also the different forms of governance found in networks and public administration literature. The reason for this is that network theories are used by this research as an insight to propose actions and provide 'theory for design', as stated previously in the research introduction Chapter (1). It is also seen by this study as a tool that can be used to increase business and IT alignment in UK service redesign. Therefore, governance, and the network theories section, which includes social capital in networks, and governance in networks, were added to the literature review chapter after data analysis was carried out. This means that it is based on analysis of data collected, and is therefore in line with the inductive nature of grounded theory method employed by this research. This was illustrated in the research process, Figure (2).

## **2.1 E-government**

### **2.1.1 What is E-government?**

In the 1990s, the concept of e-government was born. The term was first used in a U.S. document, the National Performance Review, by the former U.S. vice president Al Gore (Nixon, et al., 2010). His vision was to link the citizen with government agencies by providing various services in an automated way, and to use information and communication networks to minimise costs, enhance performance, improve delivery speed and enhance the effectiveness of government services (Almarabeh and AbuAli, 2010).

There are a variety of definitions of e-government in the literature. David McClure's view of e-government (2000) is cited by many scholars, such as Stowers (2008), Charalabidis et al. (2010) and Maric (2011). McClure was an Associate Director of the U.S. General Accounting Office (GAO) and was previously managing vice-president for Gartner Inc.'s government research team. He defined e-government as the "use of technology, particularly web-based Internet applications to enhance the access to and delivery of government information and services to citizens, business partners, employees, other agencies and entities" (McClure, 2000, p. 3). A similar definition is presented by Helen Margetts, who is a political scientist specialising in e-government, politics and digital governance. Margetts defines e-government as "the use of electronic channels for interaction between Government and citizens, businesses or other government organisations" (Margetts and Yared, 2003, p. 1).

According to Halchin (2004, cited in Yildiz, 2007) a universally accepted definition of e-government does not exist. Multiple institutions and authors have formulated other definitions of e-government varying in their breadth and depth. Some of those definitions are presented below in Table (1) to illustrate the array of views, and to address the variety of definitions.

**Table 1: A summary of e-government definitions by different organisations and institutions.**

Source	Definition	Common elements
Global Business Dialogue on Electronic Commerce (GBDe)	“Electronic government (hereafter e-Government) refers to a situation in which administrative, legislative and judicial agencies (including both central and local governments) digitize their internal and external operations and utilize networked systems efficiently to realize better quality in the provision of public services” (Palvia and Sharma, 2007, p. 2).	<ul style="list-style-type: none"> <li>• The use of information and communication technologies and the internet.</li> <li>• Internal and external organizational change and transformation.</li> <li>• Better quality and improvement of public services.</li> </ul>
Gartner Group	“The continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet and new media” (Ibid.).	
The United Nations	“Utilizing the Internet and the world-wide-web for delivering government information and services to citizens” (UN, 2002, p. 1).	

The Organization for Economic Co-operation and Development (OECD)	"The use of information and communication technologies, and particularly the Internet, as a tool to achieve better government" (OECD, 2003, p. 63).	
The European Commission	"E-Government is the use of information and communication technologies in public administrations - combined with organizational change and new skills - to improve public services and democratic processes and to strengthen support to public policies" (OECD, 2003, p. 7).	
The German Society for Informatics	"Electronic government refers to the implementation of processes of public participation, decision-making, and service provision in politics, government and administration with an intense usage of ICT" (Charalabidis, et al., 2010, p. 3).	
The World Bank	"E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions" (Palvia and Sharma, 2007, p. 1)	

Al-Alhmary (2010) points out that some researchers, such as Fang (2002), find that the main aim of e-government is to provide public services online. Homburg (2008) and Patel and Jacobson (2008) concurred, arguing that some authors only concentrate on service delivery, and provide a very limited and simple definition of e-government. The authors choose Norris and Moon's (2005) definition as an example, which defined e-government as a "means of delivering government information and service" (Norris and Moon, 2005, cited in Patel and Jacobson, 2008, p. 2, and Homburg, 2008, p. 90). After reviewing other literature, it can be argued that definitions such as those of Norris and Moon (2005) are insufficient because they are limited and only focus on one aspect of e-government, such as service delivery. A number of authors such as McClure (2001) and Heeks (2001) state that e-government is more than that, and suggest that its purpose is to satisfy the user by providing seamless, user-friendly, and efficient services and by adopting a user focused approach.

According to Beynon-Davies (2007) "what e-government means is in continual flux and has been subject to some change over the years, both in the UK and internationally". Palvia and Sharma (2007) and Barsu (2004) argue that although there are some variations in the definitions assigned to e-government, a common thread can be found. According to Basu (2004, p.110) "the common theme behind these definitions is that e-government involves the automation or computerization of existing paper-based procedures that will prompt new styles of leadership, new ways of debating and deciding strategies, new ways of transacting business, new ways of listening to citizens and communities, and new ways of organizing and delivering information".

Andersen and Henriksen (2006) note that while other concepts such as online government, one-stop government and digital government have been employed, the most commonly used term in the literature is e-government (at least when they were writing). However, Transformational government or t-government is another term used by multiple authors. It is also the highest stage in Layne's and Lee's (2001) e-government maturity stage model. This means that it is challenging to achieve, and multiple barriers have to be overcome for the successful implementation of a transformational government (Sarikas and Weerakkody, 2007; Angelopoulos, et al., 2010). Murphy (2005, p. 99), cited in Angelopoulos et al. (2010), defined t-government as a "radical change in the way governments conduct their business internally and externally". According to GOV.UK (2014, p. 1), "transformation means more than fixing websites. It goes deeper than that, right into the organisations behind the websites".

Beynon-Davies (2007) states that there are deficiencies with regard to what the term e-government means because of its complexity. As McLoughlin et al. (2013) point out, there is a debate over the definition of e-government and a variety of terms are used to name it. According to Yildiz (2007, p. 651), "it is possible to perceive the concept of e-government very differently depending on one's focus". To sum up, it can be said that due to the complex nature of e-government phenomena, the definition of e-government has evolved over time in an attempt to cover all of its aspects. The definition has shifted from simple and limited to more complex. Some writers have seen e-government as an instrument for public sector modernisation and the delivery of public information and services, others have seen it as a tool for enabling greater citizen involvement, process change, public participation and/or democracy. One sufficient definition that covers all aspects of e-government still does not exist and more likely will not exist, because of the complex nature of the phenomena.

## 2.1.2 The history of e-government

The diffusion of ICT technologies by government agencies in the past few decades has enabled them to enhance their internal processes and procedures. It has been used as a tool to increase efficiency, save costs and to meet citizens' needs at a faster pace. As a movement it aims to modernise governments' internal processes by the use of advances in tools, such as data processing machines (Al-Shehry, 2008).

In the 1980s the public sector government reform agenda applied pressure for an administrative, organisational and institutional change across governments (Baptista, 2005). Little attention was paid by government agencies to service quality and responsiveness to customers (Saxena, 2005). During the 1990s a new movement named "new public management" (NPM) took off in most developed countries (Saxena, 2005). The NPM concept implied "that bureaucracies were to adopt leaner structures, market-like mechanisms, and a more active orientation towards citizens" (Homburg, 2008, p. 88). The NPM revolution emphasised the importance of management practices and "production engineering" for the quality and efficiency of public services (Weisbrod, et al., 1978). The main aim of this movement was to pay more attention to the quality of services, and performance and risk management (Leeuw, 1996, cited in Saxena, 2005). Hence, NPM was an early attempt to transform the delivery of public services (*The Economist*, 2000, cited in Saxena, 2005).

NPM, then, was the first in a series of initiatives that attempted to transform government processes (Al-Shehry, 2008). According to Saxena (2005), “E-governance is perhaps the second revolution in public management after NPM” (The Economist, 2000, cited in Saxena, 2005), which highlights the potential role of Information Communication Technologies (ICTs). As Homburg (2008, p. 88) noted, “many politicians and policy-makers have perceived ICTs as a means to actually realise and further implement the notions of administrative reform and new public management”. Information Communication technologies (ICT) were seen as the key to modernising private and public sector operations, and organizational functions (Beynon-Davies, 2005). Yildiz (2007) explains that ICT together with the World Wide Web aided the ‘reinventing government’ movement. Shareef and Jahankhani (2012) agree that the dominance of the internet and parallel developments in ICT, have led to the emergence of e-government. Khanh (2014) concurs and has added that (ICT) technologies have triggered the usage of Internet, and led to the development of e-commerce, and eventually e-government.

The success of e-commerce in the private sector prompted and inspired many governments across the world to adopt e-government (Al-Shehry, 2008, and Tat-Kei Ho, 2002, cited in Khanh 2014). Morgeson and Mithas (2009) state that “the move toward e-government can be recognized as part of a broader trend in public administration reform that emphasizes the ability of the public sector to overcome many, if not most, of its perceived deficiencies through the adoption of private sector best practices.” According to Homburg (2008) e-government is sometimes perceived as “e-business for governments”.

### **2.1.3 The adoption of e-government (issues and challenges)**



It can be said that the focus of e-government has shifted from internal automation only to a radical change of the structure, values, and culture of public sector organisations, and also the ways of implementing business (Al-Shehry, 2008). Batara et al. (2017) explored the different dimensions of the adoption of e-government transformation. These include the use of new technological systems, redesign of governmental processes, restructuring of government organisations, and change of organisational culture and behavior. The authors showed that the establishment of a positive attitude is key for all the mentioned e-government transformation dimensions.

Shareef et al. (2012) add that like any system, the development of e-government engendered and presented numerous technological, political, societal, economical, and cultural challenges (Shareef, Elias and Johnnes; Hamid, 2010 cited in Shareef, et al., 2012). These challenges include overcoming resistance to change, ensuring privacy and security, and the lack of support from top management (West, 2004; World Bank, 2003 cited in Al-Shehry, 2008). According to Gartner (2002, p. 4), cited in Al-Shehry (2008), “the challenges include turning e-government into reality, namely, difficulty in effecting change in the public sector, lack of funding for complex and expensive initiatives as well as rigid governance structure”. Brown et al. (2014) explored the gap between political aspirations, and operational reality and implementation of digitising government. The authors have shown the government organisations have to establish a meaningful transformation by specifying what needs to improved, the means of implementation and the reasons for it.

Shareef, et al. (2012) additionally claim that in order to distinguish those challenges and to address them, it is important to adopt a citizen-centric approach. As Al-Shehry (2008) explains, support from leaders, technological infrastructure, stakeholders acceptance of change, and funding are factors that need to be considered for a successful adoption of e-government. David McClure (2000) stated in his testimony for the U.S. subcommittee's hearing on electronic government issues, that top management leadership and involvement are important to achieve an effective Information Technology investment strategy. McClure explained that the management process should support e-government initiatives by being responsive and by focusing on quality enhancement, cost-reduction, service delivery, and operational productiveness (McClure, 2000). Nonetheless, Pedersen (2017) focused on benefits realisation in the Denmark e-government, and the practical challenges of e-government implementation in both central and local government. The author highlighted the importance of coordinating benefits realisation across central and local government organisations, and the overcoming of fragmentation in the public sector.

#### **2.1.4 E-government maturity stage models**

Many researchers, public administrators, institutions and technologists have sought to develop models and frameworks within which to understand e-government development and maturity. According to Windley (2002), an e-government maturity model is “a method for judging the maturity of the processes of an organization and for identifying the key practices those are required to increase the maturity of these processes”. Such models start from a basic level of providing information services, and move to a fully integrated set of e-services (Persson and Goldkuhl, 2005). There is no universal strategy or approach for this transition (AL-Shehry, 2006). However, “a maturity model can guide us in selecting process

improvement strategies by determining current process maturity and identifying the few issues that are most critical to e-government quality and process improvement” (Windley, 2002). Layne and Lee (2001), cited in Persson and Goldkuhl (2005), describe attempts to introduce e-government as chaotic and unmanageable, and thus argue that it is crucial to divide the development into distinguishable stages.

The literature shows that different models have been proposed since the year 2000, by various researchers and organisations, to guide e-government implementation. Table (2) lists the most cited models found in the literature.

**Table 2: E-government maturity models.**

Author	Stages	First	Second	Third	Fourth	Fifth	Sixth
<b>Gartner, 2000</b>	4	Web presence	Interaction	Transaction	Transformation		
<b>UN, 2001</b>	4	Emerging presence	Enhanced presence	Interactive presence	Transactional presence	Seamless or fully integrated presence	
<b>Hiller and ASPA, 2001</b>	5	Emerging web presence	Enhanced web presence	Interactive web presence	Transactional web presence	Fully integrated web presence	
<b>Deloitte, 2001</b>	6	Information publishing/ dissemination	“Official” two-way transaction	Multi-purpose portals	Portal personalization	Clustering of common services	Full integration and enterprise transaction
<b>Layne and Lee, 2001</b>	4	Catalogue	Transaction	Vertical integration	Horizontal integration		
<b>World Bank, 2002</b>	3	publish	Interact	Transact			

<b>Moon, 2002</b>	5	Simple information dissemination (one-way communication)	Two-way communication (request and response)	Service and financial transaction	Vertical and horizontal integration	Political participation	
<b>Accenture, 2003</b>	5	Online presence	Basic capability	Service availability	Mature delivery	Service Transformation	
<b>Reddick, 2004</b>	2	Cataloguing	Transaction				
<b>Siau and Long, 2005</b>	5	Web presence	Interaction	Transaction	Transformation	E-democracy	
<b>Anderson and Henrikso, 2006</b>	4	Cultivation	Extension	Maturity	Revolution		
<b>Mausavi, 2008</b>	5	Cataloguing	Interaction	Communication	Transaction	Integration	
<b>Lee, 2010</b>	5	Presenting	Assimilating	Reforming	Morphing	E-governance	
<b>Shareef, et al., 2012</b>	6	Initial	Information	Interaction	Enhancement	Transaction	Integration

Siau and Long (2004) have compared the models of Hiller (2001), Deloitte 2001, Layne and Lee (2001), Moon (2002), and Gartner Group (2000) (Table 2). The authors concluded that those models do not share the same perspective, and that some stages either overlap or lack consistency. Siau and Long (2004) proposed a stage model which shares the first four stages of Gartner's (2000) five-stage model, with a fifth stage added, which is e-democracy. They state "we believe that e-democracy is a vital stage in achieving the vision of e-government. In the e-democracy stage, citizens and businesses will gradually change the way they interact with governments". Shareef et al., (2012), also compared the most considered models, which are those developed by Gartner (2000), the UN (2001-2008), the World Bank (2002), Accenture (2003), Reddick (2004), Siau and Long (2005), Anderson and Henrikson (2006), Mausavi (2008), and Lee (2010) (Table 2). The authors concluded

that the models share the same perspective, which is technological rather than citizen oriented. In addition, Fath-Allah et al. (2014) compared 25 maturity models from the year 2000 to 2012. According to the authors, stage names can be different from one maturity model to another. However, these names can share the same meaning or focus. Fath-Allah et al. (2014) defined a set of important features, and expressed the need for a consensus on maturity model features to make the building and understanding of those models easier. According to Windley (2002), there are no well-developed maturity models, however those models can provide an understanding of some key attributes about e-government. Al-Khatib (2009), and Andersen and Henriksen (2006), have distinguished the gap in the literature for a model which is based on a citizens' perspective (effectiveness) rather than a provider's technical perspective (efficiency). Therefore, Andersen and Henriksen (2006) suggested a model based on such a citizen perspective (Table 2).

The UK Government measures its e-government progress against the European Digital Capability (EDC) Framework (Appendix 1). According to the Cabinet Office, its departments are at different levels of maturity (Cabinet office, 2013). The UK has one Internet portal - GOV.UK - which is the highest level of maturity in Layne's and Lee's (2001) model. However, according to the (EDC) framework they use, the highest level of maturity is for their services to meet the 'digital by default' standards (Cabinet office, 2013), which the portal does not really achieve. The 'digital by default' standards are described in the UK through the Government Service Design Manual ([gov.uk/service-manual](http://gov.uk/service-manual)). The Government Digital Service (GDS) is responsible for the assessment of those services.

## 2.2 E-government in the UK

During the 1990s the U.S., Britain, and other Western countries such as Canada and Australia were the first to adopt a basic informational Web presence and to lead the development of e-government phenomenon (Lee, et al., 2005). At that time in the UK, the Labour party plan included “e-government at its heart, playing an instrumental role in joining-up organizations to create citizen focused public services” (Organ, 2003, cited in McLoughlin et al., 2013, p. 19).

The UK e-government agenda was also introduced in the *Modernising Government* White Paper in 1999. The central objective of the Modernising Government programme was “modernisation for a purpose, to make life better for people and businesses” (Prime Minister and Minister for the Cabinet Office, 1999, p. 7). Essentially, the programme focused on five commitments. The first was policy-making for a long-term change, citizen centric responsive public services, high quality and efficient services, information age government by utilising new technologies, and lastly to value public services, not denigrate them (Prime Minister and Minister for the Cabinet Office, 1999).

In March 2000, the prime minister set an objective and target to deliver all public services online by December 2005 (Prime Minister and Minister for the Cabinet Office, 1999). However, this target was not achieved entirely (Shareef, et al., 2012), and a new target was set for all government dealings to be deliverable electronically by 2008. According to Margetts (2006, p. 1), “by 2005 almost all government departments and agencies and local

governments have a website". From the early stages, the UK has distinguished and discussed its concerns that some citizens and small firms may not have the advantage of accessing the web. Their solution was to enable them to communicate with public agencies through other means, and by providing cheap access to PCs, and connecting public facilities, such as, libraries to the web.

According to the *Government on the Web II* (2001-2002) report, the main force for the adoption of e-government was the rising demand from citizens and enterprises to be able to access government information, and to communicate and transact with the government electronically (NAO, 2002). Matching the success of the private sector was another factor, which placed pressure on the UK government to modernise processes, cut spending, and increase efficiency (NAO, 2002). Their main inspiration was private sector innovation strategies, which were also used to indicate trends that they are likely to experience in the future. Interviews were carried out with major UK private sector companies such as BT, Tesco, and CISCO to understand how the web had changed their processes, internal organisation, and their interaction with customers. In addition, they used another set of comparators, which was the experience of other countries equipped with advanced web developments, those countries being Australia, United States, and Germany (Dunleavy et al., 1999).

In March 2004, the UK e-government successfully launched its official portal Directgov as a replacement of the previous portal "UK online" (Shareef, et al., 2012) (Norton, 2008). Directgov was the responsibility of the 'Cabinet Office' Electronic Government Unit (eGU), which was a unit dedicated to support administrative changes of government, and to allow

electronic access to government services and information (Galindo, 2005). In addition, a transformational government strategy was created in 2006, which focused on three main themes: customer-centric services, shared services and professionalism. According to Norton (2008, p. 12), “in the first Transformational Government annual report (2006) it was made clear the priority is to improve customer-centric services, a narrow ambition; the aim should be for citizen-centric services”.

In April 2006, a request was made to move content to either the Directgov website developed for citizens, or to the Business link website developed for businesses. The Directgov portal acted as an individual fronting for the interconnected data structures of the various UK government organisations. There were considerable obvious benefits of Directgov. It facilitated the delivery of services and information, and made them more accessible in a faster and effective way. Directgov’s main potential and improvement was achieved in having all forms submittable online (Norton, 2008). But as Irani et al. (2006) have argued more transactions need to be carried out online to gain the benefits of cost saving. Norton (2008), however, noted that Directgov lacked citizen interaction and democratic participation.

In October 2012, with the arrival of a new government in Westminster, the UK replaced Directgov and business link portals with GOV.UK, which was created and built by the new Government Digital Service (GDS) (GOV.UK, 2013). The Government Digital Service (GDS) is not concerned with website design only, but also works with other government agencies in order to design public services that are “digital by default, and simpler, clearer and faster to use” (GOV.UK, 2013). It was stated in the Digital Strategy of October 2012 that the aim



here was to move all government departments and public agencies content to GOV.UK website by March 2014 (GOV.UK, 2015). However, difficulties in resources resulted in a delay, and it was achieved by the end of December (ibid). “The result is that almost all government information is now available in a single trusted place, making it clearer, simpler and faster for people to deal with government” (ibid).

The UK’s 2012 digital strategy has “set out how government will redesign its digital services so well that people prefer to use them” (Home Office, 2012). The UK’s 2012 and also 2013 digital strategy focused on the adoption of the ‘digital by default’ standards for improving the quality of digital services. The 2013 strategy provided 16 actions for the establishment of a digital by default government. The UK new digital government vision is called ‘government as a platform’ – a term which was introduced by Tim O’Reilly in 2010. It is defined as “a common core infrastructure of shared digital systems, technology and processes on which it’s easy to build brilliant, user-centric government services” (Bracken, 2015). The UK is working towards this vision, saying that what it needs is a common approach and not a siloed approach to transformation (ibid).

Additionally, the UK’s digital strategy for 2015-2016 outlined a number of priorities and principles to guide e-government implementation. These included increasing digital capability, quality of services and standardisation across UK government organisations (Home Office, 2016). Another type of strategy that links to e-government implementation is the UK’s government transformation strategy which outlines a number of targets for 2020. Its main objective is to “continue to deliver world-class digital services and transform the way

government operates, from front end to back office, in a modern and efficient way” (Cabinet Office, GDS, and The Rt Hon Ben Gummer, 2017).

## **2.3 Digital services**

### **2.3.1 The definition of digital services**

Since the research looks at service redesign in e-government, it is important to understand and clarify what we mean by e-government digital services, or ‘e-services’. According to Brown et al. (2014, p. 74), “Digital’ is at risk of becoming meaningless through overuse, abuse and misunderstanding”. The authors used the term digital for the organizational practices and services that exploit opportunities provided by technology and the internet age. Additionally, McLoughlin et al. (2013) stated that the use of ‘e-’ can be seen as one that suggests that technology is the key enabler in transforming government organisations. The authors explained that “other writers, mindful of the problems with the ‘e’ prefix, have preferred to use the term ‘digital’ or ‘virtual’ in an effort to leave open the idea that the outcomes of technological change are in the same way shaped by organizational and other choices and decisions (e.g. Dunleavy et al., 2006; Fountain, 2001)” (p. 14).

Nonetheless, Lovelock and Wirtz (2004, p. 9), cited in Hofacker et al. (2006, p. 5) defined services as “an act or performance offered by one party to another, an economic activity that creates value and provides benefits for customers by bringing about a desired change

in, or on behalf of, the recipient”. According to Hofacker et al. (2006), this definition concentrates on the process for producing services and its beneficial outcomes.

E-services were defined by Rowley (2006, p. 341) as “deeds, efforts or performances whose delivery is mediated by information technology (including the web, information kiosks and mobile devices)”. Another definition which focuses on the e-service delivery infrastructure is that of Boyer et al. (2002, p.175): “interactive services that are delivered on the Internet using advanced telecommunications, information, and multimedia technologies”.

On the other hand, a definition that highlights the e-service creation by using algorithms, is Hahn and Kauffman’s (2002), cited in Hofacker et al. (2006, p. 5): “an act or performance that creates value and provides benefits for customers through a process that is stored as an algorithm and typically implemented by networked software”.

Many authors such as Carugati and Rossignoli (2011), and Kelleher and Peppard (2009), agree that the common thread in e-services definitions is the electronic delivery of the service. Nonetheless, governments have developed e-services, not only to deliver services electronically, but also to generate value to the public by improving effectiveness and efficiency, reducing cost, and encouraging transparency (Kelleher and Peppard, 2009, p. 1). Melin and Axelsson (2009) added that public services require secure handling of information to create and sustain citizen confidence on public administration and democracy. In addition, Kelly et al. (2002), cited in Melin and Axelsson (2009) acknowledged that it is essential to meet the user needs, “the more customers fulfil their service requirements online, the more

scalable and profitable the organisation's e-service model becomes" (Kelleher and Peppard, 2009). A definition that supports this view is that of the International Standardisation Organization (ISO 9004-2:1991:4), cited in Hultgren and Eriksson (2013): "supplier activities at the interface with a customer and the results of all supplier activities to meet customer needs".

Williams et al. (2008, p. 506) defined digital services as "services, which are obtained and/or arranged through a digital transaction (information, software modules, or consumer goods) over Internet Protocol (IP)". The authors showed that the difference between digital and non-digital services includes the use of computer technology, and also tangibility and ownership of the digital service. However, Kelleher and Peppard (2009) state that the difference between self-service technologies and e-services is that self-service requires specific technologies, e.g. an information kiosk or ATM, whereas e-services only require accessing the internet. There is no face to face meeting between the e-service provider and the user; it is handled through a web interface (Hultgren and Eriksson, 2013). Sousa and Sousa and Vosss's (2012, p. 789) definition highlighted this aspect by defining e-services as "services produced by customers by interacting with a web site, excluding any interactions with service employees".

### **2.3.2 Digital public services design and development**

According to Angelopoulos et al. (2010), the literature on New Service Development (NSD) is fragmented; there are no major advancements or contributions to the knowledge of NSD related to public sector and e-government. They say (2009, p. 5) that the “literature has not shed enough light yet on the development of new services in e-government”. However, Goldkuhl and Röstlinger (2010, p. 3) state that “public e-services and e-government services have been discussed widely in the literature for several years”. Melin and Axelsson et al. (2009), and Ho and Pardo (2004) have added that there are many research papers study the reasons for project failure, and the factors influencing the success and failure of Information System development (ISD) projects.

Goldkuhl and Röstlinger (2010) emphasised the need for methods to facilitate public e-service developments. Axelsson et al. (2009) agreed that e-services require systematic development and careful planning. There are a variety of methodological approaches used for new service development NSD. Critical success factors (CSF) is one of the Information Systems approaches that can be used for the implementation of new service development NSD in e-government (Angelopoulos, et al., 2010). DeLone and McLean (1992), cited in Ho and Pardo (2004), examined 180 articles on IS success factors, and formed six categories of IS success: (1) system quality; (2) information quality; (3) use; (4) user satisfaction; (5) individual impact; and (6) organizational impact. Additionally, Ho and Pardo (2004) list the I-TIPS and success factors identified by IS research, which are (1) top management commitment; (2) linkage to business; (3) planning; (4) expectation of output; (5) technical alignment; (6) knowledgeable personnel; and (7) user involvement. According to the authors, “I-TIPS is designed to help agencies select, control, and evaluate IT investments

through the use of five different phases” (ibid, p. 3). These five phases are selection, control, evaluation, enhanced analysis and reporting, and OMB budget exhibit reporting (ibid).

However, Goldkuhl and Röstlinger (2010) argued that most standard Information Systems Development (ISD) methods e.g. RUP are not the solution: “many existing methods are conceived as too large and complex to use for development of such small and specific applications as public e-services” (p. 1). Nonetheless, parts of those ISD methods can be used (Karlsson, 2005, cited in Goldkuhl and Röstlinger, 2010). In addition, a strategic e-service implementation and framework is necessary for the development of public e-services. Kelleher and Peppard (2009) indicated that an integration is required of the organisation’s overall services strategy or multi-channel service operations with their e-services strategy. Arvidsson (2010) agreed that “it is necessary to adopt an integrated channel strategy”. Wilson et al. (2016) study focused on the related matter of shared public services, and the forms of collaboration for the design and delivery of public services. The authors explored the scaling of a centralised and localised collaboration architecture, and showed that there are a number of challenges of collaborative design and delivery of public services. Collaborations in the public sector are found to be difficult to establish as they require the specification of an aim and even legislation, and the securing of funding (ibid).

Anthopoulos et al. (2010) have showed that when users are not satisfied with digital public services, they return to traditional forms of interaction with the public organisation.

The authors investigated the use of collaborative tools and the participation of both citizens and civil servants for the redesign of e-government services. Kelleher and Peppard (2009) have pointed out that for the implementation of e-services and to minimise spending,

organisations have to decide carefully the combination of technologies, procedures and process redesign required.

The United Nations report stated that “with public sectors offering an increased number of services, the focus is shifting from what kinds of services are provided to how they are provided” (United Nations Department of Economic and Social Affairs, 2014, cited in Batara et al., 2017). Goldkuhl and Röstlinger (2010) also indicated that e-government development programs have been focusing on the *number* of public e-services, rather than on their *quality*. Thus, some e-services can have a low level of usage or even deficiencies related to usability (ibid). Believing that the more e-services developed, the better, is not accurate (OECD, 2005, cited in Arvidsson, 2010). Kelleher and Peppard (2009) assert that organisations need to decide which e-services are most valued by their customers. They should also personalise their e-services depending on customers’ requests and complaints. The authors defined personalisation as “the process of using a customers’ information to deliver a targeted solution to that customer, typically based on information solicited in advance or past customer behaviour, situation specific personalisation necessitates an awareness of the current customer context and requirements”.

Hultgren and Eriksson (2013) state that e-service specification is the act of describing the e-service, and the responsibility of the e-service provider. It consists of core and additional or complementary e-service description. Most importantly, the user and service provider interaction is essential within a social interaction context which includes “actors, social relationships, norms, rules, values and expectations” (ibid, p. 165). Goldkuhl and Röstlinger

(2010) identified bi-directional communication between the public agency and the citizen as *co-services*. As such, that argue, “it is very important that both parties obtain something valuable from the use of the e-service and its instantiated communication” (Goldkuhl, 2009b; Röstlinger and Cronholm, 2009, cited in Goldkuhl and Röstlinger, 2010, p. 4).

There are several systems development models or life cycles suggested by a number of authors. Heeks (2006), cited in Melin and Axelsson (2009), illustrated an e-government development model that consist of (1) project assessment, (2) analysis of current reality, (3) design of the new system, (4) system construction, and (5) implementation and beyond. A traditional system development life cycle which shares some similarities with Heeks's (2006) model was created by Avison and Shah (1997), and Avison and Fitzgerald (2003), cited in Melin and Axelsson (2009). It included: (1) feasibility study; (2) system investigation; (3) systems analysis; (4) systems design; (5) implementation; and (6) review and maintenance.

To summarise, it is found that there is a consensus in the literature on e-services and digital services definition and on the importance of meeting user needs. There are a variety of models and approaches for digital service development. However, e-services or digital services are not simply a digitalised version of service re-creation, rather, careful planning and systematic development are required for their delivery to provide benefits for the user.

In order to investigate e-government phenomena and service redesign as part of the research, I will now look at ideas around Business-IT alignment. This, I believe, is an under explored approach to the topic and offers important new insights.



## **2.4 Business-IT strategic alignment**

The concept of business-IT alignment has been well known since the late 1970's (Luftman, 2000). Luftman (2000, p. 3) defined Business-IT Alignment (or BIA) as “applying information technology (IT) in an appropriate and timely way, in harmony with business strategies, goals and needs”. It is also defined as “the degree of fit and integration between business strategy, IS strategy, business infrastructure, and IS infrastructure” (Henderson and Venkatraman, 1989). Campbell (2005) defined alignment based on answers from focus group participants: “alignment is the business and IT working together to reach a common goal”. Other terms or synonyms of business-IT alignment found in the literature include: harmony, linkage, fusion, and integration. Also, business-IT alignment or IT-business alignment are considered to be the same, because their common objective is to ensure that there is a harmony or linkage between the two (Luftman, 2000).

Progressively, scholars have attempted to develop a more inclusive definition of business-IT alignment and to provide a holistic view of alignment. As a result, alignment is conceptualised in the literature as a dynamic process with multiple dimensions and levels. A number of authors such as Charoensuk et al. (2014), Karpovsky and Galliers (2015), and Coltman et al. (2015) have acknowledged the multi-level (strategic and operational), and multi-dimensional (social and intellectual) nature of alignment.

Social alignment is defined by Reich and Benbasat (2000, p. 81) as “the state in which business and IT executives within an organizational unit understand and are committed to the business and IT mission, objectives, and plans”. The social dimension focuses on the actors who are involved in the practice of aligning their involvement, communication and decision making practices (ibid.). On the other hand, intellectual alignment is the level to which the business and IT strategies and plans are congruent and consistent with each other (Kearns and Lederer, 2000; Preston and Karahanna, 2009, cited in Karpovsky and Galliers, 2015). It is also defined as “the state in which a high-quality set of interrelated IT and business plans exist” (Reich and Benbasat 2000, p. 82). This dimension focuses on the tools of alignment such as frameworks, infrastructures, models, technologies and methods (Jarzabkowski and Kaplan, 2014; Karpovsky and Galliers, 2015). Prior empirical studies such as (Reich and Benbasat, 1996; Reich and Benbasat, 2000) have shown the impact of the social dimension (e.g. shared domain knowledge and communication) on intellectual alignment.

#### **2.4.1 Business-IT alignment frameworks**

Henderson and Venkatraman (1993) identified the lack of frameworks that can help with understanding the potential of IT in supporting business strategies or even to create new business strategies. The authors therefore developed a model named Strategic Alignment Model (SAM), consisting of four domains. Those domains are:

- Business strategy
- Information Technology strategy
- Organisational infrastructure and processes
- Information Technology infrastructure and processes.

The model also includes two strategic management characteristics. These are '*strategic fit*', representing the interrelationship between the internal and external components, and '*functional integration*', which represents the integration between the business and functional domains. The authors indicated that there are four perspectives to strategic alignment, illustrated in (Appendix 2) (Henderson and Venkatraman, 1993).

There are a number of researchers who have extended this concept and built new frameworks. Luftman (2000) stated that it is not clear how to achieve and assess alignment. Therefore, the author has proposed a framework for the assessment of the business-IT alignment maturity. It includes six criteria, which are communication, competency/value measurement, governance, partnership, scope and architecture, and skills. The author has used the alignment enablers as elements for evaluation or assessment criteria (Luftman, 2000). For example, in communication there are six scaling criteria, which are: the understanding of business by IT, understanding of IT by business, organisational learning, style and ease of access, leveraging intellectual assets, and IT-business liaison staff (Luftman, 2000) (Appendix 3). In addition, Weiss and Anderson (2004) modified Daft's (2001) framework to create an alignment value matrix. It consists of two axes: (1) the level of IT/business integration; and (2) the value of IT to business strategy and operations. It

includes three alignment profiles (lowest to highest): “Operation Resource”, “Strategic Resource,” and “Strategic Weapon”. Organisations can identify which alignment profile is needed according to their “size, capabilities, markets, and strategy” (Weiss and Anderson, 2004, p. 3). However, “for organizations desiring to grow, compete, and move into world-class status, movement across the matrix from lower to highest alignment levels could be assumed” (ibid, p. 3) (Appendix 4).

In addition, a number of scholars have argued that alignment is not always desirable. For example, Chan et al. (2007) stated that alignment is not achievable if the business strategy is unknown or in progress. The authors added that the critics argue that alignment is not possible or desirable because the business must always change. Moreover, other critiques have included the fact that IT departments are struggling to keep up with the business demands (Gotze and Jensen-Waud, 2013). It is also argued that with the rise of digital strategies, IT and business are becoming one entity making alignment less meaningful or relevant (Coltman et al., 2015). However, Chan et al. (2007) illustrate that there is not a ‘state’ of alignment, and according to Henderson and Venkatraman (1993), alignment is a process that involves continuous adaptation and change. Luftman (2000) supported the view that alignment is evolutionary and dynamic, and its importance grows in light of the changing business strategies and technologies.

#### **2.4.2 Alignment impact on an organisation’s performance**

Additionally, recent research by Charoensuk et al. (2014) has shown that alignment can positively impact an organisation's performance and the strategic use and management of IT. According to Chan et al. (2007, p. 298), the literature supports the hypothesis that "organizations that successfully align their business strategy with their IT strategy will outperform those that do not". Croteau et al. (2001) studied alignment and its impact on business performance. The authors defined business performance as "the measures of growth and profitability of the firm through its business endeavors and deployment of organizational and technology resources" (Croteau et al., 2001, p. 4). Croteau et al. (2001) and Byrd et al. (2006) found that the IT and business strategies alignment enhances the business performance. Additionally, a recent study by Schlosser et al. (2015) concluded that social alignment positively impact business performance. Coltman et al. (2015) observed that some scholars (such as Sabherwal and Chan, 2001; Oh and Pinsonneault, 2007; Yayla and Hu, 2012; and Gerow et al., 2014), provide evidence indicating that alignment effects business performance positively.

Palmer and Markus (2000) provide a contrary view, in their claim that there is no link between alignment and performance. Another perspective, by Tallon and Pinsonneault (2011), suggests that alignment does not affect performance directly, but rather it is mediated by agility. Conversely, Wu et al. (2015) revealed that the link between IT governance and performance is mediated by alignment, so there is a direct positive link between alignment and performance. With the mixed views provided by scholars, it can be concluded that alignment can have a positive impact on performance, although not necessarily directly - and thus alignment remains a vital topic for research and further exploration.

### **2.4.3 Alignment impact on IT investments**

It is prominent in the literature that alignment facilitates a strategic and more effective use of IT, such as (Chan et al., 2006, cited in Karpovsky and Galliers et al., 2015). According to Henderson and Venkatraman (1993), the lack of alignment between the business and IT generates an inability to realise the full potential of IT investments. The UK is increasing its IT investments continuously and the Office of the Chief Technology Officer (OCTO) is re-shaping how it uses and buys technology (Bracken, 2015). It is fundamental that these new IT arrangements are congruent and are aligned with their business strategy, goals, and needs of the service redesign. As also mentioned by Luftman (2000), organisations need to know how to apply IT appropriately as an enabler or even as a driver of their business strategy.

The UK spends over £2 billion a year on services (Maude, 2013), and therefore it is important for those investments to be aligned with the government's business strategy and to support service redesign. Service redesign here requires a digitally-focused environment (Cabinet office, 2015), which means it is essential for UK e-government to achieve alignment in order to be able to identify and seize new opportunities in technology. According to Byrd et al. (2006), linkage provides organisations with some assurance in terms of new IT investments. In addition, studies such as (Kearns and Sabherwal, 2007, cited in Gotze and Jensen-Waud, 2013) show that organisations that employ an effective framework for their alignment at the early stages, are more likely to save resources and time in the long term. Alignment also allows organisations to exploit emerging IT capabilities (such as mobile technology or cloud computing) to impact on the design of new services, which in turn may require the

modification of business strategy (Henderson and Venkatraman,1993). According to Luftman (2000), there are three important aspects here. Firstly, organisations need to know how they can assess their alignment, how to improve their alignment, and lastly how to achieve a mature alignment. In addition, Luftman (2000) highlighted that alignment can help in addressing both the effectiveness and efficiency of an organisation.

#### **2.4.4 Alignment enablers and inhibitors**

Once the level of alignment of an organisation is established then the focus can turn to increasing the enablers and decreasing the inhibitors, and to maintaining a harmony between business and IT (Charoensuk et al., 2014). Luftman (2000) listed the alignment enablers, starting from the most important. These included senior executive support for IT, IT involved in strategy development, IT understands the business, business-IT partnership, well-prioritized IT projects, and IT demonstrates leadership. Charoensuk et al. (2014) found that the key enabler and the factor that highly impacts alignment is *shared domain knowledge*, which occurs when the business and IT units are understanding of and learning from each other. The authors added that communication facilitates *shared domain knowledge*. Similarly, Reich and Benbasa (2000) supported this view by concluding that *shared domain knowledge* is the only factor that produces long-term alignment. Communication is one of the alignment enablers identified in case studies by the authors, where they have focused on the variety of communication channels used for aligning. On the other hand, Charoensuk et al. (2014) paid particular attention to the process and quality of communication. The authors added that communication enhances knowledge exchange and sharing between business and IT. This was also observed by Al-Alawi, Al-Marzooqi, and Mohammed (2007), cited in Charoensuk et al. (2014). Schlosser et al. (2015) have

shown that social capital facilitates the knowledge exchange that increases social alignment. In addition, Weiss and Anderson (2004) identified the antecedents and found that there are four common themes when investigating organisations with a good level of business-IT alignment. The themes are clear direction, commitment, communication, and cross-functional integration.

### **2.4.5 Aligning practices and actors**

A number of scholars have focused on aligning practices and activities, and on actors involved in the practice of aligning, rather than alignment characteristics, enablers and inhibitors. Karpovsky and Galliers (2015), for example, noted that alignment happens through a list of activities. The authors noted that alignment models are criticised for being infeasible, and not reflecting real world practices. The authors analysed the literature and found two basic conceptual dimensions, which they have used to classify aligning actions - the *focus (tools or actors)* and the *purpose (emergent or intended)*. The framework developed comprises four metaphors describing aligning activities as *experience*, *integration*, *translation* and *adaptation* (Karpovsky and Galliers, 2015) (Appendix 5).

To conclude, over time, government agencies are becoming more reliant on IT for their e-government initiatives and service redesign. This study argues that bi-directional alignment enables government agencies to maximise return on IT investments and to ensure that those IT arrangements fit with their business strategy, goals, and needs of the service redesign. This argument is supported by Coltman et al. (2015), who has stated that two-way alignment is key to generating IT value.



It can be concluded that alignment has been conceptualised and theorised in the literature in a variety of ways. While studies have attempted to deepen our understanding of alignment, sometimes they have caused confusion. As highlighted by Coltman et al. (2015), the extensive literature on alignment and its lack of consistency, makes scholars concerned about whether it is right to be too inclusive or too exclusive, to provide a holistic view or to focus on reductionism. This current research therefore seeks to build linkages between ideas and theories on alignment, service redesign and e-government. This is lacking in the existing literature. The research thus sees it as important to fill this gap by building on previous studies, and contributing to knowledge by explaining the phenomena at hand, and the connections between them, and adding new insights in the process. In this respect, governance is one of the alignment enablers explored in more detail in the next section. The reason for this is that it is one of the alignment concepts identified during data collection.

## **2.5 Governance and alignment**

Governance is one of the six BIA alignment criteria of Luftman's (2003) Strategic Alignment Maturity Model (SAAM). As mentioned earlier, these alignment criteria must be given sufficient attention to mature in order to achieve business-IT alignment. In this section, I focus on governance and its link to business-IT alignment (BIA). This is done because governance is identified as one of the alignment concepts during the collection of data from this research case studies. This section starts with providing an overview of different governance definitions. Additionally, the literature has repeatedly acknowledged the connection between alignment and governance, and in particular IT governance, and

therefore the next section covers this connection. This is followed by an overview of the key governance frameworks discussed in the literature.

### **2.5.1 Governance definitions**

There are many aspects of governance in the literature, and this section attempts to briefly cover these aspects. It indicates some connections within the knowledge provided by scholars for a clearer understanding of the governance literature and its link to BIA. In this sense, enterprise governance is one of the new terms of governance used in the literature. According to Kodali (2000), cited in Saetang and Haider, (2011), there are two aspects of enterprise governance: conformance and performance. The author added that conformance is actually corporate governance. Saetang and Haider (2011) stated in their research that corporate governance has a range of definitions in the literature, and it depends on the author's perspective. According to the authors corporate governance is "multifaceted and defines guidelines on roles and responsibilities as well as interaction of people with various systems in the organizations" (Saetang and Haider, 2011, p. 79). Another definition provided by Calame and Talmant (1997), cited in Luna et al. (2014) shows that governance is "the ability of human societies to equip themselves with systems of representation, institutions, processes and social structures, in order to they manage themselves, through a voluntary movement".

Additionally, there are a number of capabilities required to establish agility at the business level (Luna et al., 2014). The authors explained that these include governance related capabilities, such as 'strategic alignment ability' to ensure coordination across business divisions and units (ibid). This therefore shows that there is a connection between governance and alignment. In addition, it was stated by Luna et al. (2014) that agile governance is "gaining attention and evolving over the time as a meaning that is increasingly making sense in different contexts". The authors provided a systematic review of the agile governance definitions covered in the literature. These definitions focused on different aspects which are: 'Agile Software Development', 'Software Development Governance', 'IT governance', and 'multidisciplinary' (ibid). Luna et al. (2013) defined agile governance as "the 'means' by which strategic competitive advantages ought to be achieved and improved on the organizational environment, under an agile approach in order to deliver faster, better, and cheaper value to the business". Another definition of agile governance by Luna et al. (2014, p. 134) states that it is "the ability of human societies to sense, adapt and respond rapidly and sustainably to changes in its environment, by means of the coordinated combination of agile and lean capabilities with governance capabilities, in order to deliver value faster, better, and cheaper to their core business."

Thus IT governance is considered to be a crucial part of the corporate or enterprise governance concept (Kodali, 2000, cited in Saetang and Haider, 2011). According to Weill and Ross (2002, p. 2), IT governance "reflects broader governance principles while focusing on the management and use of IT to achieve corporate governance goals". IT governance and its link to business-IT alignment is discussed next.

## 2.5.2 IT governance and alignment

In the literature, the connection between governance, and in particular IT governance, and the strategic use of IT and alignment, has been repeatedly acknowledged. As stated by Weill and Ross (2004, p. 3-4), “effective IT governance is the single most important predictor of the value an organization generates from IT”. It was also stated by Huang et al. (2010, p. 288), cited in Wu et al. (2015, p. 499) that “well-designed and orchestrated IT governance mechanisms are expected to produce IT-related decisions, actions and assets that are more tightly aligned with an organization’s strategic and tactical intentions.”

IT governance was defined by Weill and Ross (2002, p. 2) as “specifying the decision rights and accountability frameworks to encourage desirable behavior in using IT”. A more elaborate definition provided by Van Grembergen (2002), cited in Schlosser et al. (2015, p. 498) illustrated that IT governance is the “organizational capacity exercised by the board, executive management, and IT management to control the formulation and implementation of IT strategy and in this way ensure the harmonization fusion of business and IT”. According to the IT Governance Institute (2003), cited in Haes and Van Grembergen (2005, p. 2) it includes “the leadership and organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategy and objectives”. Haes and Van Grembergen (2005) explained that there are various definitions of IT governance in the literature, however, one aspect they have in common is the importance of linking business and IT. It was also observed from the literature that most definitions focus on the importance of establishing knowledge and understanding of IT for decision making. An important point made by Weill and Ross (2002, p. 2) indicated that IT governance “is not about making specific IT decisions — management does that”. The authors explained that

IT governance is about who should make and participate in the decision making process. It can be seen that there could easily be a confusion between IT governance and IT management. Haes and Van Grembergen (2005) clarified the difference, and explained that IT governance is a broader term concerned with the performance and transformation of IT to support the business. On the other hand, IT management is a crucial part of IT governance which “focuses on the effective supply of IT services and products and the management of the IT operations” (Haes and Van Grembergen, 2005, p. 2).

Additionally, Schlosser et al. (2015) linked IT governance with two dimensions of social alignment, *social capital (SC)* and *IT personnel’s business understanding (ITBU)*. The study revealed that IT governance mechanisms (e.g. joint IT planning and top management support) positively impact social alignment. Similarly to the concept of business-IT alignment, Saetang and Haider (2011) stated that IT governance is also concerned with the successful joining of business and IT for sustainable organisation operations. Another perspective similar to BIA provided by the authors is that IT governance is an ongoing process and not a onetime activity. “It is actually an ongoing process that maps IT to the business such that the IT infrastructure evolves and matures with the organizational capabilities” (Saetang and Haider, 2011, p. 79). The authors have highlighted that it is also about aligning IT to the business to ensure that it supports the business and enables it to achieve its objectives. These empirical studies have illustrated the strong connection between alignment and IT governance.

In addition, the implementation of IT governance is known conceptually to include a mix of elements, which are structures, processes and relational mechanisms (Haes and Van

Grembergen, 2005). The authors have provided examples of each of these elements. According to Van Grembergen and De Haes (2009, p.3) these IT governance elements “enable both business and IT people to execute their responsibilities in support of business/IT alignment and the creation of business value from IT-enabled business investments”.

### **2.5.3 Governance frameworks**

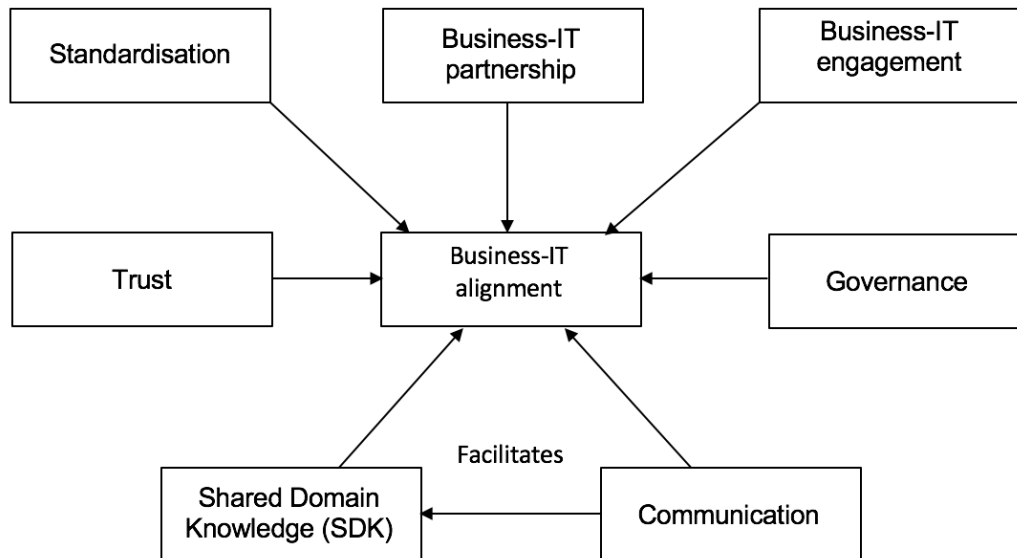
Saetang and Haider (2011) stated that the available IT governance frameworks used by some organisations such as COBIT and COSO are not sufficient as they focus only on a small part and do not provide an overall way to manage the IT infrastructure. There are also more advanced and improved framework such as ITIL. However, according to Saetang and Haider (2011, p. 79) “although more accomplished frameworks like ITIL, provide a much more accomplished set of guidelines, yet they do not yield consistent level of service across all areas of business”. Yet governance in not-for-profit organisations is much more complex. Weill and Ross (2002) explained that these organisations are frustrated as most of the available governance frameworks are designed for private sector organisations where they operate in a much simpler and clearer way. For example, measuring value and profit is more straightforward. Additionally, Luna et al. (2014) extended the traditional governance framework, such as ITIL and COBIT, by adding components from agile philosophy. The authors suggested and explained six principles for agile governance, such as “teams must deliver fast, and must be always improving” (ibid, p. 136).

In sum, governance is one of the alignment factors identified in this research when collecting data from the research case study, and therefore this section covered and explored governance and its relationship to alignment found in the literature. Nonetheless, this research explores the intersection of - and builds on - five bodies of literature: e-government, service redesign, business-IT alignment, governance, and networks. In the next section, networks are covered, including social capital in networks, and governance in networks. The reason for this is that a network arrangement is proposed by this study to be used as a tool to increase the level of business and IT alignment. Governance and social capital are found to be an integral parts of networks. In addition, as mentioned previously in the research introduction Chapter (1), this research provides 'theory for design', and therefore a number of governance frameworks are designed and proposed, which will be presented later in the research case studies Chapter (5). Therefore, a section exploring governance in networks and public administration or public sector literature is examined later for an overall holistic view.

## **Summary**

There are different perspectives and dimensions of alignment covered in the literature, for example, by focusing on the tools of aligning, actors involved with aligning, and/or aligning practices and activities. A number of alignment enablers and inhibitors are also discussed in the literature and were mentioned previously in detail in section (2.4.4), such as Luftman's (2000) six alignment criteria (Appendix 3). This section summarises the business-IT alignment section of the literature review by providing a conceptual model representing the alignment factors covered previously, and the interrelation found between communication and shared domain knowledge (SDK), Figure (3). The reason for this is to provide a conceptual foundation and to show how this model is then expanded by the findings of this

research. It is also included to highlight how this model is different from the key contribution of this research, which is the theoretical model demonstrating the interrelationship between the alignment key factors, provided later in Chapter (6).



**Figure 3: Alignment factors identified in the literature**

## 2.6 Networks for alignment

Conceptually, there are different types of networks that differ in their structural patterns or arrangements of relations, but they always have two elements or characteristics in common: (1) a number of objects known as nodes, positions, or actors; and (2) present or absent relations between these objects identified as edges, ties, or links (Knoke,1990). For example, inter-organisational networks are discussed in the literature at three levels of analysis: (1) the actors; (2) their links; and (3) their organisational embeddedness (Ebers, 1997). In addition, networks are discussed in the literature using a variety of terminologies,



for example, strategic partnership, partnership networks, inter-organisational networks and also as multi-stakeholder partnerships.

According to Seufert et al. (1999, p. 2), “hardly any industry remains unaffected by the evolution of network-like relationships within and between firms”. If we think about the network-like relationships or interlinkages in the UK government, we find that there are many, for example, between government and citizens, government and businesses or between government organisations and agencies.

A network is identified by Provan and Kenis (2008, p. 4) as a “mechanism of coordination”. It provides ways for “organising economic activities through inter-firm coordination and cooperation” (Ebers, 1999, cited in Riemer and Klein, 2010, p. 4). They are also viewed as a tool for “establishing structures and mechanisms that are needed to sustain ongoing coordination efforts among network members” (Johnson and Vitale, 1988, cited in Riemer and Klein, 2010, p. 18). Essentially, they coordinate, control and organise relationships between different bodies (Ebers, 1997, p1). Additionally, some of the benefits of network coordination were mentioned by Provan and Kenis (2008, p. 1) including: “enhanced learning, more efficient use of resources, increased capacity to plan for and address complex problems, greater competitiveness, and better services for clients and customers”.

One of the networks type is inter-organisational networks, which are seen to provide a “fast, effective, and efficient way of learning” (Dodgson, 1993 and Hamel, 1991, cited in Ebers, 1997, p. 3). As also stated by Ebers (1997, p. 6) “networking provides quick and efficient

feedback mechanisms". Larson (1992, p.77), have explained the difference between a network and hierarchical arrangements by mentioning that networks are "distinct [...] in their heavy reliance on reciprocity, collaboration, complementary interdependence, a reputation and relationship basis for communication, and informal climate oriented toward mutual gain".

### **2.6.1 Motives for engaging in networks**

There are various reasons that organisations build or engage in a network. Network management functions are concerned with "governance choices, innovation processes, and technological investments among the partners" (Klein and Poulymenako, 2010, p. 5). Networks are also seen as an instrument to "recruit superior resources and competencies but also to develop competencies in a cooperative manner" (Browning and Beyer, 1995, cited in Klein and Poulymenako, 2010, p. 5).

In addition, Ebers (1997) has found that the motives include the fact that through coordination organisations can reduce risk, increase their income and save costs, for example, by diffusing their financial risks, and economising on the governance costs of the joint activities. Another reason is to strengthen their competitiveness, for example, by improving the quality of services. This can be done by having more access to, or more coordinated use of, resources and capabilities. Additionally, there are a number of complexities and challenges faced in networks, which are addressed by the network management functions. Riemer and Klein (2010, p. 18) showed that those complexities

include “coordinating different actors with different knowledge and backgrounds, creating an environment where collaborative actions can evolve and take place, and dynamically aligning different strategic, organisational and technological perspectives and systems”. These complexities relate to alignment, and indicate that networks facilitate alignment.

## **2.6.2 The inclusion of network stakeholders**

In addition, for an effective management of networks, it is suggested by (Malena, 2004) that a stakeholder’s analysis is conducted. The analysis requires the identification of the stakeholders who should participate and who also may affect or be affected by the network, and the capacity in which they should be involved. Similarly to the stakeholder’s analysis, there is also the *activation* process, by Lipnack and Stamps (1994). The process is not only concerned with the inclusion of necessary members and of all interests, but also the willingness of the members to devote and share their skills, knowledge and resources with the network. According to (Agranoff and McGuire, 2001), in a network “activating the right players with the right resources is the crucial task of governing” (p. 299). Stakeholder’s inclusion and participation is therefore considered to be one of the aspects of governance in networks. Bäckstrand (2006) have also shown that in networks, representativeness is concerned with the extent to which the network covers the various stakeholders interests. The author added that this is crucial for the legitimacy of networks. In this respect, legitimacy was defined by Bernstein (2005, p. 142), cited in Bäckstrand (2006, p. 291) as the “acceptance and justification of shared rule by a community”.

### **2.6.3 Knowledge exchange and transfer in networks**

Knowledge transfer is “the process through which one network member is affected by the experience of another” (Argote and Ingram, 2000, cited in Inkpen and Tsang, 2005). According to Inkpen and Tsang (2005), a number of scholars (e.g Hansen, 2002) have suggested that organisations with effective knowledge transfer are more productive than those without. Knowledge exchange could be simply informational: in the form of small-scale technical exchange and high-level sharing. Or it could be technological: the transfer of an entire technological capabilities, which is more complex (Kotabe, Martin, and Domoto, 2003). The first type of exchange encompasses the sharing of information needed to deal with an operational issue. Whereas technological exchange is explained by the authors as “a broader body of knowledge encompassing a set of related techniques, methods, and designs applicable to an entire class of problems” (ibid, p. 296).

In summary, the literature shows that networks rely strongly on collaborations and this allows for the creation of relations and ties that facilitate communication. These relate to a number of alignment enablers discussed previously, which are communication and partnerships, identified by scholars such as Luftman (2000). It was also found that networks are concerned with governance and the management of resources in a cooperative manner. Governance is mentioned by authors such as by Luftman (2003) and Schlosser et al. (2015) as one of the alignment antecedents. Governance in networks is examined in more detail next. As discussed earlier, networks address a number of complexities that relate to alignment. In this respect, it can be said that networks can facilitate alignment, and can be used as a tool to increase alignment by coordinating and organising. This supports the view of this research that it is important to explore networks in relation to alignment.

#### **2.6.4 Social capital in networks**

As stated previously, IT governance has a positive impact on social alignment, as well as social capital (Schlosser et al., 2015). Social capital is defined by Flap (1995), cited in Lin (1999, p. 35) as “a combination of network size, the relationship strength, and the resources possessed by those in the network”. It is also defined by Lin (1999) as the resources placed in social structures, which are accessed and moved by actors in a purposive way. A similar definition provided by Baker (1999), cited in Adler and Kwon, (2002, p. 20) states that social capital is the resources that actors produce from social structure, and which are then employed to establish their goals and interests, and are created by applying change to the relationship between them. A similar point was made by Adler and Kwon (2002, p. 18) when stating that social capital is “the resource available to actors as a function of their location in the structure of their social relations”.

Those definitions concur that social capital is concerned with embedding resources in social networks. So what are these resources, and can they enhance the outcomes of the networks, and enable it to function more effectively? Firstly, the resources include social ties, social structures, and organisational resources. According to Coleman (1988), other forms of social capital consist of obligations and expectations, information flow and social norms. In addition, Fountain (1998) stated that social capital is associated with trust, norms and the network operations, which are greatly linked to the values and objectives of the members involved.

Empirically, social capital consists of a number of entities, however, they share two elements: (1) some aspect or dimension of social structures, and (2) the promotion of specific actions by persons within the structure (Coleman, 1988). Those social ties and interactions will facilitate the flow of information, as argued by many scholars such as Lin (1999) and Coleman (1988). This is also postulated by Ebers,(1997, p. 5): “intense social ties also permit and foster a freer and more reliable exchange of information among network members. This in turn encourages mutual learning and innovation”. Scholars have found too that there is a link between the number of ties or linkages and a better flow of information and understanding (Ebers, 1997). Other outcomes may include influence on the members, social credentials and reinforcement of identity and recognition (Lin, 1999).

It was stated by Seufert et al. (1999) that the term network comprises social relationships among members. Moreover, “network members through their social network can have better access to resources, for example, capital and political influence” (Ebers, 1997, p. 5). Social capital is “productive, making possible the achievement of certain ends that in its absence would not be possible” (Coleman, 1988, p. 98). This means that, assuredly, social capital is an important aspect in networks. According to the authors, these social relationships can be categorised in terms of: content (e.g. information), form (e.g. duration of time), and intensity (e.g. the frequency of communication). Moreover, a combination of the relational form and intensity creates the network structure (Burt, 1979 and Alba, 1982, cited in Seufert, et al., 1999).

## 2.6.5 Governance in networks

As mentioned previously, governance is one of the alignment enablers, and it is also one of the functions with which networks are concerned. This section explores governance in networks and public administration or public sector literature to provide an overall holistic view.

In a network, governance is crucial so that the network members engage in a collective and supportive manner, resolve conflicts, and manage and acquire resources in an effective and efficient way (Provan and Kenis, 2008). It focuses on “the use of institutions and structures of authority and collaboration to allocate resources and to coordinate and control joint action across the network as a whole” (ibid, p. 3).

Additionally, in public management, governance is concerned with the funding, the roles of the members involved, and the roles of the private sector which provides public services (Hill and Lynn, 2005). Nonetheless, Klijn (2008, p. 509) illustrated that new public management can be an opposing paradigm to governance, as it aims “to improve the existing bureaucracy of public organizations” through central steering. On the other hand, governance “emphasizes the horizontal relationships between governmental organizations and other organizations” (ibid, p. 509).

A well-known term of governance in the new public management (NPM) literature, specifically, in the United Kingdom and the Netherlands, is “governance without

government” (Rhodes, 1997). “In the United Kingdom the emergence of this pattern of governing is a direct challenge to the Whitehall model of strong, centralized government” (Peters and Pierre, 1998, p. 224). This shows how governance is being discussed by public administration scholars; it is found to be concerned with the steering exercised and power to control policy.

In addition, there are a number of studies that intend to provide a clearer definition of governance and to consider the different ways in which it is being viewed and interpreted in the literature. Rhodes’ (1997) research study is one of the most frequently referenced in networks literature. The author provided six governance interpretations. His study shows how governance is interpreted differently in the literature. These interpretations include ‘corporate governance’, ‘new public management’, ‘good governance as a socio-cybernetic system’, and ‘governance as a self-organizing network’ (ibid).

Moreover, Klijn’s (2008) study evaluated the governance literature of the last 10 years, and the contribution of scholars in this area during this period of time. The author categorised governance in the network literature and conceptualised it into four themes and provided a definition for each. These categories are ‘governance as good governance’ or as ‘corporate governance’, ‘governance as new public management’, ‘governance as multilevel governance’ or ‘inter-governmental relations’, and ‘governance as network governance (self-steering or non-self-steering)’. There are two aspects that, according to Klijn (2008), all these categories share in common: the process of governance and limitations of power. This is also one of the ways Peters and Pierre (1998) differentiated between governance and new public management (NPM) philosophies. The authors explained that governance is



mainly concerned with the process, whereas NPM is about the outcomes. According to Peters and Pierre (1998), NPM is concerned with the administrative transformation and reform of public sector values and practices by the use of intra-organisational management techniques. But governance

is also “about maintaining public-sector resources under some degree of political control and developing strategies to sustain the government's capacity to act” (Peters and Pierre, 1998, p. 232). In this respect, it can be said that governance does not require a transformation or cultural change in the public sector as in NPM (ibid).

### **Steering**

An aspect related to both governance and NPM philosophies is steering (Peters and Pierre, 1998). A steering perspective that is essential in the philosophies provided by Osborne and Gaebler (1992), cited in Peters and Pierre (1998), states that “governments should focus more on steering and less on rowing”. In governance where the focus is on employing inter-organisational coalitions and by including external actors, steering is concerned with defining priorities and goals. On the other hand, in NPM steering is an intra-organisational plan to release beneficial components of the public service (Peters and Pierre, 1998).

### **Accountability**

According to Geddes (2008), in the leadership and management of a network arrangement, two aspects are always discussed and these are governance and accountability. The author

stated that accountability in local public government is mostly simple, where usually members of the partnership are held accountable within their organisations. However, a partnership or network venture could complicate matters related to local democratic accountability (Geddes, 2008). This is a concern particularly in a situation where councilors are not able to participate or are not included in the partnership venture (ibid). The author raised an important question regarding whether a local governance partnership has a positive or negative effect on developing local governance that is both democratic and accountable.

### **Governance forms and approaches**

When discussing the governance of a network arrangement or any collaborative venture, it is not possible to cover all aspects, approaches and forms of governance. Lank et al. (2008) concurred with this view when writing about governance structures of partnerships. The author focused on and highlighted the importance of an effective decision making mechanism. For the governance structure this means that there is usually a separate entity responsible for the management and administration of the collaborative work.

In addition, in partnerships and networks, governance can be viewed at two levels: the strategic and the operational (Lank et al., 2008). The strategic level includes what can be called the steering or lead body, and it consists of members who are responsible for key decision making. This group, which is part of governance at the strategic level, will also be responsible for setting the overall direction, managing the resources of the collaborative effort, resolving any issues arising from the operational level, and overseeing the implementation of tasks and projects. This body will also play the role of mediator and will

be responsible for the resolution of any conflicts happening between participating members (ibid). Going back to accountability, according to Lank et al. (2008), the lead or steering body will be accountable for the achievement of the joint set of goals. At the operational level, there will be a body responsible for the implementation of projects and tasks. A term sometimes used for this group is project team. In addition, Lank et al. (2008) illustrated that a communication mechanism is required that will enable the different groups involved to interact and communicate with each other and to be connected with the steering or decision making body.

Moreover, Provan and Kenis (2008) provided three forms of network governance consisting of *participant-governed networks*, *lead organisation-governed networks*, and lastly *network administrative organisation (NAO)*. *Highly decentralised participant governance*, which is also named *shared-governance network* is mostly adopted in health and human services because of its ability to build “community capacity” (Chaskin et al., 2001). Theoretically, in shared-governance network, the participants have equal responsibility for the management of internal relationships and operations, and external relationships (e.g. with customers). It is required from all participants, or a significant proportion representing the network, to be both involved, by interacting on a regular basis, and to be committed to achieving the network goals (Provan and Kenis, 2008). This needs to occur despite the differences that each network member may have, be it terms of their size, resources and capabilities, or their performances. The making of decisions, management of activities, and power is shared, meaning there is no one entity in the network that is superior to the others or can act as a representative of the entire membership (Provan and Kenis, 2008).

The second form of network governance set out by Provan and Kenis (2008) is *lead organisation governance*. In this form, there is one entity or organisation acting as the lead organisation. It handles key activities and facilitates the actions carried out by other members. This includes playing an administrative role by ensuring that every member involved achieves the specified goals and tasks, and that they are aligned with the lead member and network goals. In this sense, the activities are not equally divided between the members, and most of them are carried out by the lead organisation, including the making of key decisions. This is suitable in networks where “one organization has sufficient resources and legitimacy to play a lead role” (ibid, p. 7).

The last form of governance is *network administrative organisation (NAO)*, which is similar to the previously described governance form. However, in this form, the lead organisation does not have to be a member of the network, and it can be governed externally (Provan and Kenis, 2008).

## **Conclusion**

This research contributes to knowledge by providing an explanation of the different correlations between different bodies of literature and research fields, which are e-government, service redesign, business-IT alignment, governance, and also networks. Governance and its link to alignment was explained previously. This section of the literature review focused on illustrating the different ways in which governance is conceptualised in networks and public administration or public sector literature. It also discussed a number of network governance forms and approaches.



# Chapter 3: Methodology

## 3.1 Research Paradigm and theoretical perspective

As stated in the introduction, this thesis argues that business-IT alignment can increase the UK's e-government maturity level. This was found to be essential as it means improving the quality of e-government and service redesign process, enabling services to meet the 'digital by default' standards, and ensuring the establishment of an integrated, coherent, user-centred, and agile digital culture.

Previous studies have discussed various dimensions of alignment (Charoensuk et al., 2014; Karpovsky and Galliers, 2015; Coltman et al., 2015), as covered in the literature review. This research also attempts to cover a number of dimensions of alignment associated with the redesign of UK public services. It explains how business-IT alignment is being managed in order to facilitate the digital redesign of UK public services. Education and healthcare services are not included in this study because they are not within the scope or focus of this study, and their inclusion would have reduced the depth of the analysis of the existing subject matter. Data was collected from UK government departments, local authorities, as well as bodies supporting digital redesign. The data collection method is discussed in more details in Chapter (3). This chapter describes the research aims and questions and also covers the study's theoretical contribution and originality.

This thesis largely consists of qualitative research and adopts an interpretive approach to develop an understanding of the phenomenon which is being studied. It can be considered an information system study as business-IT alignment in this thesis considers the strategic alignment of IT with the organisation's business objectives. It takes into account the strategic planning aspect of IT technologies and also the IS components used for alignment in UK service redesign.

Avison et al. (1999) and Klein and Myers (1999) made clear that qualitative research is not necessarily interpretive, stating that it depends on the research philosophy, theoretical perspective and assumptions. Goldkuhl (2012a) has shown that there are qualitative research paradigms in information systems that can be adopted which are not based on interpretivism. Such alternative qualitative paradigms in information systems include pragmatism, positivism and critical epistemologies (ibid.). This section describes the epistemological and ontological position adopted in this thesis. It covers the interpretive approach principles by Klein and Myers (1999) which have been used. In addition, Goldkuhl (2012a) asserts that identifying differences between research paradigms can assist the researcher to be more aware of the paradigm used in a research. Therefore, each of those alternatives school of thought are discussed and examined briefly in comparison with the interpretive approach chosen for this thesis, and the distinctions between those epistemologies or research paradigms are made clear.

### 3.1.1 Interpretivism: The research paradigm of this thesis

The interpretive research paradigm has been prevalent in qualitative research for many years. However, this is not the reason for opting to use this research paradigm. As mentioned previously, qualitative research is not solely associated with the interpretive paradigm. Therefore, the adoption of such a paradigm is justified in relation to the philosophical assumptions, and the aim and objectives of this thesis.

A descriptive and interpretive approach is being employed for the data analysis because of the exploratory and explanatory nature of the research, and the need to establish an in-depth understanding (Walsham, 1995b). More specifically, interpretivism is seen as a suitable paradigm for this thesis because its aim is to establish a rich and deep understanding of how alignment between business and IT strategies is being managed in the digital redesign of UK public services. Orlikowski and Baroudi (1991, p. 13) have claimed that “the aim of all interpretive research is to understand how members of a social group, through their participation in social processes, enact their particular realities and endow them with meaning, and to show how these meanings, beliefs and intentions of the members help to constitute their actions”. This research is interested in gaining such an in-depth understanding of the meanings, beliefs and intentions of the actors involved in the ‘process of aligning’. This process of aligning encompasses two dimensions: social and intellectual, as argued in the literature review. Examples of the *social* alignment dimension discussed in this thesis includes communication and shared domain knowledge between businesses and IT, as part of a partnership which comes alongside cultural change. The other dimension that this thesis covers is the *intellectual* dimension, which is more concerned with the ‘tools of alignment’ - the elements within an organization which have a practical impact, such as



governance, standards, and IT infrastructure (e.g., common IT platform, systems integrations).

The next section will discuss the interpretive approach principles by Klein and Myers (1999) used in this research. These are: (1) holistic understanding and multi-level analysis, (2) contextualization, (3) subjectiveness, (4) abstraction and generalization, (5) multiple interpretations, and (6) suspicion. This is followed by a section illustrating the other principles by Klein and Myers (1999), and the reason for using them in this research.

### **Holistic understanding and multi-level analysis**

An interpretive study should create a holistic understanding of a phenomenon, rather than focusing on different areas or fragments (Goldkuhl, 2012a). This links to the first and most fundamental interpretive approach principle identified by Klein and Myers (1999), called '*The Fundamental Principle of the Hermeneutic Circle*' (Klein and Myers, 1999, p. 72). The authors emphasise the importance of having an iterative process between the parts and the whole area of study for establishing an understanding (ibid). Since alignment is a dynamic process, with multiple dimensions (social and intellectual), and levels (strategic and operational), this study provides a holistic view and understanding of 'alignment as a process' and not 'alignment as a state'. More specifically - and to expand on the literature - it explores and explains 'alignment in practice', and in the real-world (and not only 'alignment in theory'). It brings new insight as it captures both vertical alignment between central and local government, and horizontal alignment across government agencies. Therefore, this study aims to provide a holistic view and understanding of business-IT alignment in the

digital redesign of UK public services. Finally, the study reflects on the overall impact of alignment, rather than that of individual aspects. It provides an analysis of business-IT alignment in the digital redesign of UK public services as a whole and establishes a full picture of the 'process of aligning'. With this perspective, this study meets the first criterion for interpretive study, as set out by Klein and Myers (1999).

### **Contextualisation**

Another principle of interpretivism which this thesis takes into account is the '*principle of contextualization*' (Klein and Myers, 1999). Context requires the understanding of the systems and structures in which a phenomenon is embedded (Walsham, 1993). As stated previously, the different levels of alignment in the UK - horizontal (alignment across local authorities, and across central departments) and vertical (alignment between local and central government) - are considered in this study. It also considers the strategic and operational levels of alignment. Goldkuhl (2012a, p. 6) explained that this principle aims to accomplish an understanding of the social and historical context of the phenomenon being studied. This thesis therefore establishes such a context, for example by including a section discussing 'the history of e-government in the UK' and also the history of UK government coalitions in relation to service redesign in the UK.

Additionally, Walsham (1993), studied the contextualist approach in IS and concluded that the aim of interpretive studies in information systems should be to create "an understanding of the *context* of the information system, and the *process* whereby the information system influences and is influenced by its context" (p. 4-5). Walsham (1993) provided Pettigrew

(1987) as an example of a research study that successfully linked context and process. Such a connection was also found in this study, with the 'process of aligning' often being influenced by the UK government. For example, it was found that breaking silo-based systems and creating more integration to increase alignment requires an enormous cultural change, with culture is mostly seen in the literature as 'unique to a specific organization or group' (Meyerson and Martin, 1989), and the unique culture of the UK government seen to influence the process of business-IT alignment. This is evident in the the localism agenda, which is associated with the silo-based systems discussed in this research as a barrier of the process of business-IT alignment. This factor is considered to be unique, as it relates to UK legislation and government structure, which is different from other countries' legislations and structures, and contrasts with the unitary structure of some governments. This is covered later in the findings, Chapter (4).

### **Subjectiveness: The interaction between the researcher and the participants**

Another principle central to the interpretive approach is concerned with the interaction between the researcher and the participants (Klein and Myers, 1999). During data collection the participants in a study are considered to be "interpreters and co-producers of meaningful data" (Goldkuhl, 2012a, p. 6). Additionally, "empirical data generation is seen as a process of socially constructed meanings; i.e. socially constructed by researchers and participants" (Goldkuhl, 2012a, p. 6). Therefore, it is recognized in this thesis that the "meanings, beliefs and intentions" of the actors involved in the 'process of aligning' are co-produced or co-created by the researcher and the actors or participants.

Walsham (1993, p. 5) supports this principle and adds that interpretivism is “concerned with approaches to the understanding of reality and asserting that all such knowledge is necessarily a social construction and thus subjective”. Therefore, the knowledge of reality in this thesis is considered to be constructed with an element of subjectivity. Goldkuhl (2012a) clarified that “the core idea of interpretivism is to work with these subjective meanings already there in the social world; i.e. to acknowledge their existence, to reconstruct them, to understand them, to avoid distorting them, to use them as building blocks in theorizing.” Therefore, this research was conducted with an awareness of its subjectivity (as it provides subjective meanings, beliefs and intentions of the actors involved in the process of aligning), and the wider literature was used to support such subjectivity, and actively use it in the process of theorizing. This approach enabled the representation of different perspectives and experiences of the actors involved in the process of aligning. Walsham (1993) and Goldkuhl (2012a) highlighted the necessity of this in interpretive studies. It also enables events which appear to be unique to be linked and considered in the context of theories which are applied more generally (Klein and Myers, 1999). As will be discussed in the next section, this is an important aspect of interpretivism.

### **Abstraction and Generalisation**

The principle of ‘abstraction and generalisation’, addresses the level to which the theory produced in this research can be withdrawn from the specifics of this research and applied more generally. This will be discussed later in more detail as part of the coding process of grounded theory, section (3.5.2). The generalisation (scaling) of the study’s theories and propositions are also covered in section (3.5.3).

This principle was applied when the research findings were linked and discussed in connection with business-IT alignment theories and models, such as Henderson and Venkatraman's (1993) Strategic Alignment Model (SAM). This links to the *theoretical integration* guideline of grounded theory by Urquhart et al. (2010).

### **Multiple Interpretations**

This research explores the different interpretations of the subjective meanings collected, as stated in the third principle: subjectiveness: The interaction between the researcher and the participants. Part of this principle is the acknowledgement of any differences and contradictions among the data collected. This is achieved by the use of the *constant comparison* guideline of grounded theory, which is discussed, and an example provided, in section (3.5.1) of the Methodology chapter.

### **Suspicion**

This principle in the interpretive approach as described by Klein and Myers (1999) relies on sensitivity to biases among the data collected. As in the previous principle, the suspicion principle is applied in this research by the use of the *constant comparison* guideline (Fernandez, 2004) to distinguish biases. Although biases were still found to be one of the most challenging aspects to identify, it was possible to find them through comparison between the slices of data collected. This will be explained in more detail later in discussion of the grounded theory method, Chapter (3).

## **Other interpretive approach principles**

This thesis focuses on six of the seven interpretive approach principles outlined by Klein and Myers (1999), and which are mentioned above due to their particular relevance to the theoretical assumptions and perspective used in this research. This thesis in fact actively opposes one of the principles, which is why it will not be adhered to in this study. This principle is '*The Principle of Dialogical Reasoning*', which states that the researcher should have an awareness of any contradictions between the initial research preconceptions and findings (ibid, p. 72). This study, however, used the grounded theory method, which states that researchers should make every effort not to formulate any hypotheses or have preconceptions before data collection, so that the process adopted is purely inductive (Glaser and Strauss, 1967). The inductive approach of this research does not contradict the subjective nature of interpretivism as this thesis does not start with the researcher's own assumptions or preconceptions which are then falsified. However, as mentioned previously, it provides subjective meanings and different interpretations of data collected. It also includes making a number of conclusions and propositions, which are mostly interwoven with evidence from the literature, as mentioned previously.

Nonetheless, Klein and Myers (1999) have shown that the application of those principles will, in reality, be guided by the researcher's judgement, and philosophical and theoretical perspective. Therefore, the use of Klein and Myers' principles has been described for the purposes of this research, and are not precisely the same as explained and described by the authors.

### 3.1.2 Ontological stance of the research

There are several forms of interpretivism, including conservative, constructivist, critical and deconstructionist (Butler 1998). The approach of this thesis is considered to be largely constructivist. Firstly, this is in line with Goldkuhl's (2012a), in referring to the position taken by Orlikowski and Baroudi (1991) and Walsham (1995) that, ontologically, the interpretivist orientation can best be labelled as constructivism. In addition, this thesis contains a design element, referred to previously as the 'theory for design', and Goldkuhl considers design to be a good example of constructive knowledge (Goldkuhl, 2012a, p. 10). As a result, this thesis can be considered as an interpretivist design research project with a constructivist orientation, whose aim is not only to understand "meanings, beliefs and intentions", but also, as suggested by Goldkuhl (2012a), to grasp the reality of the way in which the world works. Goldkuhl added that this is considered as a new approach in interpretive studies, because it allows the focus to be broader, looking at practical impacts on the world, rather than just the beliefs themselves.

Furthermore, the interpretivism in this thesis is blended with a hint of functional pragmatism. The reason for this is that the 'knowledge for design' or 'theory for design' in this thesis adds the constructive character, which can be actively used to make practical changes in the world (Goldkuhl, 2012a). Constructive knowledge is often seen as a form of functional pragmatism. Functional pragmatism is defined by Goldkuhl (2012b, p. 90) as "knowledge for action; that a knowledge item contributes to (improved) action". This thesis aims to follow this approach, through establishing an understanding of how business-IT alignment is being managed to facilitate – and enhance innovation and quality in – the UK digital service

redesign. This aspect was also explained in section (1.2), which discussed 'theory for design' and the 'practical usefulness' utility.

### **3.1.3 Alternative qualitative research paradigms**

After describing and justifying the adopted epistemological and ontological stances of this thesis, this section examines and describes the alternative approaches towards a research study of this kind, including pragmatism, positivist and critical epistemologies. Those epistemologies will be briefly compared with the interpretive epistemology adopted for thesis in terms of the nature of knowledge claims. The purpose of this section is to show "paradigmatic awareness", the importance of which is highlighted by Goldkuhl (2012a, p. 4).

Pragmatism is a research approach that examines action and change, and the exchange between knowledge and action (Goldkuhl, 2012a). It is suitable for research studies that aims to participate and not only observe the world (ibid). This thesis adopts an interpretive approach, with an element of design, and hence the constructivist orientation which is seen to be a form of functional pragmatism, explained previously in section (3.1.2).

Additionally, the positivist paradigm was not considered to be suitable for this research for several reasons. Firstly, according to Orlikowski and Baroudi (1991), positivist research is based on non-flexible relationships which should be studied in a structured manner. The interpretive paradigm is therefore seen to be more appropriate for this thesis because of its



exploratory nature. The second reason for not adopting positivism is that positivist studies are seen to be more descriptive, and lacking interpretation of the phenomenon under study (Orlikowski and Baroudi, 1991). Lastly, the positivist paradigm is considered to be more associated with quantitative studies (Goldkuhl, 2012b). The critical epistemology was also considered to be an inappropriate choice for this thesis because it aims to reveal contradictions within a particular phenomenon (Orlikowski and Baroudi, 1991). Whereas, this thesis aims to explore rather than to seek out criticisms, and therefore can be distinguished from this approach.

## **Summary**

This section of the methodology chapter explains and justifies the research paradigm of this thesis - interpretivism with a hint of functional pragmatism. This approach is appropriate for the constructivist knowledge that this research provides. It described how the inductive approach of this thesis does not contradict the subjective nature of interpretivism. It explained the interpretive approach principles by Klein and Myers (1999), and the way they were employed by this research: (1) holistic understanding and multi-level analysis, (2) contextualisation, (3) the interaction between the researcher and the participants (and subjectiveness), (4) abstraction and generalization, and (5) multiple Interpretations. The differences between the qualitative research paradigms and schools of thought (i.e. pragmatism, positivism and critical research), were illustrated in comparison with the interpretive approach chosen for this thesis.

Having discussed the philosophical position underpinning this research, the thesis now moves on to research methods. The research method includes grounded theory and case study analysis, the link between this and the research process, including: literature review, data collection and analysis, are explained in the next chapter. Grounded theory and the way it supports and fits the research interpretive stance is also discussed.

## **3.2 The research method**

This section begins with defining the grounded theory method and covers the main reasons for adopting grounded theory method for this research. Including explaining how grounded theory was used in this research.

### **3.2.1 Grounded Theory: An introduction and definition**

Grounded theory was founded by Strauss and Glaser in their book '*The Discovery of Grounded Theory*' (Glaser and Strauss, 1967). In 1990, Strauss published a book with Corbin entitled '*Basics of qualitative research*', Glaser disagreed with a number of the foundational principles propagated in this original work. Nonetheless, Glaser's view of grounded theory was described by Mills et al. (2006) as 'traditional', whereas Strauss and Corbin's view was seen as an 'evolved' method of grounded theory.

Strauss and Corbin (1990, p. 24) defined grounded theory as a “qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon”. Urquhart et al. (2010, p. 357) provided an additional definition, claiming that grounded theory is a “qualitative research method that seeks to develop theory that is grounded in data systematically gathered and analysed”. Grounded theory method is independent of, and not tied to, a specific epistemological position. It is known to be a general method which is ‘paradigmatically neutral’ (Glaser, 2001), and can therefore be used alongside the interpretive paradigm of this thesis.

Nonetheless, Glaser (1998, 2002) implies that the researcher and the researched should be clearly separated, and that data should not be influenced by the researcher’s interpretations. According to Boychuk Duchscher and Morgan (2004, p. 608), this exposes “his positivist tendencies”. The nature of Glaser’s approach is found to contrast with the interpretive nature of the current research, and the subjectivism associated with interpretivism generally, and therefore that approach is not adopted for this thesis. Nonetheless, Boychuk Duchscher and Morgan (2004, p. 605) described Strauss’s position or approach as a “conceptually descriptive approach that encourages directive questioning and supports an interpretive stance”. On this basis, and for the reasons mentioned previously, Strauss’s and Corbin’s approach to grounded theory is considered to be more suitable for the current research. The developed, systematic and clear guidance that it provides, and the way it reinforces interpretivism enables the creation of theories on the basis of the data, which do more than just describe the ‘reality’ of the phenomena under study. Strauss and Corbin’s coding stages have been adopted to ensure adequate conceptualisation, which will be explained in more detail in data analysis approach, section (3.5).

Grounded theory method can be also combined with case study method (Glaser, 1978). The case studies in this research were selected based on a grounded theory strategy; theoretical sampling. This will be explained in details in section (3.4.4), *the research case studies*.

### **3.2.2 The main reasons for adopting grounded theory, and how it is used in this research**

#### **Building theory grounded in the data**

It is more important to note that grounded theory is not merely a way of coding data. According to Urquhart et al. (2010), this is one of the mistakes that researchers make when using grounded theory. The authors have shown that there are other scholars from different fields who have similarly made such observation (e.g., Becker, 1983; Benoliel, 1996; Green, 1998; Elliott and Lazenbatt, 2005). The point that comes from this is that researchers have to acknowledge that the main aim of grounded theory is to generate theory grounded in data, and most importantly data that is systematically collected and analysed (as discussed in the next section). In this respect, it is important to note that grounded theory is being used in this thesis mainly for the purpose of generating and building theory which is firmly anchored in and linked to the data collected. Urquhart et al. (2010, p. 359) highlighted that this is indeed one of the main advantages of grounded theory:

*“One of the attractions of grounded theory for information systems researchers is the promise that it will help us to develop new theories of information systems phenomena – theories that are firmly grounded in empirical phenomena.”*

As discussed by Urquhart et al. (2010), the promise of grounded theory is to produce ‘new theories’ (see also Heath and Cowley, 2004). As such it is concerned with the construction of ‘a theory’ that enables an increased understanding of the phenomenon being studied, and not ‘the theory’ (Heath and Cowley, 2004).

The alignment factors identified in this research are based on the perspective of the participants to produce theory grounded in data collected, and were only initially guided by previous literature. For example, Henderson and Venkatraman’s (1993) Strategic Alignment Model (SAM) was only used at the beginning to understand the process of aligning and to assist in the design and data collection process. This is the first use of theory in this thesis, explained later in section (3.3.2), and also the first data inputted into data collection, as illustrated in Table (3). Nonetheless, since this research uses a grounded theory method, an effort has been made to ensure that this does not affect the development of theory grounded in the data collected, by ensuring an ‘openness’ and ‘closeness’ to data, illustrated later in section (3.3.2). Further data collection efforts, including from where to sample next, was decided based on the data collected. An example is the selection of case studies in this research by the use of a grounded theory concept ‘*theoretical sampling*’, explained later in section (3.4.4). This is different from other qualitative research approaches, such as thematic analysis, which do not require the use of ‘*theoretical sampling*’. As stated by Glaser and Strauss (1967), cited in Cho and Lee (2014, p. 4): “grounded theory has two unique characteristics: constant comparative analysis and theoretical sampling”. This approach to sampling allowed the theory generated to be more grounded, open, and close to the data

collected and to participants' perspectives and experiences. Other approaches used in this research to ensure that the theory generated is grounded are explained next.

### **Data collection, coding and analysis approach, and research outcome**

On a practical front, research for this thesis also used grounded theory as it allows data to be collected, coded and analysed concurrently. The founders of grounded theory, Glaser and Strauss (1967), illustrated the importance of integrating these three processes, or procedures. The authors elaborated that in fact the “definite separation of each operation hinders generation of theory” (p. 43). In this thesis, and as mentioned above, the data was collected, coded and analysed simultaneously – an approach which is considered to be unique to grounded theory. This points up a relatively unique feature of grounded theory, as Urquhart et al. (2010, p. 357) explained:

*“The major difference between grounded theory and other qualitative research methods is its specific approach to theory development – grounded theory suggests that there should be a continuous interplay between data collection and analysis.”*

Urquhart et al. (2010) rightly observed that grounded theory therefore ensures constant interaction between these three activities: collecting, coding and analysing. Moreover, as Charmaz and Bryant (2010, p. 406) showed, “grounded theory strategies invoke comparative methods for analyzing data and entail an iterative process of simultaneous data collection and analysis”. This thesis distinguishes these fundamental elements of grounded

theory known, as *constant comparison* and *iterative conceptualisation*, which are covered in section (3.5.2). Boyatzis (1998), cited in (Longhofer et al., 2010) illustrated that it is not necessary to adopt *constant comparison*, and also that some researchers do not adequately describe their coding and analysis processes and strategies when using thematic analysis. However, the use of *constant comparison*, *iterative conceptualization*, and also memos, diagrams and models throughout data analysis is fundamental in grounded theory, and their use is described later in section (3.5).

As Charmaz (2000; 2006) notes, this approach also allows researcher to identify gaps in the data, and to sample accordingly to fill those gaps. He also suggests that “simultaneous data collection and analysis can help you go further and deeper into the research problem as well as engage in developing categories” (Charmaz, 2006, p. 48). This was applied in this research by continuously and iteratively exploring and extending aligning factors and the interrelationship between them, as shown in Figures (6), (9) and (15). This includes the use of different data collection approaches (e.g., interviews, participant observation) to fill the gaps and to ensure that the theory produced in Figure (15) provides a holistic, multi-dimensional, and in-depth understanding. Therefore, the iterative and concurrent process of conceptualisation, which as mentioned previously, is unique to grounded theory (Bryant and Charmaz, 2010), makes the theory more representative and reflective of the knowledge of reality, and the different perspectives and experiences of the actors involved in the process of aligning.

In addition, the last stage of grounded theory coding stages (i.e. selective coding) used in this research requires the identification of a core factor that is connected to a number of key concepts, described later in section (3.5.2). This is to provide an abstraction and to describe the main story of the phenomenon, and it is fundamental for the development of a grounded theory (Wiesche, et al., 2017). Therefore, this research does not only provide the factors that influence alignment in Figures (5) and (8) and the interrelationship between them in Figures (6) and (9), but takes it further by identifying *communication* as a core factor connected to four major factors, as depicted in Figure (15). This again makes grounded theory distinctive from other qualitative research analysis processes and stages (e.g., in thematic analysis and qualitative content analysis). This point is highlighted by Sandelowski and Barroso (2003), cited in Cho and Lee (2014, p. 12), where it is stated that “grounded theory requires a greater transformation of the data and that qualitative content analysis is less transformative”. Additionally, the abstraction level in content analysis is lower than in grounded theory method (ibid).

Nonetheless, content analysis aims to ‘quantify’ data, whereas thematic analysis is mainly concerned with ‘patterns recognition’ within data (Longhofer et al., 2010). The authors also stated that, on the other hand, “grounded theory helps us see how the patterns relate and connect” (ibid, p. 2). This therefore differentiates these qualitative research methods from the grounded theory adopted in this research, which aims to present the interrelationship between alignment factors and to identify an alignment core factor connected to other major factors. This includes providing a number of propositions and recommendations for the UK government to increase those alignment key factors. As explained by Hallberg (2006), cited in Longhofer et al. (2010, p. 5): “the ultimate outcome of a grounded theory study must be a



theory, which is a set of propositions that describes the mechanics of the phenomenon under study and from which further study hypotheses can be generated”.

### **Establishing a contextual, process-oriented understanding of business-IT alignment**

Another of grounded theory’s advantages is that it is suitable for studies that are concerned with understanding the processual element of phenomenon, rather than merely its outcome. This thesis, as discussed previously in the section (3.1.1) entitled *contextualisation principle*, aims to establish an understanding of the ‘process of aligning’ in the context of the UK government, and not the state of business-IT alignment. Myers (1997) and Goulielmos (2004), cited in Urquhart et al. (2010, p. 358) noted that grounded theory can be very effective in information systems as it provides contextual, process-oriented explanations and descriptions.

Indeed, the founders of grounded theory have shown that it is a method that enables, "the generation of theories of process, sequence, and change pertaining to organizations, positions, and social interaction" (Glaser and Strauss, 1967, p. 114). Lawrence and Tar (2013) discussed three features of grounded theory: inductive, contextual, and processual. These three features will be used in this research to allow the development of explanations and descriptions of the process of business-IT alignment in the context of the UK government. This research will aim for a similar outcome to that of Lawrence and Tar (2013, p. 35), where grounded theory was used by the authors for “a context-based, process-oriented description and explanation of the phenomenon, rather than an objective, static description expressed strictly in terms of causality”. These grounded theory features are

particularly applied and can be seen in the research case studies (e.g., LDC and GOV.UK Verify), which, as mentioned previously, were selected using a grounded theory concept: '*theoretical sampling*'. The alignment factors identified from the LDC case study in Chapter (5), Figure (8), present more contextualisation of the alignment factors covered in the Findings Chapter (4), Figure (5). Nonetheless, the GOV.UK Verify case study enabled an understanding of the process of aligning horizontally and vertically to support the redesign of services, and more specifically the redesign of GOV.UK Verify. Therefore, these are grounded theory features applied in this research and are different from features in other qualitative research methods (e.g., content research (Longhofer et al., 2010) that do not require similar contextualisation and process-oriented understanding of a phenomena. This also shows that grounded theory is well-suited for answering the research questions.

### **3.3 The research process**

This section provides a description of the research process adopted for this thesis. It starts with a description of the literature review conducted, and how it does not impact the grounded theory method adopted in this research. It covers it alongside an explanation of the different uses of theory in this research; starting from the initial theories included in the literature review to the final theory representing the research outcome or end product. It discusses the *theoretical sensitivity* which is established in this thesis, known to be one of the concepts of grounded theory. The next section of the research process is comprised of data collection, followed by the data analysis procedure and the use of grounded theory strategies.

### 3.3.1 Role of literature in the research process

According to classic grounded theory, the researcher should not have professional experience in the field studied (Fernandez, 2004), or previous knowledge of its literature (Glaser and Strauss, 1967; Urquhart, et al., 2010; and Charmaz and Bryant 2010). Charmaz and Bryant (2010, p. 409) explained that “classic grounded theorists eschew relying on extant theory and enjoin researchers to delay the literature review until they develop their own analyses”. The aim of this strategy is to develop a theory which is firmly grounded in the data collected. From the founders point of view: “carefully to cover 'all' the literature before commencing research increases the probability of brutally destroying one's potentialities as a theorist” (Glaser and Strauss, 1967, p. 253). In classic grounded theory it is believe that this strategy minimises bias, and ensures that the researcher is not being influenced by the literature or previous experience. Urquhart et al. (2010, p. 360) elaborated, stating:

*“It is often held to imply that the researcher should not look at the existing literature before doing the empirical research. This injunction is mainly designed to ensure that the researcher does not impose ideas from the literature on that coding.”*

Additionally, it is seen as a technique to prevent the researcher from formulating any hypotheses before data collections. That is to ensure the inductive nature of the research, which is the main reason for the creation of grounded theory method according to Glaser and Strauss (1967). “Both authors wanted to provide an alternative to the hypothetico-deductive approach in sociology which demands that precise hypotheses are developed before data are collected” (Bryant and Charmaz, 2007, p. 192). However, it is argued by

Fernandez (2004) that grounded theory is not actually fully inductive. He explained that it includes some deductive strategies, such as *theoretical sampling*. Theoretical sampling is “a deductive activity grounded in inducted categories or hypotheses” (Fernandez, 2004, p. 54). (Theoretical sampling is discussed later in more detail).

There is considerable disagreement surrounding this aspect of grounded theory. This thesis does not adopt the classic grounded theory approach, as a literature review was conducted before data was collected. However, it does not begin with an established theoretical framework. In qualitative research, a theoretical framework is not required as grounded theory primarily tends to be adopted (Cline, 2002, cited in Imenda, 2014). In addition, it is believed that a literature review doesn't affect the inductive nature of grounded theory, while, establishing a theoretical framework may affect it. Deductive research differs conceptually from an inductive one; whilst a deductive approach requires a theoretical framework, an inductive approach works towards the development of a conceptual framework as an outcome (Imenda, 2014). A theoretical framework can lead the researcher to observe and identify only the theories which fall within their specified framework (Imenda, 2014), and may therefore lead the researcher to ignore other theories that arise from the data collected and prevent the generation of grounded theory (Liehr and Smith 1999). Accordingly, this thesis does not use a theoretical framework so as to maintain the inductive and generative nature of grounded theory, and at the same time conducts a literature review for *theoretical sensitivity*, discussed more in next section.

The literature review in this thesis covered the key literature in the area, so as to achieve a critical understanding of the previous work on e-government, service redesign and business-IT alignment (BIA) particularly the history of e-government and service redesign in the UK. It reviewed the literature that identified BIA enablers and what causes BIA - including that which developed frameworks for assessing the degree or level of alignment. Additionally, it was found that the questions or aims that this research is investigating transcends business-IT alignment literature, and links to other streams of work, such as networks and governance. In order to establish a holistic understating (the importance of which was highlighted in chapter 3), it therefore explored those research streams and philosophies, and their linkages to business-IT alignment and e-government. The literature review also provides an explanation of the intersection between these streams and the contribution they make to knowledge.

More importantly, this study views the organisations involved in the redesign of UK public services as a number of interconnected nodes. For this reason and due to the complex nature of the UK government organisations' interlinked network system, this research also explored alignment in relation to networks theories, functions and strategies. Nonetheless, it offers an insight on how some factors or concepts which are found to exist in more than one research stream – such as *governance* – is being discussed differently by scholars in the alignment, network and public administration literature. The significance of this is highlighted in the *theoretical integration* grounded theory guideline by Urquhart et al. (2010).

### 3.3.2 The different uses of theory in this research, and theoretical sensitivity

#### The first use of theory in the thesis

As mentioned previously, this thesis begins with a literature review, and is therefore based on an awareness of the literature which existed before data collection began. Although this has been advised against in Glaser and Strauss' classic grounded theory approach (1967), it has been judged to be the most appropriate approach for this thesis. This is because it has allowed previous empirical research to be used as a foundation for this study, which is described by Walsham (1995) as the 'first use' of theory in interpretive studies. An example of such an approach is the use of Henderson and Venkatraman's (1993) Strategic Alignment Model (SAM) as a starting guide in this thesis, to understand the process of business-IT alignment, and to assist in the design and data collection process. The use of theory at the beginning of this thesis was also with the purpose to show an understanding of previous research — i.e., work established in the field of study and research context before the development of the final theory. In the words of Walsham (1995, p. 76), this approach can "create a sensible theoretical basis to inform the topics and approach of the early empirical work". This perspective is called *theoretical sensitivity* in grounded theory (Strauss and Corbin, 1998).

The founders of grounded theory supported the belief that researchers should have an 'empty head' as opposed to 'open mind', as described by Dey (1999), and echoed by Urquhart et al. (2010). Glaser (1978) when discussing theory development has spoken about the importance of *theoretical sensitivity*. Theoretical sensitivity is defined as "being

steeped in the field of investigation and associated general ideas (Glaser, 1978), so that a researcher understands the context in which the theory is developed” (Craig, 2016, p. 784). However, Walsham (1995, p. 76) also emphasizes that “it is desirable in interpretive studies to preserve a considerable degree of openness to the field data, and a willingness to modify initial assumptions and theories”. Therefore, in this thesis it is ensured that a balance is maintained between ‘theoretical sensitivity’ of the literature, and ‘openness’ to data collected. As stated previously in the first use of theory, any knowledge and understanding of the literature was used in the design and process of data collection, as it guided the initial selection of participating bodies and members. However, further selection was based more on the grounded theory aspect of *‘theoretical sampling’*, explained in section (3.4.4). At the same time, an ‘openness’ to data collected during data analysis is maintained as described in ‘the second use of theory’. This will allow the grounded theory method to be used with the most positive results, generating theory which is grounded in the data collected. In summary, this thesis holds a similar perspective to Walsham (1995), taking Glaser and Straus’s warning into account, but also not allowing them to overshadow other existing works. A full literature review is of course important in order to allow a full evaluation of the substantive area, and led to the conclusion that this research would be valuable and successful, as Hart (1998) correctly indicated.

### **The second use of theory**

Initial theories, included in the literature review, were analysed in order to create a strong foundation of knowledge behind the research, and then expanded as a result of the interaction between data collection and analysis. This is another way to maintain a balance between ‘theoretical sensitivity’ of the literature, and ‘openness’ to data collected. The openness to data was prominent in the data analysis procedure, where *iterative*

*conceptualisation* was used to ensure closeness to data and the creation of theory grounded in data (Charmaz and Bryant, 2010). This is discussed in greater detail in the *iterative conceptualisation* section (3.5.2). In addition, Fernandez (2004) explained that in the case of having a professional experience in the field of the study, the *constant comparative* principle of grounded theory can in fact enable authors to minimise the risk of bias in the research. This also applies to researchers who have previous knowledge and understanding of the literature. This thesis ensured the continuous use of *comparative analysis* throughout the research (discussed in more detail in section (3.5.1)). Additionally, Urquhart et al. (2010) provided Sarker et al. (2001) as an example of a scholar who have used grounded theory method to develop theory which the authors described as “guarded against becoming captive to any particular literature” (p. 363). The authors were correct to explain that when starting with an existing theory, then the research should not be aiming to prove the theory to be true or false, but rather to develop and improve it. Theories in interpretive research are often used as a “sensitizing device” (Klein and Myers, 1999, p. 75), referred to in grounded theory as ‘theoretical sensitivity’. Therefore, any initial theories are not used to be rigorously tested in this research, but rather to be enhanced and expanded which is the second use of theory identified by Walsham (1995).

One example of such use of theory is the discussion of the *communication* factor as one of the enablers of business-IT alignment. This factor was then expanded in this research, and examined in the context of UK digital public services. This was done by conducting the grounded theory process of *constant comparison* and *iterative conceptualization*, where data was collected and analysed simultaneously, as explained in section (3.5).



To sum up, there are a number of benefits of conducting a literature review, as has been discussed. In reality, previous knowledge and understanding cannot be discarded, and perhaps should not be in order to build research from a foundation of existing knowledge and to expand this knowledge. This thesis, as stated previously in the originality of the current study, section (1.2.1), builds on existing knowledge. Nonetheless, effort has been made to ensure that this previous knowledge and understanding doesn't affect the development of theory grounded in the data collected, by ensuring an 'openness' and 'closeness' to data.

### **The last use of theory**

Lastly, the result of research itself can be theory. Theory as an end product is recognised by Walsham (1995) as the 'last use of theory' in interpretive studies. For example, the outcome of this thesis is considered to be a 'substantive theory'. Charmaz (2006, p. 8) stated that "most grounded theories are substantive theories because they address delimited problems in specific substantive areas". A substantive theory is a theory which applies to the main subject of the research, but could also be relevant in a completely different context (Glaser and Strauss, 1967). Nonetheless, when discussing the different types of theory, it seems sensible not to categorise theories as right or wrong but rather on a spectrum of different levels of interest (Walsham, 1993, p. 6). This is in line with the grounded theory method as it does not force the researcher to filter data collected into 'correct' and 'incorrect' theory. It recognises and considers theory that arises from the data collected, allowing the data to speak. More details of this are included in the data collection and analysis sections below.

Grounded theory therefore fits well with the interpretive nature of this research, as it considers all of the data collected from the participants, rather than forcing the researcher to look at specific data. This therefore enables a holistic understanding and multi-level analysis – the first principle of interpretivism, as mentioned previously, section (3.1.1). Grounded theory also supports contextualism, as discussed in *the main reasons for adopting grounded theory method*, section (3.2.2). This thesis does not limit itself to providing descriptions of the ‘reality’ of the phenomena under study, but also takes into consideration the subjective meanings of the actors involved in the process of aligning. Grounded theory is therefore found to support the subjectivism aspect associated with interpretivism. It therefore enabled data to be collected, coded and analysed concurrently, the benefits of which were mentioned earlier.

Data collection is discussed next, followed by data analysis.

### **3.4 Data collection**

This section of the research process, focuses on providing an explanation and clarification of the data collection conducted. Data collection was at first guided by the literature review and then was carried out in an iterative manner; existing data was used to identify from where to gather future data. As mentioned, in grounded theory, this is known as *theoretical sampling*. The final sample size was decided by the use of “theoretical saturation”, which is covered at the end of this section. This section also includes a description of the targeted participating bodies and members for this research. It outlines the interview process employed and the questions asked during interviews. Figure (4) below shows an overview

of the data collection and analysis process adopted, which will be explained in detailed in this section.

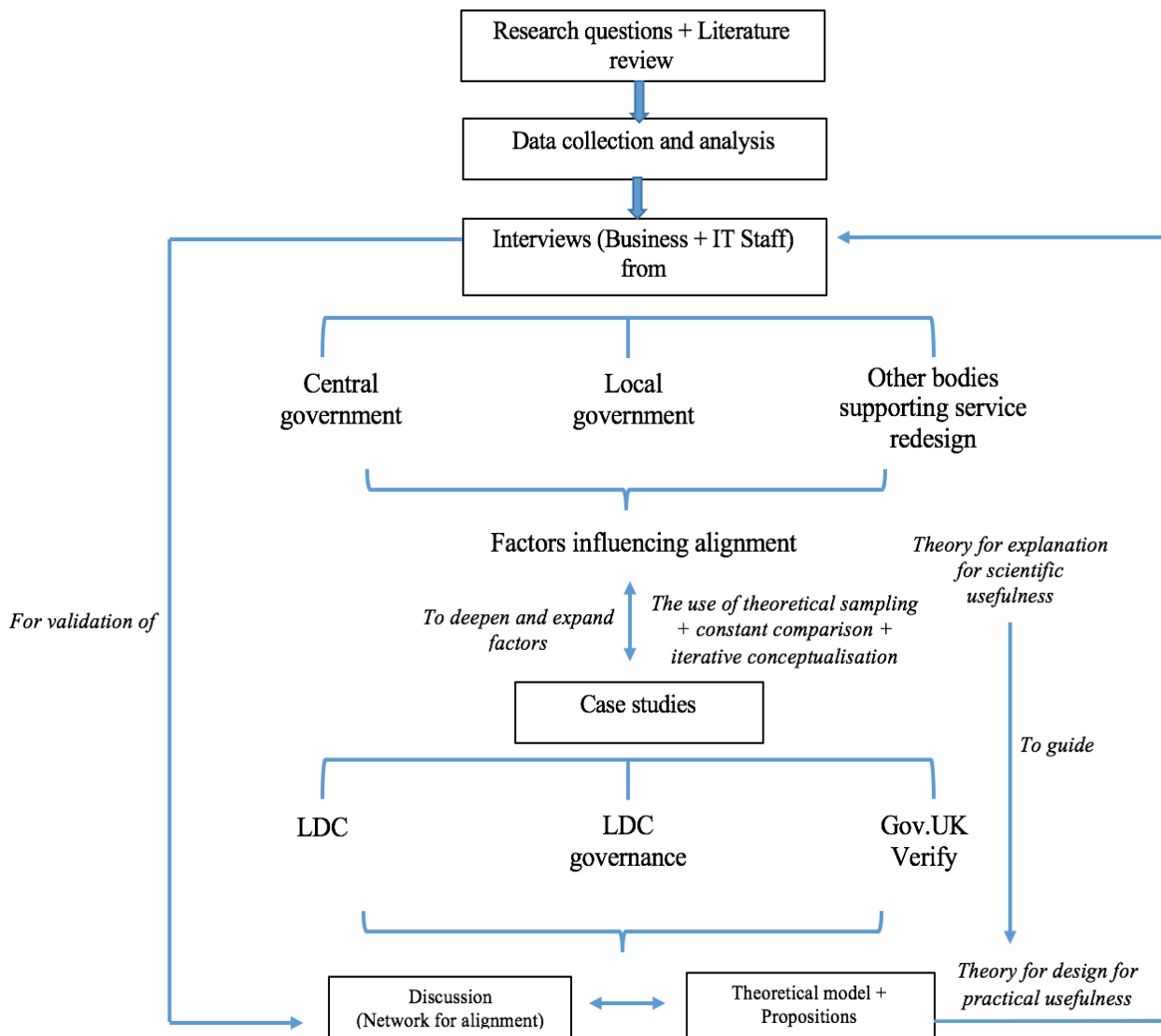


Figure 4: Data collection and analysis process

Figure (4) above illustrated the data collection and analysis process adopted in this research. Details of the data inputted and outputted at each data collection stage and used during the data analysis process is depicted below in Table (3). Alongside this table, details of the sources of those data is shown in Table (4).

**Table 3: Data inputted and outputted at each data collection stage, and used in the data analysis process**

Data collection stages and data analysis process	Purpose	Data, alignment factors and concepts (Input)	Data, alignment factors and concepts (Output)
1 <sup>st</sup> stage: Conducting interviews	<ul style="list-style-type: none"> <li>• To increase understanding of the 'process of aligning' - vertically (between central and local government), and horizontally (across government agencies).</li> <li>• To identify the factors that influence business-IT alignment, the challenges and difficulties faced in aligning, and how they affect alignment in public service redesign.</li> <li>• To understand how alignment can facilitate the digital redesign of UK public services.</li> </ul>	<ul style="list-style-type: none"> <li>• Henderson and Venkatraman's (1993) Strategic Alignment Model (SAM) as a starting guide to understand the process of business-IT alignment and to assist in the design and data collection process.</li> <li>• Themes from literature as shown in the conceptual model (Figure 3)</li> <li>• Data source (1 and 4, see Table 4), used the data collected to decide from where to sample next.</li> </ul>	<ul style="list-style-type: none"> <li>• 'Theory for explanation' for scientific usefulness</li> <li>• Factors influencing alignment in the UK service redesign, as presented in (Figure 5)</li> <li>• Interrelation between alignment factors in the UK service redesign identified from interviews (Figure 6)</li> </ul>

Data collection stages and data analysis process	Purpose	Data, alignment factors and concepts (Input)	Data, alignment factors and concepts (Output)
<p>2<sup>nd</sup> stage: Selecting and using case studies based on data collected from stage (1)</p>	<ul style="list-style-type: none"> <li>• To deepen and expand concepts and factors identified in stage (1).</li> <li>• To understand how alignment come into practice in UK local and central government, and how it supports digital service redesign.</li> <li>• To provide 'Theory for design' for practical usefulness</li> </ul>	<p>Output from stage 1:</p> <ul style="list-style-type: none"> <li>• Factors influencing alignment in the UK service redesign, as presented in (Figure 5), and 'Theory for explanation' from interviews.</li> <li>• Interrelation between alignment factors in the UK service redesign identified from interviews (Figure 6)</li> <li>• Data sources (1, 2, 3, and 4), see table (4), used the data collected to decide from where to sample next.</li> </ul>	<ul style="list-style-type: none"> <li>• Factors influencing alignment in the LDC, as presented in (Figure 8)</li> <li>• Interrelation between the LDC alignment factors (Figure 9)</li> <li>• An increased understanding of the linkage between governance and alignment (Figure 11)</li> <li>• 'Theory for design' for practical usefulness (governance framework) guided by 'theory for explanation' and data outputted from stage (1) of data collection.</li> <li>• An increased understanding of how central and local authorities are aligning their business and IT to support service redesign and specifically the redesign of (GOV.UK Verify)</li> </ul>

Data collection stages and data analysis process	Purpose	Data, alignment factors and concepts (Input)	Data, alignment factors and concepts (Output)
<p>3<sup>rd</sup> stage: Producing and presenting the research theoretical model and propositions</p>	<ul style="list-style-type: none"> <li>• To contribute to knowledge by transforming data into theory</li> <li>• To provide ‘theory for design’ for practical usefulness</li> <li>• To describe the main story of the phenomenon by identifying an alignment core factor and the key factors connected to it</li> <li>• To provide a framework that deepens our understanding of this phenomenon and discusses findings</li> <li>• To enable the UK government to improve their level of (BIA), in order to support service redesign by providing a number of propositions and recommendations</li> <li>• To provide a holistic and effective combination of tools to minimise alignment inhibitors and enhance alignment enablers</li> </ul>	<p>Output from stage (1) and (2)</p> <p>Data sources (1, 2, 3, and 4)</p>	<ul style="list-style-type: none"> <li>• Theoretical model (Figure 15)</li> <li>• Theoretical propositions (Table 5)</li> <li>• ‘Network for alignment (Chapter 7)</li> </ul>

Data collection stages and data analysis process	Purpose	Data, alignment factors and concepts (Input)	Data, alignment factors and concepts (Output)
	<ul style="list-style-type: none"> <li>To contribute to the wider body of knowledge on both e-government and IT-business alignment</li> </ul>		

Table (3) above shows the data inputted and outputted at each data collection stage and used during data analysis. In the next table, details of the sources of those data is illustrated (Table, 4).

**Table 4: Summary of the sources of data gathered and used in this research**

Number	Data sources	Number	Length	Location	Data and other details
1	Interviews	31	Up to one hour each	Interviewee office or work place  Public places (e.g., Cafe)  Skype	A sample interview transcript provided in (Appendix 9)  A classification of the interviewees in (Appendix 6)
2	Participant observation in the Local Digital Coalition (LDC) meetings	Two meetings	3 hours	Leeds City Council (27/01/2017), 24 LDC members attended.	Sample of the LDC meeting notes provided in (Appendix 10)

Number	Data sources	Number	Length	Location	Data and other details
			Up to one hour	Skype meeting on the (24/01/2017), with 3 members from the LDC.	The LDC invitation and meeting agenda in (Appendix 11).
3	LDC meeting minutes	Four meeting from the (08/07/2016) to (31/10/2017)	Around four pages each	LDC website archives: <a href="https://www.localdigitalcoalition.uk/tag/minutes/?post_type=resource">https://www.localdigitalcoalition.uk/tag/minutes/?post_type=resource</a>	Sample of the LDC meeting minutes in (Appendix 12)
4	Documents collected during interviews, and government reports used in this research.  Some of these documents were handed in during interviews but are also published online (e.g., LDC Action Plan)	8 documents and reports:	-	Not available online  (Home Office, 2012)  (Home Office, 2016)  (Cabinet Office, GDS, and The Rt Hon Ben Gummer, 2017)  (Cabinet Office, 2018)	Corporate ICT Strategy 2014 – 2018, sample of the document in (Appendix 13)  The UK's 2012 digital strategy  The UK's 2015-2016 digital strategy  The UK's 2017-2020 transformation strategy  The UK's 2018 Open Standards Principles policy paper



Number	Data sources	Number	Length	Location	Data and other details
				(HM Government, 2012)	The UK's 2012 Open Data white paper
				(LDC, 2016)	The LDC 2016 Action Plan
				LDC website: <a href="https://www.localdigitalcoalition.uk/products/">https://www.localdigitalcoalition.uk/products/</a>	LDC products and projects reports
				(SOCITM, 2015b)	Policy briefing - using digital innovation to generate value.

### 3.4.1 Criteria for data collection

Table (3) above listed the data used in this research during data analysis, and Table (4) showed the sources of those data (e.g., interviews and participant observation). Nonetheless, the criteria for data collection is explained in this section. After conducting a literature review, it became more clear what the criteria were for participating bodies and members. These were found to be organisations, members and supporting bodies that are involved in the UK digital service redesign, government digital transformation and standardisation from, both central and local government levels, and public and private sectors.

### 3.4.2 Description of the participating bodies

The data collection stage of the research involved investigating how government departments and local authorities are aligning their business and IT to support service redesign. This was done by carrying out semi-structured interviews with service managers, policy makers, digital leaders, and business and IT senior managers from government departments, such as the Cabinet Office, Government Digital Service (GDS), and local councils - Oxfordshire County and its districts, as well as bodies supporting digital redesign (such as The Society of Information Technology Management (SOCITM), Local e-Government Standards Body (LeGSB), Nesta – (The innovation foundation), LocalGov Digital, and Local Digital Coalition (LDC)).

The Cabinet office fits the criteria for a participating body because it developed the ‘digital by default’ standards described in the Manual ([gov.uk/service-manual](http://gov.uk/service-manual)), and are responsible of measuring the service redesign progress of each government department. The Government Digital Service (GDS) unit was seen to be an essential participating body in the study as it is responsible of the assessment of those services. GDS also, designed and built the GOV.UK website (GOV.UK, n.d.). They are also leading the digital transformation of government and working with other government agencies in order to design public services that are “digital by default and simpler, clearer and faster to use” (GOV.UK, 2013). The Local digital Coalition (LDC) was included because it has taken over the resources created by the Department for Communities and Local Government (DCLG) Local Digital Programme, and is continuing their work (GOV.UK, 2016). The coalition includes a number of organisations and actors involved in the local service redesign, from both the public and private sector. Details are included in the LDC case study, Chapter (5). Oxfordshire County and its districts

were chosen as a case study of local authorities in the UK, as discussed next in the research case studies, section (3.4.4).

### **3.4.3 Description of the participants or participating members**

To develop an understanding of the key research phenomenon – business-IT alignment in service redesign – interviews were targeted at two categories of people: business staff and IT staff, as shown previously in Figure (4). Respondents have worked at their organisation for not less than a year, and are in a senior or top management position. They have been engaged in either the business or IT strategic planning of digital service redesign, as this research is only concerned with the managerial and not the technical aspects of IT. At least one senior manager from the business and one from IT are being interviewed from each department or council, to include both business and IT perspectives. A classification of the interviewees can be found in (Appendix 6).

Referring back to the epistemology of this thesis, and in order to provide the ‘knowledge for design’, the findings of this research are not solely drawn from empirical and theoretical studies, but also reflect the practical reality and experiences of practitioners involved in the daily activities of UK public service redesign. The participants included civil servants in the public sector, some of whom have also worked or are now working in the private sectors. Those participants who have worked in the private and public sector were able to provide their view about collaborating with public bodies and administrations, and how they would like to see things change to enhance private-public sector collaboration.

There were no politicians interviewed because this study is not intended to cover any political point of view of public service redesign. However, those civil servants and council staff who were interviewed are mostly senior managers and top administrative leaders and have closely worked with politicians and are aware of government policies past and present.

As a result, this research is able to provide and present the different views of people involved in the digital redesign of UK public services, who either have IT or business backgrounds.

#### **3.4.4 Research case studies**

The method used in this research for the selection of case studies was summarised earlier in Table (3) in the second stage of data collection, and is explained in this section in more details.

##### **The objectives for the use of the case study method, and theoretical sampling**

A case study is defined by Benbasat et al. (1987) as one that analyses something without interrupting it, collecting data in varying ways from people, groups or organisations. According to Yin (2014, p. 16), it is “an empirical inquiry that investigates a contemporary (the ‘case’) in depth and within its real-life context, especially when the boundaries between phenomenon and context may not be clearly evident”.

This thesis includes multiple case studies in exploring business-IT alignment in the context of the UK government. It is therefore important to understand how alignment is being managed vertically, from local to central government – hence the need to have a council (Oxfordshire County and its district; Oxford City, West Oxon, South Oxon and Vale of White Horse, and Cherwell) as a case study within the research. Local authorities are part of the service redesign process of public services - and deliver most of the UK's public services. Oxfordshire County and its districts were selected because it is considered to be a local authority area with a typical political management system. On the other hand, the UK departments of state handle the majority of central government transactions. Details of the participating central government departments were previously mentioned in the *Description of participating bodies* section (3.4.2).

In this thesis, data collection comprised of two phases. The first phase involved approaching participants through emails from the researcher, explaining the purpose of the study and why they have been chosen to participate. Starting with local government, ten interviews were carried out with Oxfordshire County and its five districts (Oxford City, West Oxon, South Oxon and Vale of White Horse, and Cherwell). Subsequently, more contacts and introductions were made with potential interviewees through a variety of routes, including personal contacts and through the Society of Information Technology Management (SOCITM) - plus a retired senior servant from GDS, who helped in contacting and recruiting some of the sample required for this study.

Theoretical sampling, one of the strategies of grounded theory, was employed during the second phase of data collection, as illustrated earlier in the second stage of data collection

in Table (3). This principle, as explained by Charmaz and Bryant (2010) and (Charmaz, 2006), cannot be used at the beginning of data collection; it is used after initial research categories have been established, in order to fill those categories. It is defined by Glaser and Strauss (1967, p. 45) as “the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyses his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges”. Strauss and Corbin (1998) have also highlighted that comparisons are significant in the data gathering process, as the concepts from the emergent theory guide further data collection, to discover differences between concepts and to fulfil categories. The following section provides examples of the selection of case studies within the research, which was based on *theoretical sampling*.

After the initial phase of data analysis, this thesis identified *communication, standardisation, business-IT level of engagement, shared domain knowledge, and partnership and collaboration*, as key research concepts. Therefore, the Local Digital Coalition LDC - which is a coalition that aims to enable local public sector organisations to collaborate on their digital transformation (LDC, 2017a), was selected as a suitable case study to deepen the understanding of those research concepts, as illustrated earlier in Figure (4), and Table (3). This case study thereby enabled the development, expanding and testing of those concepts (Bryant and Charmaz, 2010).

As mentioned, this research is concerned with alignment in service redesign and during the data collection, the GOV.UK Verify was mentioned several times by participants as one of the services developed by GDS, and which local authorities are interested in reusing. It was

also found, that GDS will actually provide local authorities LAs with the option to use GOV.UK Verify with their services. The GOV.UK Verify project was therefore chosen as a suitable case study within the research to explore and examine the collaboration between LAs and GDS. It allowed the establishment of an understanding of how central and local authorities are aligning their business and IT to support the redesign of services, and in this case the redesign of GOV.UK Verify. The selection of the LDC and GOV.UK Verify project as case studies is an example of the use of theoretical sampling in this thesis (Figure 4).

*Governance* was also identified as one of the alignment concepts during the collection of data from the Local Digital Coalition LDC. It was also found that governance is on the agenda of the coalition. The coalition was planning to design and adopt a governance mechanism for a successful delivery of their collaborative work (LDC, 2016). To help support this, a governance structure and framework were designed and shared by the researcher with the LDC. The framework development process is discussed in section (5.2.5). The LDC governance case study helped in further exploring and understanding the linkage between business-IT alignment and governance, and how the adoption of effective governance can affect the LDC level of alignment. It helped with developing and densifying the *governance* category, which is one of the aims of theoretical sampling as mentioned previously (Figure 4). It thereby enabled the identification of a number of fundamental governance principles for the achievement of the coalition objectives, with horizontal and vertical alignment being found to be among them, as explained in LDC case study, Chapter (5).

Another example of the use of theoretical sampling in this thesis is when interviewing participants involved in the development of common standards for service redesign in the

local public sector, after the identification of *standardisation* as one of the research concepts during the first phase of data collection.

### **3.4.5 Interviewing process and questions**

In order to prepare for the interviews and to fine-tune and adjust the interview questions, a pilot interview was conducted with a participant that has similar characteristics to the research participants.

Standard research ethics processes and procedures were followed for the interviews, including informing participants that taking part in the research is entirely voluntary and they can withdraw at any time and without giving a reason. After initial agreement, a participant information sheet and consent form (see Appendix 7) was emailed to the participant to provide them with more information and to receive confirmation or their consent in taking part.

The interviews proceeded as a confidential and secure conversation geared toward the research topic. Participants were free to share their views on aspects they felt were significant to the phenomenon under study. This was done to ensure the generative nature of grounded theory and that preconceptions did not skew the data.



As these are in-depth interviews, they took up to one hour each. During the interviews, the participants were asked to answer open-ended questions, and to share any views related to the process by which government departments and local authorities align their business and IT strategies (and supporting business processes and technological infrastructures). The questions investigated the level of business-IT alignment achieved and how alignment is being managed. They explored the role IT plays to support business processes, and vice versa (see Appendix 8 for the interview questions). The questions and discussions conducted with interviewees from the Local Digital Coalition LDC also investigated the process of local collaborative digital transformation, challenges and barriers, and the advantages of the LDC collaborative effort. More importantly, interviews were recorded and transcribed to permit fine-grain data analysis.

### **3.4.6 Other sources of data**

One of the sources of data used in this research is interviews as shown earlier in Table (4). The qualitative data from the interviews was complemented with secondary data from documents collected during interviews, and other government publications and reports. Other than the archival records and documents, it also included participant observation during the collection of data from the Local Digital Coalition LDC. Yin (1994) defined participant observation as one that requires taking a role and participating in the event for an inside perspective. Observation occurred in the LDC meeting attended where a number of governance frameworks - created by the researcher for the LDC - were also shared and presented to the coalition members, and feedback collected. Details of the sources of data gathered and used in this research was included earlier in Table (4).

### **3.4.7 Sample size**

A total of eight interviews were conducted with Oxfordshire County and its districts. More than 30 in-depth interviews were carried out for the entire research. According to Saiful (2011), a “sample size larger than 30 and less than 500 are appropriate for most research”. In specifying the sample size, potential issues related to the rate of responses are taken into account, such as incomplete or illegible answers. The final specific sample size was determined by the concept of “theoretical saturation” - the stage in data collection “when new data no longer bring additional insights to the research questions” (Mack, et al., 2005). According to Boyce and Neale (2006), for in-depth interviews “when the same stories, themes, issues, and topics are emerging from the interviewees, then a sufficient sample size has been reached”.

The first stage of data collection was guided by the literature review. Following initial analysis, categories were established, *theoretical sampling* was used in the second stage of data collection to decide from where to sample next; and so at that stage interviews were driven by the data collected and analysed.

## **3.5 Data analysis approach**

Doing this research, grounded theory was used in order to produce theory grounded in data, and, most importantly, to ensure that data is systematically collected and analysed.

Charmaz (2000) demonstrated that grounded theory is comprised of a number of systematic inductive principles and guidelines, which enable the building of theory. In addition, and according to Charmaz and Bryant (2010), grounded theory is composed of two elements. The first is the set of guidelines and strategies, which can be distinguished from any other inductive qualitative research methods. The second is the outcome of the strategies - the analysis of the data, discussed earlier as substantive theory.

This section describes the grounded theory guidelines and strategies used during the data analysis stage of this research, as well as how these were applied in this study. This research study has used the fundamental strategies and aspects of grounded theory, which are found to include the use of an analytical process and guidelines, and *iterative conceptualisation*. This thesis is based on Urquhart et al's. (2009) demonstration of the importance of adopting a rigorous approach to data analysis, and also Strauss and Corbin's (1998) detailed guidance. S&C describes the application of *constant comparison*, which is considered to be a fundamental analytical guideline in grounded theory, and *iterative conceptualisation*. Additionally, the adoption of Strauss and Corbin's coding process will be discussed in more detail.

### **3.5.1 Constant comparison**

As explained, this thesis did not separate data collection and analysis; the process of analysis started after the first interview. Data analysis and conceptualisation was carried out by continuously comparing the collected new slices of data with existing ones, which is seen to be crucial by Urquhart et al. (2010). Additionally in this process, each slice of data is considered in the context of established concepts, to see if it can add to these concepts or is an addition to them (Urquhart, et al., 2010). This comparison also aims to highlight any contradictions and biases among the data collected, which links to the fifth principle of interpretive approach; *suspicion*, mentioned in section (3.1.1). The slices of data in this thesis are derived from the semi-structured interviews and case studies. This allowed the data to be systematically analysed through the examination of its relationship to existing categories, and consideration made of whether it should be added to a certain category or a new one should be created. An example is the research variables *Communication* and *Shared Domain Knowledge (SDK)* and the way it was noted whether one might enhance the other or whether they should be considered separately.

### **3.5.2 Iterative conceptualisation**

Iterative conceptualisation is a guideline which is unique to grounded theory, and has generated a consensus that it is a key and fundamental aspect of grounded theory (Bryant and Charmaz, 2010). Urquhart et al. (2010, p. 370) stated that it is “the plank on which theory generation is based”. It is concerned with creating linkages and relationships between categories through an iterative process of conceptualisation. This is achieved through the use of *theoretical coding*, as Urquhart et al. (2010) illustrated, and the belief that theoretical coding allowed theory to be built systematically and in an iterative manner. *Theoretical*

*coding* thus focuses on establishing relationships and linkages between concepts in order to generate theory (ibid).

There are different ways of establishing iterative conceptualisation in grounded theory. One of those ways involves the use of Strauss and Corbin's (1998) coding process, which comprises of open, axial, and selective coding. Alternatively, there is the coding process developed by Glaser (1992), which includes open, selective and theoretical coding. Lastly, there is also Charmaz's (2006) coding stages: open, focused, axial, and theoretical coding. More importantly, "whichever coding stages are used, the key thing is that all stages are followed to allow adequate conceptualizations, which are the basis of a formed theory" (Urquhart, et al., 2010, p. 370). Therefore, this thesis, when opting for the use of Strauss and Corbin (1998) coding stages, has ensured that all of its stages are used and not some of them, to guarantee sufficient conceptualisation.

Researchers can face difficulties with theoretical coding and can find it challenging to determine relationships between categories. This is because there could be different types of relationships, and ways to represent them. According to Urquhart et al. (2010, p. 370), these relationships can be created through Strauss and Corbin's or Glaser's coding stages, which allow for the analysis of causal relationships, and the development of theory and hypotheses. Indeed, Strauss and Corbin's form of grounded theory is flexible and provides a number of detailed options, making it a method that works with the majority of research types. Strauss and Corbin's (1998) book *Basics of qualitative research*, provides a number of procedures and techniques in order to ensure a rigorous and standardised process. However, it is important to note that, as the authors stated, "these procedures were designed

not to be followed dogmatically but rather to be used creatively and flexibly by researchers as they deem appropriate” (Strauss and Corbin, 1998, p. 13; Sandelowski, 1995).

## **Open coding**

Because of the theoretical sensitivity established in this research as mentioned previously, the first stage of data analysis involved assigning codes, labelling units of data and creating themes using Nvivo, taking into consideration themes developed previously by researchers. This stage of data analysis focused on finding themes and concepts by going through the transcribed data and labelling sentences and sometime paragraphs. This was done to give meaning to the data and to classify the data collected into codes, concepts or categories. Strauss and Corbin (1998, p. 124) illustrated that “a category stands for a phenomenon, that is, a problem, an issue, an event, or a happening that is defined as being significant to respondents”.

Nonetheless, the labels given to the data were assigned by the researcher in a manner similar to that outlined by Strauss and Corbin (1998, p. 105): “because of the imagery or meaning they evoke when examined comparatively and in context”. Some of those labels were also given based on words that participants used, referred to by Glaser and Strauss (1967) as “in vivo codes”. This stage also involved a process of abstracting and conceptualising, and a *constant comparison* of data, described previously in section (3.5.1). A *constant comparison* between the open codes and concepts was carried out, and some of the open codes were grouped together for a higher level of abstraction when possible. The open codes are shown later in Figure (5), and it included for example, communication, Shared Domain Knowledge SDK between the business and IT, and standardisation. This

observed the point that “grouping concepts into categories is important because it enables the analyst to reduce the number of units with which he or she is working” (Strauss and Corbin, 1998, p. 113).

### **Axial coding**

Strauss and Corbin (1998, p. 123) defined axial coding as “the process of relating categories to their subcategories, termed ‘axial’ because coding occurs around the axis of a category, linking categories at the level of properties and dimensions”. This stage of data analysis and conceptualisation was concerned with creating linkages and identifying relationships between categories and subcategories. This was done by firstly asking questions such as: ‘Which categories affect the process of aligning?’, ‘What is their effect on alignment?’, ‘How do these categories link?’, and ‘How can they be classified?’.

This allowed for a higher level of classification of the categories identified during open coding. The categories or open codes were further grouped into shared categories by considering their properties and dimensions (Strauss and Corbin, 1998). This is described as *scaling up* by Urquhart et al. (2010) to produce axial codes. For example, the categories were classified into alignment enablers and inhibitors. *Constant comparison* was applied between the open codes (subcategories) and the created axial codes (categories). In order to compare the categories with the subcategories, questions were asked (ibid) such as: how the axial codes relate to one another, how they relate to open codes and their impact on the process of aligning. This has led to the identification of categories such as financial, technical, social, intellectual / strategic, and structural dimensions of alignment. These

categories were further classified into enablers and inhibitors of the process of aligning (Figure 5).

During axial coding, it was acknowledged that concepts that get to the category level are abstractions. The categories identified don't describe only the story of one individual, but in fact the stories of many individuals in the research in a reduced theoretical form (Strauss and Corbin, 1998, p. 145). To begin with, the data collected can give an idea of the relationships between categories; however, it is important to note that "the actual linking takes place not descriptively but rather at a conceptual level" (ibid, p. 125). Therefore, axial coding was employed in this thesis to ensure the systematic conceptual creation of linkages between categories.

### **Selective coding**

Selective coding is "the process of integrating and refining categories" (Strauss and Corbin, 1998, p. 143). At this stage of data analysis, it was ensured that the major categories are linked in order to transform data into theory. Strauss and Corbin (1998) explained that the main categories become concrete theory once they have been brought together to form a theoretical arrangement of the research findings. This was achieved by continuously interacting with the data, and also by the use of memos and diagrams created throughout data analysis. Theoretical memos are an important part of *theoretical coding* and for *iterative conceptualisation* in general. The memos included observations and interpretations, as well as ideas for further data collection and outstanding questions. The diagrams consisted of a



number of different representations of the linkages and relationships found between categories.

The main aim of selective coding is to distinguish a core or central category, which is also an abstraction that consists of a few words that describes the main story or research theme (Strauss and Corbin, 1998). Such coding has the “ability to pull the other categories together to form an explanatory whole” (ibid). Nonetheless, there isn't only one accurate representation of relationships. The authors explained that what's more important is that the categories are interlinked into a “larger theoretical scheme” (p. 145).

The core category ‘communication’ was chosen because it was found that all the major categories of the research are connected to it (Figure 15). The framework provided deepens our understanding of this phenomenon and discusses findings. Based on findings represented in Figure (15), a number of propositions and recommendations were included in the final chapter. It is hoped that those will enable the UK government to improve their business-IT alignment (BIA), in order to support their public service redesign, and to best manage their IT to enhance innovation and service quality - as well as to contribute to the wider body of knowledge on both e-government and IT-business alignment (see section (1.2), Theoretical Contribution and Outcome).

As a way of validating findings, and as suggested by Strauss and Corbin (1990), the final step involved comparing existing literature with findings. Additionally, some of the research participants were asked to provide comments, corrections and elaborations on drafts of the

research findings. Theoretical models and frameworks were shared with some participants, and enhancements and changes were made accordingly.

### **3.5.3 Generalisation (scaling) of the study theories and propositions**

According to Gregor (2006, p. 620), the scope of a study mainly depends on the statements of limitations and relationships, and level of generalization which the author decides to use. In addition, Neuman (2000) supported this by explaining that the generality of a theory relates to the research breadth. This section specifies the scope and the degree of generality of the thesis results, including the theories and propositions made. The contextual limit of this thesis is made clear throughout: UK government digital service redesign.

This research recognises the importance of defining the limitation of the main propositions made. According to Whetten (1989, p. 492) it is important for the researcher to consider whether or not their main arguments or propositions can be generalized, and to what extent, by conducting mental tests. These tests are done by asking *who*, *where* and *when* to help in determining the generality and range or scope of the study's theories and propositions (Whetten, 1989). This can be mainly seen in the Discussion Chapter (7) and the *Network termination / dissolution*, section (7.6). For example, the suggested duration of the network, and whether it is a permanent or a temporary arrangement or solution, is examined. Alignment is a continuous process and not a state; therefore, it is asked whether this network should also be continuous or whether it should terminate when a certain level of alignment, or the main goals set for alignment, are reached. In addition, in the *communication* section,

it is concluded that, over time, the senior level engagement can be lowered when there is a higher level of understanding established between the business and IT. Another example is the governance framework proposed for the LDC, which has the potential to be adopted in different public sector organisations in the UK.

It is important to note that this is not a temporal study; however, it does ask questions of the applicability, extent and limitation of the main theories and propositions, and whether they vary or change over time and in different contexts. This is in line with Orlikowski's (1989) assertions (also cited in Orlikowski and Baroudi, 1991) in her interpretive study, that different contexts and times may generate different outcomes, and that while it cannot be known for certain, the possibility of having different outcomes in this thesis is determined by establishing a comprehensive understanding of the people involved, the context and the resources. Nevertheless, Whetten (1989, p. 492) stated that in reality we cannot expect a researcher to foresee all the possible limitations of a theory. Additionally, interpretive research, as used in this thesis, is often driven by the bias of the researcher and their limited ability to generalize its results to the same level as in positivist research (Orlikowski and Baroudi 1991). Therefore, and as mentioned previously, this thesis only tests and states the degree of generality of the main propositions and theories, and shows the likelihood of having different outcomes in a different context and time.

## **Chapter 4: Findings - factors influencing business-IT alignment in UK service redesign**

The interview questions aimed to increase our understanding of the 'process of aligning' - vertically (between central and local government), and horizontally (across government agencies) - challenges and difficulties faced in aligning, and how they affect alignment in public service redesign. When discussing vertical and horizontal alignment, this thesis does not expect central and local government or all government agencies to perform the same, neither does it assume that they are similar (operate the same way) or that they provide the same services.

From the data collected, a number of factors (conditions, variables) mentioned in earlier studies (Luftman, 2000), and some new ones have been found. These factors influence alignment and are known in the literature as 'enablers' or 'inhibitors' of alignment (Figure 5). This chapter provides 'theory for explanation' as mentioned in the methodology chapter, by explaining those factors, and discussing how they influence business-IT alignment in UK service redesign. These discussions also include a number of propositions for increasing alignment in service redesign as part of the 'theory for design' that the research offers.

## **4.1 Alignment enablers in the UK service redesign**

As mentioned previously, the factors that influence alignment are discussed in this research as ‘enablers’ or ‘inhibitors’ of alignment, which are also categorised into social / cultural, technical / operational, and intellectual / strategic during axial coding (Figure 5). This discussion will be followed by alignment inhibitors or barriers that belong to the social / cultural category. The quotes from respondents included are identified and can be traced with reference to transcript numbers, which are listed in Appendix (6).

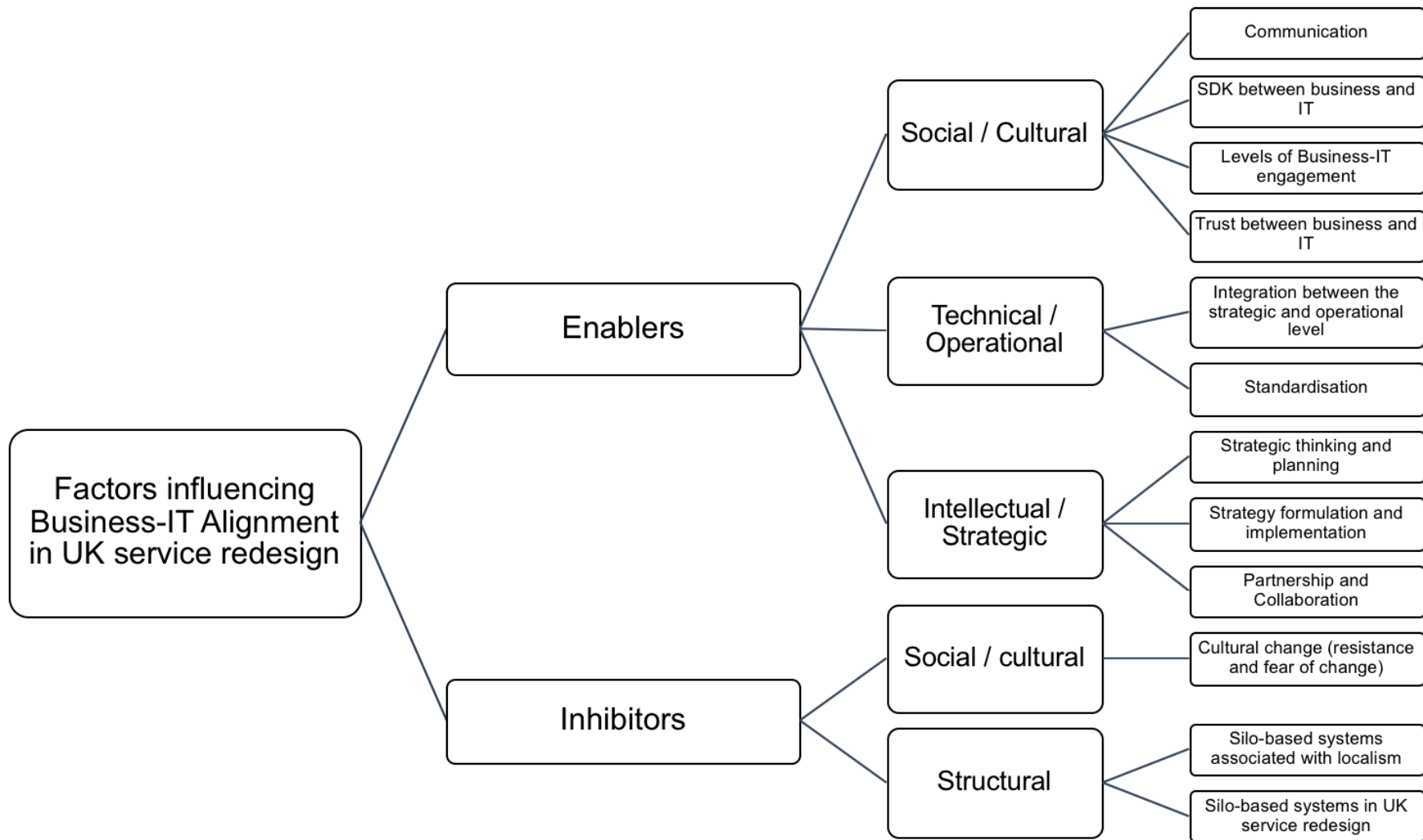


Figure 5: Factors influencing alignment in the UK service redesign.

## **Social / Cultural**

This section explains the social / cultural alignment enablers identified from the data collected. These factors are communication, Shared Domain Knowledge (SDK), level of business-IT engagement, and lastly trust between business and IT.

### **4.1.1 Communication between business and IT**

The empirical findings have continuously shown communication to be an alignment enabler (Luftman, 2000): specifically social alignment as Reich and Benbasat (2000) have shown. Additionally, as expressed by one of the interviewees for a local government business department: “I admit that one of the reasons why we’re not very well aligned is because we don’t communicate” (T3). This section discusses aspects of communication between business and IT found in UK digital service redesign (e.g., the use of story-telling, verbal and non-verbal communication). It is then followed by a section describing the level of vertical and horizontal communication, followed by the level of communication between business and IT in local government.

#### **Formal methods of communication**

Data collected have shown that one of the methods that facilitated communication and helped in creating a better understanding between business and IT in the local sector, is bringing together a group of councillors with a remit to vet or examine proposals, for example, for new software applications. According to a Head of IT in local government, it “created an opportunity for everyone to bring forward their ideas, but it also created the

forum in which those ideas can be checked and challenged” (T2). The benefits of this are seen to include communicating to ensure that the IT initiatives are weighed up against the corporative objectives, and so it can be said that it is communication for aligning IT with business. From an IT perspective, it has increased the politicians’ understanding and involvement in what’s going on in the organisation. It was found from the data collected that regular meetings with people involved in service and IT departments is one of the communication methods used in the local sector. IT involvement in meetings is covered in more detail in the level of business-IT engagement section (4.1.3). It can be said that these two methods of communication – having a group of councillors and regular meetings - are formal methods of communication for alignment. To be more specific, it is considered to be a type of formal verbal communication, and in a later section, informal verbal communication will be compared with non-verbal communication.

### **Communicating business requirements to IT**

It was seen by a number of participants that communication should take the form of a conversation between business and IT and should not be one telling the other what to do. The data collected have also reported that there are cases where business has failed to communicate the requirements to IT. Respondents from IT in both central and local government see that business has to communicate business functions and requirements to IT, and not to request a specific technology. A Business Services Manager from a local authority explained: "what we would much prefer is for the business to come to us to tell us what their problem is, what is the issue they’re trying to resolve, the outcome they’re looking for so that we can then work with them to find and establish what the best technology is” (T1). The IT wants to make decisions with the business on what is the right technology to fulfil the business needs, as is further discussed in the level of business-IT engagement



section (4.1.3). The business also can fail to understand that the service has already been delivered by IT, either because the IT has not effectively communicated this to the business or the business has failed to realise it. In this respect, it can be said that there are government organisations with a number of different internal communication breakdowns.

### **Non-verbal vs. verbal informal communication**

Additionally, when IT receive a documented business requirements, it is checked by them to see if the requirement can be fulfilled with something that is already in house or available in the organisation, and if there is a similar or identical need elsewhere in the organisation. Therefore, there are cases where IT wants to communicate verbally with the business for a better understanding of their requirements and business needs, and to discuss different solutions, not only to rely on non-verbal communication (e.g., written strategies and requirements). This is found to be crucial to break the siloed approach to technology and service redesign, to avoid adopting a niche product or service, and to consolidate services and applications. Therefore, this research finds that both non-verbal and verbal communication are essential for alignment.

One the other hand, one of the respondents from business in local government illustrated that a strategic approach has to be adopted in order to ensure that IT is aligned with business, and that they are not operating separately and working in silo without communicating with each other. Strategic alignment, and having an IT strategy that is aligned with the business strategy is found by some of the respondents from both local and central government to be the solution for communication issues. In this sense, written communication in the form of strategies is found to be the main solution for a better level of

alignment. From the business perspective, it is sufficient to have an IT strategy as described by a participant from a local district to “make sure that the IT projects are there for a real business purpose” (T3). Therefore, verbal communication is not seen to be important if IT is strategically aligned with the business. However, this study finds that alignment, specifically strategic or intellectual alignment, cannot be obtained without social alignment (supported by Reich and Benbasat (2000), and Luftman (2000)), and also this research identifies that both verbal and non-verbal communication are part of this process.

### **Communicating using story-telling**

One of the strategies for communicating IT capabilities and potential to business is found to be story-telling, case stories or real life examples. This type of communication is seen to enable a higher Shared Domain Knowledge (SDK), as it enables a better understanding of IT capabilities and potential, as is covered later in section (4.1.2). It was prominent in the data collected that it is more effective and convincing when the business is shown a real successful example instead of just telling them what they should do or use in terms of IT. A Head of ICT Business Delivery explained, “rather than going in to tell them this is what you should be doing, what we’re saying is we’ve got some fantastic examples over here” (T4). These examples are usually derived from other local authorities and based on their experience. The stories and the examples used by IT allowed them to better communicate the benefits to business, most of which relate to making more savings and working more efficiently. According to a [Programme Manager](#), “we’ve identified a number of proof of concepts which will prove different aspects of what we see as the benefits to be” (T5). Additionally, this has made the business less sceptical, more inquisitive and wanting to know more, and hence communication and engagement with IT was increased. In this respect, it

can be said that communicating with business by using real life examples and the storytelling method is more effective and engaging than traditional forms of communication.

### **Communicating with teams from other areas and divisions in the organisation**

According to some of the interviewees from local government IT, regular sessions and a better relationships between each of the directorate leadership teams is required to improve the flow of information and communication from IT out to the directorates and back in again. There are business partners and other individuals who are concerned with a specific business area (e.g., environment economy), and it is important that those individuals are having a regular conversation and communicating key pieces of information to directorate, leadership teams and senior management teams. This will help in creating an understanding of what their plans are and what that means from an IT perspective. IT mostly organises itself based on the directorates, and information is needed in order to shape itself to support those business areas.

Looking into the ways that information is being passed and communicated between business and IT reveals various factors. One traditional non-verbal way of communication found was a 'staff newsletter', which is not considered to be an effective mechanism for communication. The reason found for this is that staff usually either don't read it or don't understand its content. It is seen that poor communication mainly relates to the lack of effort spent on overcoming silos and on keeping each other informed. It can be said that communicating and sharing information is sometimes reliant on the effort of individuals. For example, it was found that there are cases where the Head of Service would share a draft

of a service plan with other Heads of Service, and then communicate with them to discuss it, while there are other Heads of Service or staff who wouldn't necessarily share or discuss.

### **Communicating best practices**

Participants from local and central government IT continuously highlighted the importance of communicating best practice for greater alignment. According to one of the respondents, “local governments are not really good at talking to each other and working out who’s done something well. They always want to reinvent it and try and do something themselves” (T6). Another interviewee also from central government IT, stressed that there should be more communication for exchanging guidance and help, by stating that “it’s guidance and help really more than anything else” (T7). For example, there should be more communication between local authorities and with central government about service and IT contracts. Sharing best practice and guidance is seen to be crucial to minimise duplications and service failure by reusing and learning and additionally, for more efficiency by saving resources and time spent on trying to reinvent when there is already an available solution.

Furthermore, part of GDS policy is transparency for everything they develop, and therefore best practices and other information are mostly communicated by publishing and making it available as quickly as possible through GDS blog (<https://gds.blog.gov.uk/about/>). An interviewee from GDS explained that one of their policies is “making it available so people can use it, but also so we can get feedback” (T8). The sharing of best practices and guidance will be discussed in details in the standardisation section (4.1.6).

In addition, there is a GOV.UK Service Manual to share information relating to service redesign across the UK government, such as the 'service design patterns' explained later in standardisation section (4.1.6). It is also found that one of the ways of communicating within central government is by creating communities ([www.gov.uk/service-manual/communities](http://www.gov.uk/service-manual/communities)). These communities are to "connect with practitioners across government: discussions, blogs and resources" (GOV.UK, 2018a). An example is the 'design community', which consists of around 800 (interaction, content, service and graphic) designers from across central government, who connect to discuss service redesign challenges and issues. Designers from across the UK government can join the mailing list of the 'design community' through the online Service Manual ([www.gov.uk/service-manual/communities](http://www.gov.uk/service-manual/communities)). It was stated in the GOV.UK Service Manual (2018c): "you can view the communities of practice to find more learning resources, see who has written the guidance in the manual and connect with digital people like you from across government". According to a Head of design from GDS, these communities are considered to be an effective method for communicating best practices and exchanging guidance and information across the UK government.

## **Communicating to influence the IT market**

Some local authorities have seen that there should be more communication with other local authorities to make changes, and influence the IT supplier market. According to a [Programme Manager in a local authority](#), "it's very difficult for an individual local authority to make a case in a meaningful way" (T5). An example given is to influence IT suppliers by asking them to make their Application Programming Interfaces (APIs) available so that

local authority systems can interact and talk to each other. Additionally, this reduces the cost of buying systems with APIs. Moreover, by communicating, local authorities can make plans to notify the IT market. They can make them aware, and prepared for any changes needed so that the systems they are developing can integrate with the systems local authorities are planning to use in the future (e.g., GOV.UK Verify). A respondent explained that by communicating and cooperating “they will start to influence the behaviour of the market and people will start to respond” (T4). In this respect, it can be said that communication can enable government organisations to act in a cooperative manner, which gives them the opportunity to influence the behaviour and decisions of the IT market.

### **Levels of vertical and horizontal communication**

It was found from the data collected that there is less communication between central and local government than between local authorities or between central government departments. According to an interviewees involved with ICT Business Delivery in local government, “there should be a clearer steer from central government by sharing what’s best practice out there” (T6). Contrary to this, there are local authorities that prefer to operate autonomously without communicating with central government or receiving any central government steering or guidance. This thesis therefore argues that there are silo-based systems associated with localism, and it is one of the main reasons for the lack of communication between local and central government, which is explained later in section (4.2.2) in more detail.

Data collected have shown that local government's communication with central government usually happens through the Local Government Association (LGA), which is generally considered to be the chief voice for local government. As also stated by the LGA (2018), "we are the national voice of local government, working with councils to support, promote and improve local government". However, the value of this was questioned by one of the interviewees from a local council, who stated that their influence should not be overestimated.

There are local authorities that recognise the important of communicating with central government and keeping abreast of the direction of travel in central government more than others. Such local authorities maintain some external networking forums. Unlike certain other authorities, when developing a programme or a strategy, they will communicate with people in central government. It was found that those communications and discussions take place via bi-lateral contacts in GDS, conference circuits, and through communities of practice in the GOV.UK Service Manual to communicate best practices, and exchange guidance.

Additionally, interviewees explained that organisational forums were used to share interesting information which may have been heard from another local or central organisation, and is relevant to their organisation. In most cases, these involve aspects and consequences that affect more than one person, division or team within the organisation. They illustrated that in those situations the process can often begin with reactive informal communications and networking between the affected entities, rather than formal communications such as meetings or project management boards. This research suggests

the adoption of a network arrangement for increasing the communication required for alignment, explained later in Chapter (7).

Additionally, local government's communication with central government can be established through communication forums, however, these are not always effective. As explained by one interviewee, often when a new piece of legislation comes in (e.g., The Homelessness Reduction Act), and in other situations where central government passes significant extra responsibilities and services onto local authorities, a sufficient communication is rarely established beforehand. A major disadvantage stemming from this is that there is not usually adequate funding for the additional responsibilities. In this respect, the lack of communication between central and local government only serves to create further problems in an already challenging environment, and therefore makes alignment more difficult.

Nonetheless, the data collected have shown that central government deals with an array of issues. As a result, communication with local authorities may not be one of their priorities. There are around 418 local councils in the UK, meaning that communication with all of them is a difficult task.

Another explanation for the lack of communication is that local government often operates differently from central government. This means that there is a lack of understanding and shared domain knowledge (SDK) between business and IT at central and local government levels. According to a Head of IT and Technical Services in local government, "it's been very



difficult to gain an understanding I suppose, perhaps from the cabinet or whatever group it is that needs to approve a project” (T2). The interviewee explained that often business cases are complicated, and therefore cannot be straightforwardly communicated with higher level organisations. In this respect, it can be said that IT and business within central and local government find it difficult to attain an understanding and SDK, which are empirically proven to be crucial for long-term social alignment (Reich and Benbasat, 2000). Moreover, this study also finds that communication between business and IT from central and local government will, overtime, enhance understanding and SDK, as proven empirically by Charoensuk et al. (2014). SDK between business and IT is discussed in detail next.

### **Lack of communication between business and IT in local government**

The data collected have shown a lack of communication between people involved in local government from business and IT departments. As mentioned by one of respondents from a local government business department: “communication is key and that’s partly where we’re weak” (T3). Other than the communication aspects and mechanisms mentioned previously, the data also illustrated that the weakness mainly stems from the failure to communicate messages to the right people or individual team members, which will be discussed next in shared domain knowledge section (4.1.2). Moreover, as explained previously, the right people may also not be involved in conversations or meetings, and this is discussed later in the level of business-IT engagement section (4.1.3). As pointed out by an interviewee from a local authority: “either the cascade doesn’t work or the actual forums are not working in keeping each other up to date” (T3).

## **Summary of communication**

The results of this research indicate that communication is one of the factors that enables more alignment in UK service redesign. It was also found that there is less communication between central and local government than between local authorities or between central government departments. In addition, communicating business requirements to IT without requesting a specific IT solution, communicating to influence the IT market, verbal and non-verbal communication, and the use of story-telling and real life examples were found to be highly important for establishing more alignment between government agencies. Communicating best practices was emphasised and seen to minimise duplications and cost, and increase efficiency. The methods of communication which are seen to be ineffective are the traditional forms of non-verbal communication, such as 'staff newsletters', communicating indirectly through external parties, and in some cases communication forums.

Communication will be also discussed throughout the analysis of findings because it relates to many of the alignment factors identified in this research. In the next section the relationships between communication and shared domain knowledge (SDK) will be illustrated. Communication by the use of story-telling is seen to enable a higher shared domain knowledge SDK. In addition, the importance of communicating messages to the right people or individual team members, and by using the right language (common language between business and IT) will be also covered next.

#### **4.1.2 Shared Domain Knowledge (SDK) between business and IT**

Shared Domain Knowledge SDK is also found to be one of the factors influencing alignment in UK service redesign. Communication is widely known in the literature as a facilitator of shared domain knowledge, which is identified by some authors, such as Reich and Benbasat (2000) and Campbell (2005), as the only factor that produces long-term alignment. This research study views shared domain knowledge as defined by (Reich and Benbasat, 2000), which is “the ability of IT and business executives, at a deep level, to understand and be able to participate in the others' key processes and to respect each other's unique contribution and challenges” (p. 86). The elements of SDK found from the data collected, and discussed in this section are lack of deep understanding, and the importance of embeddedness of business in IT and vice versa to increase understanding.

##### **Lack of deep understanding of IT by Business**

The study findings have revealed that the failure to communicate is linked to a lack of deep understanding between business and IT from central and local government, which this study considers to be an element of SDK. This study believes that this results in a lower level of alignment between business and IT in UK service redesign. One of the interviewees from a local district IT illustrated: “a lot of the time because most people don't understand IT, they either make ill-informed interventions or they make no interventions at all” (T2). Therefore, IT sometimes tends to operate separately without sharing and communicating with the business because they feel that there is no common language or a deep understanding that can be established with the business. Additionally, as mentioned previously, one of the reasons for the lack of communication is the lack of understanding between business and IT, which is mainly because of the differences in the way that local and central government

operate. This suggests that having a deep understanding, which is seen to be an element of SDK as mentioned previously, is required first in order to communicate. Therefore, it can be said that this contrasts with the literature that shows that communication is a prerequisite of SDK and not also the other way around (Reich and Benbasat, 2000).

Additionally, it was seen by some of the interviewees from business in local and central government, that the lack of business understanding of IT is mainly the result of IT not being able to communicate with business. This is in line with the literature that shows that communication comes before SDK (Reich and Benbasat, 2000). More specifically, it is seen that a common or shared deep understanding with IT is not established because there is a lack of communication using the right language (common language), and also with the right people in the organisation. According to one of the interviewees from local government business, business establishes a better understanding of IT when having an operational (or business) based communication and not a technical based communication, and hence communicating with someone with an operational (or business) background is found to be more effective. The interviewee explained: “often somebody who’s actually got an operational background is able to understand sufficiently the technology so they can translate it into a way that a business user would be able to understand” (T1). The data have shown that business tends to lose interest when the communication is about the bits and bytes of technology. Therefore, when communicating with business, it is seen to be more effective to communicate what actually can be done with the technology, and with someone who can provide this type of information. This links to what has been discussed previously with respect to communicating using story-telling, section (4.1.1).

## **Deep understanding of IT capabilities, value and potential**

Communication is found to be crucial to ensure that business understands the IT capabilities, potential and how to maximise the return on IT investments by utilising those capabilities across the organisation. This is seen to be part of establishing an understanding of each other's contribution, another element of SDK in this thesis. Therefore, it can be said that this aligns with the literature which suggests that communication is an enabler of SDK (Reich and Benbasat, 2000). Nevertheless, the data have shown that it is one of the challenges facing IT when communicating with business. According to one of the interviewees from local government IT: "the challenge to us business wise is unlocking that potential, convincing them that the potential first of all exists and that it's worth investing in" (T4). The importance of understanding IT capabilities and potential was continuously emphasised by the IT respondents. As expressed by one of them from central government, "very much sometimes you need to understand the art of the possible" (T14). It is believed that this type of understanding will allow the business to be more aligned with IT, make smarter decisions, work more efficiently, save money and resources.

One of the reasons found for the lack of communication relating to SDK, is that sometimes engaging with IT is not found to be a priority or of high importance by business. This case shows that SDK is an enabler of communication. According to one of the participants from a local authority business department, "business directorates are under enormous pressure to deliver the day job and sometimes engaging with the ICT is probably at the bottom of the pile" (T1). The study data have shown that business communication and engagement with IT is mostly reliant on the business understanding and awareness of the importance of their influence and role in enabling the development of IT that supports and is aligned with the

business. It is believed that once this understanding is established by the business then engaging and communicating with IT will be prioritised. It can be also said that to initiate senior level engagement and communication there needs to be an understanding of the importance of IT and its impact on business. Nonetheless, overtime, the senior level engagement can be lowered when there is a higher level of understanding (SDK), established between business and IT.

### **Embedding business staff in IT and vice versa**

In addition, the findings showed that embedding business staff in IT is one of the techniques used in local and central government, to enable the business to establish a better understanding of IT capabilities. It is believed that it will also enable IT to establish a better and deeper understanding of business needs.

Nonetheless, there are also a number of substantial benefits for embedding IT staff in business, including helping IT to learn how to effectively present themselves and communicate in a way that non-IT or business people can understand, in order to establish the SDK required for alignment (the importance of which was described in the previous section). However, some of the data collected have shown that across the organisation there could be some divisions where IT is better embedded than in others. The reason found for this is the lack of awareness and understanding of IT importance, capabilities and value, as discussed previously. One of the respondents from IT in local government mentioned: “I think it’s about having the awareness that IT can add value and that we need to be involved” (T2). This relates to the role of IT or the way IT is involved as a service provider, and not as

a strategic partner in the organisation, which is discussed in more detail in the level of engagement section (4.1.3).

Therefore, SDK between business and IT in central and local government is seen to be more likely to happen when there is consistency by embedding and engaging IT throughout the organisation, and also by embedding business in IT. It is seen that the areas lacking IT involvement and where IT is less well embedded should be targeted in order to create more SDK for alignment. The same is seen with embedding business staff in IT. Levels of business-IT engagement is discussed in more detail next. Another way to increase SDK between business and IT from central and local government is by adopting a network arrangement, explained later in Chapter (7).

To conclude, this section explained that SDK can facilitate communication, and not only the other way around as identified in the literature. It also emphasised the importance of communicating and embedding business staff in IT and vice versa, to create a better understanding of IT capabilities, potential and value. It is believed that it will maximise the return on IT investments and ensure the development of IT arrangements aligned with those of business. It will also enable IT to learn how to better communicate by the use of a language that can be understood by business (common language).

### **4.1.3 Levels of business-IT engagement**

The data have revealed that the benefits of communication do not only include an increased degree of understanding and SDK, but also the establishment of a higher level of engagement between business and IT. As illustrated by one of the interviewees “I think better engagement in terms of the business having a better understanding, and this is as much about IT helping them to understand, where we’re going and the potential that the infrastructure in the future will provide” (T1). This section discusses findings from interviews about levels of business-IT engagement, which are found to be associated with the role and value of IT in an organisation. IT value was also identified by Weiss and Anderson (2004), where the authors showed that the level of business-IT alignment increases with the increase of IT value to the business (Appendix 4). The aspects of IT value covered in this section include: the way IT is viewed as a service provider, the lack of decision-making power held by IT, IT as a supporter and not driver, and IT involvement in meetings and planning.

### **IT as a services provider, and not as an influencer or strategic partner**

An IT senior manager from GDS explained that misalignment can happen when in an organisation IT is viewed as an internal service provider and not a strategic partner. According to the participant, it is only in this situation where organisations have to ask if their IT is aligned with the business, otherwise it is more likely that there is alignment. This will be discussed in more detail in section (4.3.1): *situations where alignment could be irrelevant*, where one of those cases is found to be when business and IT are treated as one entity in the organisation.



In addition, the respondent asserted that this is not the case at GDS, and that IT is considered as a strategic partner. Nonetheless, a respondent from a local council IT department explained otherwise, reporting that their department regards itself as serving the needs of the business and historically to some extent this has been the case for them. It waits for requests from areas of the business, and then it manages the process of changing underlying systems to meet the new needs of the business. It is clear here that IT is considered to be a service provider, and as a result, and in this particular case, BIA is seen to be more relevant and important to be established. IT should be seen as a strategic partner rather than a service provider, as explained by Henderson and Venkatraman (1989), and as reflected in elements of the literature, such as Teo and Ang's (1999) aligning critical success factors CSFs, and Campbell's (2005) aligning variables.

This is one of the instances found where misalignment can happen and where communication can play an important role in its solution. This type of misalignment is located at the strategic level, where IT is not being seen as a strategic partner, lacks decision-making power and the ability to influence (which will be addressed next), and which this research believes results in a less strategic use of IT.

### **Lack of decision-making power held by IT**

As a result of the way that IT has taken the position, whether deliberately or forced, to respond to business needs rather than partnering with or influencing the business, IT often lacks decision-making power. This was explained by a manager from local government IT: “the decision-making power on what system gets bought and why, sits with the directorate

because I think IT see themselves as serving the services rather than seeing themselves as a sort of an equal partner who provides technical knowledge and guidance” (T5).

In addition, participants from IT explained that in their council there are situations where business requests siloed solutions. However, the IT team has found that there is a need for cross cutting or there are similarities between the different areas of the business, and would therefore suggest a common solution, which sometimes causes conflicts with business. This is explained further in the section on a siloed approach to service redesign, section (4.1.6). As also stated by one of the IT professionals interviewed, “potentially because of that very transactional relationship between IT and the rest of the business, IT is in a difficult position in recommending an alternative approach, even though there might strategically be benefits to a different approach” (T6). An interviewee from local government IT also mentioned that there are some conflict situations where the business makes an agreement with an IT supplier without communicating and consulting IT. This thesis finds that this type of transactional relationship between business and IT results in an ineffective use and management of IT, and a lower BIA.

However, one of the interviewees with a professional IT background in central government, added another dimension to this. He explained that IT might sometimes have views that are not necessarily in sync with the rest of the organisation or the business. For instance, the IT team can provide a really good argument for why a certain software might be suitable, however, the business could have a different perspective and a good reason for not purchasing it.

This study has found that there are certain aspects that can only be understood by the employees who are deeply involved and responsible for IT or the task at hand. With this in mind, it is plausible that IT will have the knowledge and capabilities that the business might be lacking to articulate and make decisions on how IT can best support the business strategy. They may also be well placed to decide on the required IT infrastructure and processes that will enable their organisation to perform strategic service redesign at minimum cost.

### **IT as a supporter or enabler and not a driver of business**

Other than IT being viewed as a service provider in some public sector organisations, which is believed to result in a lack of decision-making power for IT, the results of this study indicated that IT is viewed as a supporter and rarely as a driver of the business. As pointed out by one of interviewees from central government business, it is important to know “what acumens do I want to achieve and where can technology help me deliver?”

Nevertheless, based upon the views of most interviewees from business in central and local, IT should always be driven by business and never the other way around. According to one of those participants, “none of us should be led by whatever IT we’ve got, the IT is an enabler” (T3). In addition, there are a number of respondents from IT departments who expressed that IT to an extent is sometimes under-valued in its importance. As stated by one of the programme managers from local government: “sometimes the business can think of IT as an afterthought and when in fact IT is very determinant of what is possible and of

what is happening” (T5). The value of IT to business is a factor that has to be considered for business-IT alignment, as also illustrated by Weiss and Anderson (2004).

As argued in the previous section, there are matters that are best understood by IT rather than business. Therefore, IT should not only be driven by business needs and support, but should also enable it to generate strategic opportunities. In addition, looking at the operational level or the infrastructure domain of Henderson and Venkatraman (1993) Strategic Alignment Model, alignment can happen between IT strategy and IT infrastructure. However, business infrastructure may need to evolve in order to be aligned with the new business opportunities enabled by IT. This type of alignment perspective will allow a more effective use of IT and also enhance innovation in service redesign.

### **IT involvement in meetings and planning**

There are a number of business and IT respondents from central and local government who believe that meetings which involve both the leadership teams from business and IT, are found to be helpful in terms of creating communication by discussing aspects such as, organisation priorities, work stream updates and areas of concern. In these meetings, IT can share and communicate with the business about the issues that they have within IT, or service development, and which are particularly relevant to them.

IT has to be present in the various director meetings, as mentioned by one of the respondents from IT “so they can see us, learn to work with us, know who we are, know

what can be done and so they have a feeling of what can't be done" (T4). It is seen by some of the IT participants, that IT involvement is crucial in any of the discussions that can affect both business and IT outcomes. It is seen by them that it is incorrect to assume that IT is a silo and should only be involved when there is communication about IT, and how it can serve the business needs. According to one of the respondents from business, "everything we do can either be speeded up or slowed down by the IT" (T8). Therefore, IT should be involved in meetings with business, especially when the next big business venture is being discussed. As expressed by one of the IT interviewees, "it is about us being there, being allowed to be in the directorate and having conversations so that we can understand what issues they face, and potentially can advise on how technology can support them going forward" (T9).

In addition, it is seen by a respondent that meetings should not only be restricted to business and IT leaders. He explained that it is essential to invite the right individuals regardless of their position who need to be involved for better quality decisions. It is seen that this will result in a higher level of alignment between business-IT in service redesign. This research also proposes the adoption of a network that will increase the levels of business-IT engagement across UK government, as covered later in Chapter (7).

This research concludes that communication enables a higher level of engagement between business and IT. This section discussed the business-IT engagement, which is found to be mostly associated with the role and value of IT in an organisation. It illustrated that the way IT is viewed as a service provider in some public sector organisations can result in an IT lack of decision-making power. This is related to IT being viewed as a supporter and rarely

as a driver or influencer of the business. It is believed that low level of business-IT engagement results in a less strategic and effective use of IT, and also lower innovation in service redesign. There are other instances where higher engagement increases communication. This is seen to be relevant particularly in engagement in terms of IT involvement in meetings and planning.

#### **4.1.4 Trust between business and IT**

Data gathered have indicated that the lack of IT engagement is connected to a lack of trust in IT by business. The lack of engagement by IT includes the elements discussed in previous section, which include the way IT is viewed as a service provider, the lack of IT decision-making power, IT as a supporter or enabler and not driver, and the lack of IT involvement in meetings.

It is found from interviews that business does not always trust in the capability of IT for effective decision making. As seen in the statement of one of the interviewees from local government business, “it has to be in the context of what works best for the organisation and not in the context of what looks like a nice interesting toy for IT to play with” (T10).

As mentioned earlier, communication is crucial to enable a higher SDK, which includes a better understanding of IT capabilities and potential. Nonetheless, findings reported that there is lack of trust in IT capabilities and potential by business, which is seen from the data

collected to affect the level of IT engagement. A participant from a local district stated that: “the challenge to us business wise is unlocking that potential, convincing them that the potential first of all exists and that it’s worth investing in” (T10). This research study sees that IT needs to communicate with business for a better understanding of IT capabilities and potential, as mentioned in the SDK section, which will result in greater trust and consequently a higher level of IT engagement.

## **Technical / Operational**

This section of the Findings chapter covers the technical / operational alignment enablers which includes: Integration between the strategic and operational level, and standardisation.

### **4.1.5 Integration between the strategic and operational level**

Business-IT alignment is defined by Henderson and Venkatraman (1989), as “the degree of fit and integration between business strategy, IS strategy, business infrastructure, and IS infrastructure”. This section illustrates the level of integration between business and IT strategy with infrastructure, in other words the integration between the strategic and operational level. It is described by Henderson and Venkatraman’s (1993) Strategic Alignment Model (SAM) model as ‘strategic fit’.

## **Keeping pace with business demands and a changing technological environment**

Data collected indicated that in most cases there is a good level of alignment of ideas or thinking between business and IT, but it is more difficult to achieve alignment between strategy, and operations or infrastructure. As mentioned by a senior manager from a central government business department: “often there is a distinction between where ideas are created and where policies and services are executed and delivered to the public” (T8). When referring to Henderson and Venkatraman’s (1993) model, then it means that there is a good level of alignment at the strategic level, however, there are difficulties with alignment at the operational level. A business analyst in local government, stated that in their organisation, the business wanted to provide employees with a function that enables them to work on the move, and to access council systems and data from anywhere with any device. The IT team was perfectly comfortable with that as a principle or as a strategy. However, practically, there were some constraints found such as technical or security related issues. Data gathered showed that the challenges that IT sometimes faces makes it hard for them to deliver or keep up with the aspirations and demands of the business. This therefore can cause misalignment between the strategic and operational level.

Results from interviews have also shown that there are internal and external effects of this type of misalignment. It can affect the organisation internally if the business is frustrated with IT because they are not able to deliver and support the business. On the other hand, externally, misalignment has an adverse impact on the quality of services. An example of this provided by a participant from local government business, is the web mapping of their website, including other functions that were not efficiently developed by IT, and as a result failed to meet customers’ expectations. However, the respondent clarified that in terms of



core services in their organisation, IT is perfectly fit for purpose, suggesting that there is an alignment in terms of strategic integration between strategy and infrastructure for the main services that their council provides. He illustrated that their organisation went through a crisis and were able to recover with little impact on public services because their systems and the data were in a healthy state.

Nonetheless, it was found from the interviews with the IT team in central and local government that most of the time changes in the business plan require rethinking and changing the underlying technology or architecture, and consequently IT can find themselves having to continuously realign. Additionally, an interviewee from central government business indicated that IT ideally should be one step ahead to enable the business to be delivered. However, a participant from IT in a local district stated that making these readjustments and continuously realigning can be both difficult and expensive within the environment they have. It was found from the interviews data analysis that there are cases where the business feels that IT is not delivering, and also at the same time, IT feels a pressure from the business because they don't understand what it takes to make these adjustments.

Misalignment can happen when there is no integration between strategy and infrastructure. The reasons found from the data collected for the lack of integration were found to be when the IT is not responsive, and not able to meet the demands or support the business. This includes when the IT cannot keep pace with the continuously changing business plans or technological environment in the public sector. This type of misalignment is seen by some respondents as not necessarily negative, as will be explained later in section (4.3.2).

## **Decision makers' understanding of public services**

Analysis of data gathered revealed that one of the reasons for the lack of integration between the strategic and operational level is the decision makers' lack of understanding of public services. Decision makers need to have full knowledge and understanding of the services that their organisation is delivering. It is essential to test and assess those services before making any decisions about them in terms of service redesign, so it is seen that services should not only be tested by IT. A senior manager from central government IT stated: "I have people saying, 'I'll make a decision about taxes', but I get somebody else to pay my taxes" (T11). This requires a cultural change, which is seen to be essential in this thesis for an increased business-IT alignment, as discussed in section (4.2.1). This study overall believes there should not be an organisational culture that encourages the separation of business and IT. Other than the importance of decision makers' understanding of public services, it is found that another factor that enables a better integration between the strategic and operational level, is the adoption of an agile approach to service development and redesign, which is explained next.

## **An agile approach to service development and redesign**

Having a transformational and agile culture in service redesign, which encourages strategic-operational integration is found to be of great importance to break the siloed approach to service redesign, as will be discussed next. For example, it stated by one of the interviewees from local government IT that designing services in an agile manner will allow services to be designed faster, and then shared with decision makers for an early assessment. It will

allow IT to show the senior manager teams or decision makers in their organisation how the new service will operate. It is seen that this will allow a better understanding of the service, which could lead to better decision-making about the service, and therefore a higher level of business-IT alignment, especially between the strategic and operational level.

To conclude, alignment at the strategic level is considered to be easier to establish by government organisations than alignment between the strategic and infrastructure or operational level. The reasons found for this are that IT sometimes find it difficult to keep up with the aspirations and demands of the business, and/or cannot keep pace with the continuously changing business plans or technological environment in the public sector. There has an internal effect whereby there is a business-IT misalignment within the organisation, and an external effect on the quality of services. Nonetheless, this section has illustrated that integration between the strategic and operational level can be enhanced by increasing decision makers' understanding of public services, and by adopting an agile approach to service development and redesign.

#### **4.1.6 Standardisation**

Standardisation is considered in this study as one of the enablers of vertical and horizontal alignment in service redesign. As explained by an interviewee from local government when talking about shared services and standardisation in general, "organisations are not in harmony, people are not in harmony, political leadership changes, so it is difficult. I think there is a big opportunity for reusability across local government and between central and

local, but I don't think anyone in that space yet" (T12). This statement shows that the respondent sees that there is a lack of alignment between business and IT from local and central public sector organisations, and that there should be more standardisation in service redesign.

Standardisation can have many meanings and take many forms. This thesis understands standardisation to include using a common IT platform, system, and/or solution for the redesign of services, as well as overcoming the siloed approach to service redesign. It also comprises of the use of data standards and protocols, and service redesign standards, principles and criteria. This section discusses those aspects of standardisation in UK digital service redesign, and how it affects alignment.

### **N-to-1 relationship and standardisation**

In the case of multidimensional, diverse and complex businesses and organisations such as e-government, it can be said that alignment is not a 1-to-1 relationship but rather n-to-1, which is also suggested in previous studies (Silvius, 2007; Reynolds and Yetton, 2015). If we look at this using Henderson and Venkatraman's (1993) Strategic Alignment Model then at the strategic level it means aligning multiple business strategies to a single IT strategy. At the operational level, it means aligning multiple organisational infrastructures and processes to a single IS or IT infrastructure and process. Each business division here in the UK (such as a local authority or government department) will have its own business requirements, but IT requires standards to be cost-effective (Silvius, 2007). The data collected have shown that even if there is a range of business requirements that do not necessarily bear much relationship or similarity with each other, and are coming from departments operating in silos such as the Highways department and the Children's and

Social Care department, it is still important to standardise and there are many benefits to adopting common standards, a common IT platform, system and/or solution for the redesign of services. This will be explained and discussed in detail in the next sections.

### **Siloed approach to service redesign**

It was found that in local and central government, the IT team acknowledges more than business team the importance of developing or adopting cross-organisational platform technologies that fulfil a whole set of requirements, as opposed to having niche products that do one thing for one service area, or a single solution to a single problem. More than one respondent from IT mentioned that there are conflicts that arise because the business wants a silo solution that fulfils a certain requirement without looking at the bigger picture. On the other hand, IT is more concerned with creating shared services, consolidating applications when a requirement or function is delivered in different ways, and with fulfilling the requirements of the whole organisation, than providing silo-based business specific applications. The reason found for this is that IT has more awareness and understanding of the importance of standardising, and how it can reduce duplication and save cost.

However, whilst it is advisable to adopt a strategic approach and not a reactive one to invest in capabilities that will work across the organisation, and which can be reused where there is a similar need, this could be challenging when there are legacy systems that do not allow flexibility. According to one of the interviewees with an opposed opinion to having common digital services, “the array of legacy business systems will also mean that an apparently neat solution of one local digital service will be highly complex” (T9).

Some respondents expressed the need for a single payment gateway to be used across all services, and the need to make some solutions and services available across the whole government sector, including local authorities. An example of this is the identity assurance service (GOV.UK Verify), developed by the Government Digital Service GDS. SOCITM commented on the development of GOV.UK Verify, and also 'government as a platform' GaaP (which both will be covered later): "these developments must not be restricted to government departments and central government services; they must be made freely available for all public services to use" (SOCITM, 2016, p. 9). The data collected showed that without standardising and setting a common approach to service redesign across the local government sector, local authorities will keep redesigning services with little joining up, which is believed to result in a lower level of alignment. A barrier to standardisation is the silo-based systems associated with localism, which is explained in detail in section (4.2.2).

An example of a non-joined approach up to redesigning services, or where a common approach and standardisation is not used, is the practice of "Place Based Commissioning of Services" in local government. It was found from interviews that there are councils that are adopting a "Place Based Commissioning of Services", which means that it will not be using its own people to deliver services. Instead, they will be using other third sector, private sector or partnerships to deliver their services. It was mentioned by respondents that because of this change, there will be a need for a complete realignment of business practices across the UK government.

It is seen that one of the obstacles to standardisation, and to aligning horizontally at a local level, is that each council may have their own planning system. For example, if there are 418 councils procuring or outsourcing their own systems from a range of suppliers, the style and quality of services from each council could, therefore, be varied. Data collected have shown that local authorities sometimes find it difficult to deal with existing vendors and legacy architectures, and see that they should just continue paying existing vendors. The reason found for this is that they do not often have the information, fund, remit, or perhaps expertise to transition from what they have at the moment to what they might want to have in the future in order to create more alignment. According to a participant from central government Business: “I think it’s a case of understanding the scope of work and then creating a transition plan, and roadmap to the future. And yes it’s difficult and time consuming” (T8). This relates to the network arrangement suggested by this research study for more alignment, covered in the discussion Chapter (7). In addition, a participant from the GDS IT team explained that standardisation can be accomplished, however, it requires a lot of new innovative thinking. An example is GOV.UK Verify, which has been developed by GDS, and is being piloted for and shared with local authorities (LAs) to establish a common digital identity service, as is covered later in the GOV.UK Verify case study, section (5.3).

Such procurement from a range of suppliers or vendors is seen to be a barrier to standardisation by GDS also, as stated by a GDS senior manager: “‘Big IT’, I’m referring to a culture of technology outsourcing that took strategy and control with it. Of solutions that didn’t focus on user needs, but often on government needs and (sometimes) supplier needs ahead of the needs of users. Of arrangements that didn’t always result in the best partnerships for government, and that made responding to change much harder than it needed to be” (GDS, 2016). From this statement it can be seen that it affects the

development of citizen-oriented services, and slows down the process of change and transformation in the service redesign required for alignment.

The lack of consistency and cohesion within IT arrangements, and the siloed approach to service redesign in UK local government is, therefore, a barrier to vertical, and horizontal alignment between local authorities, and is believed to have a negative effect on service quality. As stated by GDS when talking about the Digital by Default Service Standards for service redesign “meeting the standard will mean digital services are of a consistently high quality. This includes creating services that are easily improved, safe, secure and fulfil user needs” (GDS, 2017). This is also believed to apply to the type of standardisation discussed in this thesis, and which is seen to be crucial for alignment. The Digital by Default Service Standards are discussed later.

A number of respondents from local government believed that the procurement from a range of suppliers is a barrier to having a common approach to service redesign, and thus is considered to be a barrier of horizontal alignment. In addition to this, there are systems and information structures which are found to be difficult to change because they are tightly integrated. Nevertheless, there are also interviewees who showed that there is a misbelief that technology is inflexible in terms of adapting to different needs. Therefore, it is seen by them that IT is not a barrier (as is further explained in the silo-based systems associated with localism, section (4.2.2)), and that with increasing advancements in technology, standardisation for more horizontal alignment is still possible, even when different systems and technological platforms from different suppliers are adopted. For example, common



service redesign standards can still be used across the UK government even with the technological variations and differences, discussed next.

This section has illustrated the importance of adopting a common approach to service redesign, and the creation and use of shared services for vertical and horizontal alignment in UK service redesign. Findings have indicated that IT acknowledges more than business the importance of adopting cross-organisational platform technologies that fulfil a whole set of requirements, as opposed to having niche products and solutions. Procurement from a range of suppliers is seen to be a barrier to standardisation. This research believes that this lack of standardisation negatively affects the development of citizen-oriented services, the quality of services, and the transformation process in service redesign required for alignment. The next section illustrates the importance of adopting service redesign standards for increasing standardisation.

### **Service redesign standards**

The Digital by Default standard set by the GDS consists of 18 criteria to assess services before they go live on the GOV.UK website ([gov.uk/service-manual/digital-by-default-26-points](https://gov.uk/service-manual/digital-by-default-26-points)). The website, which is managed by the GDS, provides the services of 24 ministerial departments and 331 other agencies and public bodies. However, there are more than 400 local councils providing local services with no clear common service redesign standards. According to GDS, the Digital by Default standard contains some criteria that are not applicable for local government (Rumens, 2016). In the view of the interviewees from GDS, there are standards that "can be applied by an authority but there is no political influence

that says it must be” T15. This is discussed in more detail in the silo-based systems associated with localism, section (4.2.2). However, for departments, it is stated clearly on the GDS website that any departmental service that does not meet the Digital by Default standards will not appear on the GOV.UK website.

In response to this, LocalGov Digital, which is a collaborative network created by government officers and practitioners, has built digital service standards for local government. It operates based on the principle that local agencies should be ‘open by default and digital by design’ (LocalGov Digital, 2016). There are 15 standards “for local authorities to deliver good quality, user centered, value for money, digital services” (LocalGov Digital, 2018), available on their website (<http://localgovdigital.info>). According to LocalGov Digital (2018), the complexities of implementing those standards will vary from one council to another. It was found that Buckinghamshire County Council is one of the councils that have adopted those standards, and LocalGov Digital explained the steps for the adoption of standards that the council has gone through on their website (LocalGov Digital, 2018).

The results of this study have also shown that there is the Local e-Government Standards Body (LeGSB), which is created in 2006, with a mission to develop e-standards for the efficiency, transparency and transformation of local services (iStandUK, 2016). Their e-standards are available on their website (<http://istanduk.org>). These standards are not centrally defined, but are seen to be similar to the one specified by GDS, which is important for alignment.

However, like central government these bodies do not have the political influence to enforce the standards on local government. It is found that a barrier to adopting service redesign standards is the silo-based systems associated with localism, discussed later in section (4.2.2). When asked about standardisation in local government, participants indicated that it depends on the local council's knowledge of standardisation, and awareness of the importance of standardising and adopting common service redesign standards. At the end of Buckinghamshire County Council's standards implementation process it was found that the council has began "running an awareness campaign, so that colleagues know not just that there's a standard, but what help is available to help them meet it" (LocalGov Digital, 2018). This research study sees that this is highly important and that there should be more awareness campaigns, especially in local government, for enhancing standardisation in UK service redesign.

The GOV.UK Service Manual was created to "help government teams create and run great digital services that meet the Digital Service Standard" (GOV.UK, 2018c). One of its initiatives, which is connected to service redesign standards, is found to be the development of consistent 'service design patterns' across the UK government departments. The patterns are created by a 'design community' from across central government organisations ([www.gov.uk/service-manual/communities/design-community](http://www.gov.uk/service-manual/communities/design-community)). These design patterns are being used mainly by central government (e.g., HM Revenue and Customs HMRC, Home Office, and Parliament). According to a Head of design from GDS, these patterns are only being used to some extent in local government. The participant explained that local government will need different design patterns. It is believed by this research that common service redesign standards and consistent 'service design patterns' should be used across

the UK government, and not only in central government. In addition, 'service design patterns' should be designed for local government, the same way service redesign standards were designed by the Local e-Government Standards Body (LeGSB), and LocalGov Digital to be used across local authorities (LAs).

To sum up, service redesign standards and also common service design patterns are found to be important to increase the standardisation required for horizontal and vertical alignment in service redesign. The next section discusses the use of a common IT platform such as 'government as a platform' to facilitate a common approach in service redesign.

### **Government as a platform**

The next question that this thesis addresses is whether the solution to the siloed approach to service redesign is to provide a common IT platform across the public sector, such as 'government as a platform' GaaP. 'Government as a platform' is defined by O'Reilly (2010) as "a common core infrastructure of shared digital systems, technology and processes on which it's easy to build brilliant, user-centric government services" (Bracken, 2015).

The findings of this study have demonstrated that a national solution like 'government as a platform' is not achievable from the perspective of some of the interviewees from local government. A programme director in local government explained that "if you try to solve the whole thing nationally you'll never make progress" (T6). Those respondents from local government expressed the need for a few templates, guidance and support, and not a

common national solution. This links to the section on *Cultural change (resistance and fear of change)*, which is discussed in relation to barriers to standardisation later.

It is believed by some respondents from local government that 'government as a platform' is not feasible for local government because it is autonomous, and according to them the words coming from central government are actually about more devolution of powers and responsibilities to local government and not more centralisation. From their perspective, the use of a common IT platform, such as 'government as a platform' GaaP in local government will reduce autonomy and increase centralisation. Therefore another barrier is the silo-based systems associated with localism, which is discussed later. This relates to the importance of establishing a balance between standardisation and uniqueness, which, again, is addressed later. Nevertheless, participants from central government stated that 'government as a platform' will still allow LAs to meet local needs and deliver unique services. An IT participant from GDS illustrated this view: "it's still going to be up to the autonomy to do what they like. It just means that they're getting certain things done in a more standardised way, probably cheaper and more efficiently" (T7). Therefore, it is seen that there is a lack of understanding and uncertainty about the use of 'government as a platform', and that there should be more information communicated to local government.

Other common platforms in UK e-government include: [GOV.UK](https://www.gov.uk) and [GOV.UK Verify](https://www.gov.uk/verify). It is also mentioned in the UK's digital strategy (2016) that "the creation of GOV.UK began a transformation of the way the public interacts with government. Common platforms enable simplified journeys designed around the user rather than journeys designed around the silos

of government departments” (Home Office, 2016). These platforms were developed with open standards (Open Standards Principles, 2015), illustrated later in this chapter.

Data gathered from GDS have shown that there is a new service, which is an employee digital identity being developed and run on ‘government as a platform’ to be used across local government. The service is similar to GOV.UK Verify, which is explained in the GOV.UK Verify case study (6.3), but for employees. It was found that there is a need for a consistent way to check employees’ identity in local government, specifically, because there are employees who move from one public sector organisation to another. An interviewee involved with standardisation from GDS added that it is “an example of where across local government, they have a business issue around making sure that the people they’re employing are actually the people they say they are. And they don’t necessarily have the money to do that, themselves” (T7). The findings reported that there has been a great interest from local government in improving the identity check for self-employees, and they are supporting the development of this service.

To summarise, there are two main barriers to the use of a common IT platform such as ‘government as a platform’ across the local public sector: (1) cultural change (resistance and fear of change), and (2) silo-based systems associated with localism, as will be discussed later. To address the second barrier, it is believed that it is important to establish a balance between standardisation and uniqueness, which is addressed later, as well as to increase understanding of the use of ‘government as a platform’, which can be achieved by communication. Next, the creation and use of a common local platform such as the Local.Gov.UK website and local GDS for increasing standardisation is examined.

## **A common local government platform**

Since a common platform for central government already exists in the form of the GOV.UK website developed by Government Digital Service (GDS), there has been a discussion online between the people involved in local government and digital service redesign about having a Local.Gov.UK website and a local GDS (Bytherye.com, 2014). In this case, each local authority will have an elected representative who will make decisions based on local needs and priorities. However, there are people from local government who strongly believe that a shared digital platform for local government is not possible because central government operates differently from local government. As mentioned by one of the interviewees from a local government IT team, who commented on having a local GDS, “local government is not the same thing as central government. That’s not to say that we shouldn’t be looking to share services and to do our work as efficiently as possible” (T9). It is seen that having a shared common digital platform for local government is very challenging, and that there should be a shift in focus to having more shared services. According to a participant from local government IT, with an experience of creating shared services across two councils, “I think it’s easy to understate the complexity involved in making shared services succeed. A shared digital platform across several hundred councils would be enormously challenging” (T9). The number of nodes (organisations, departments and divisions) involved in the redesign of UK public services, and the complexity of this will be discussed in more detail in *Network for alignment* covered in discussion Chapter (7).

A participant from central government IT explained that central government is making moves to share more through the use of a single platform, GOV.UK. However, from his point of view, "there is less need for local government to have a single platform because citizens will need to interact with their own local government, not with other local governments because they don't live in those areas" (T14). In addition, some respondents mentioned that it is significantly difficult to unify or unite local governments, because of their political and administrative uniqueness, as well as their functional and responsibility differences. This is the same reason for local government's reluctance to adopt a common national platform (e.g., 'government as a platform'), covered previously. This is considered to be an aspect of the silo-based systems associated with localism, which will be discussed later (5.2.2). Others have argued that this should not be seen as a barrier, and there should be a focus on the similarities between local authorities rather than the differences.

A barrier to using a common IT platform expressed by one of the interviewees is the difficulty of putting data located in silos, with different applications, in a single database that can be interrogated by multiple partners. Another difficulty reported is retrieving information, and identifying, for example, who the individual citizen is and what their requirements are. As one government White Paper notes: "the data government holds is often locked into inflexible IT systems and retrieving the data is frequently a costly exercise requiring a detailed business case or contractual amendments" (HM government, 2012, p. 18). The suggested solution by the Cabinet Office for this at that time, was to ensure that government departments adopt more flexible IT contracts, which allow for easier access to data (ibid). Similarly, it is thought by this research study that the same should be applied in local government.



However, another concern about using a common local government platform articulated by some respondents is data security and safety. Several of them pointed out that making data easier to share and access will present a number of data security and protection related risks. This aspect is found to be one of the main concerns of government departments, as stated in the Open Data White Paper by HM government (2012): “despite the protections offered by existing legislation and regulation, and guidance produced by the Information Commissioner’s Office (ICO), there remains public concern that ill-thought-through transparency can erode trust and compromise privacy” (ibid. p. 32).

In conclusion, like the use of a common platform such as ‘government as a platform’, a barrier to the use of common local platforms such as the Local.Gov.UK website and local GDS, is silo-based systems associated with localism (explained later in section (4.2.2)). The complexity resulting from the number of nodes (organisations, departments and divisions) involved in service redesign, was one of the concerns expressed by interviewees and is thought to make the adoption of shared services and common platforms more challenging. Another concern was data security and safety. Nonetheless, common platforms or systems should be developed with an underpinning set of open standards and data. The following section looks at Open Standards Principles, for increasing the standardisation required for alignment.

## Common open data standards

Data collected for this thesis suggests that data standards and “speaking the same language” (LDC, 2016f) are important to achieve alignment in service redesign. An IT respondent from central government stated that: “common standards are vital, it’s all about standards, but those standards need to be open standards” (T11). Another participant from local government IT explained that “a big issue is data integrity, and data not talking to each other .... (which is important) from a business intelligence point of view” (T19). This section will focus on aspects related to the adoption of open data standards and its influence on alignment in service redesign.

A Chief Digital and Information Officer from central government explained that his organisation holds the most data of all the government agencies and stated that they are in the middle of the digital transformation journey planned by their organisation. The interviewee emphasised the use of open data standards by mentioning that “data is at the heart of it, it’s everything for us, and it’s all about what you can do with the data” (T13).

It was mentioned by some respondents that local government should focus more on standardisation in the exchange and sharing of data and attributes. One of those participants from central government who is involved with standardisation, explained that it should include the technical protocols of how data is shared and orchestrated between different organisations. The Local Digital Coalition (LDC) argues that data standardisation will enable government agencies’ employees, systems, partners and suppliers involved in service redesign and transformation to have “a common understanding of the information they are

dealing with, and are able to pass this information around and use it without having to explain or re-format anything” (LDC, 2016f). Details of the LDC, and the aim of the coalition, is covered later in the LDC case study, section (5.1).

One of the benefits of open data mentioned in the Open Data white paper (HM Government, 2012, p. 8), is that it will make data more “accessible, digital machine readable, and free of restriction on use or redistribution”. It also means that there will be a transparent system where services are open to everyone, allowing competition and innovation to thrive (ibid). It can, therefore, be argued that common open data standards will enable a higher level of alignment in service redesign.

The Open Standards Principles - which are intended to support “software interoperability, data and document formats in government IT specifications” - are set out in the Open Standards Principles policy paper by the Cabinet Office (2018). They are adopted by central government departments and agencies, and also non-departmental public bodies (NDPBs). The principles aim to guide the implementation of open standards by those government organisations, and are aligned with the UK’s open data, transformation, and digital strategies (ibid). However, open data is not yet fully adopted by all local government organisations, and this can negatively influence vertical and horizontal alignment. This is also the case with Digital by Default standards, which are mainly applied in central government (Cabinet office and GDS, 2013). It is stated in the Open Standards Principles policy paper that: “all government departments and agencies will use these principles. The government also encourages local government, the wider public sector and devolved administrations to adopt these principles” (Cabinet Office, 2018). However, the data collected for this thesis indicates

that one of the reasons for not adopting open data standards is legacy systems. One interviewee from local government IT stated that “you can’t always use open data standards because there are legacy systems that don’t support it” (T18).

Nonetheless, building a common and agreed data standard was considered a priority and its importance is highlighted in the Local Digital Coalition LDC action plan (LDC, 2016, p. 1). According to the LDC (2016f), changing data standards could have a substantial impact on local government digital changes, which will in turn have huge financial advantages. One of the LDC projects, which the coalition has used to test their data standards, is the Local Waste Service Standards Project. The reason for choosing this project in particular is that most contacts in local government are from customers inquiring about waste collection and management. These contacts do not involve sensitive personal data, and therefore it is seen by the LDC to be a suitable project for testing the design standards.

The LDC developed a business case, which mainly focused on data standards and protocols, and made it available for LAs to use and learn from. According to the LDC (2016f), one of the main benefits of having data standards is that it is “essential for enabling better systems integration, which in turn leads to more successful and sustainable channel shift”. In this statement, LDC showed that one of the outcomes of data standardisation is *systems integration*, which will help minimise the siloed approach to service redesign, identified previously. This research study finds that it is also crucial for creating organisational partnerships and collaborations. Data gathered reported that having a common language will enable systems to communicate digitally, and will allow automated communication via “APIs” (Application Programming Interfaces). It can therefore be concluded that open data

standards are an important element of standardisation, which increases alignment in service redesign.

In addition, standardisation of data was highlighted in the UK's 2016 digital strategy. The strategy states that "innovation in how we standardise, share, secure, and manage data will help set the direction for business change and underpin departmental transformation. It will help to shape our decisions on the business capabilities we need to invest in and direct the innovation we want in refreshing and purchasing new technology" (Home Office, 2016). This reinforces the assertion that establishing alignment by enhancing the standardisation of data across the UK will lead to better management of government IT, and increase innovation and quality in digital service redesign.

To conclude this section, standardising by adopting common open data standards can facilitate more alignment by allowing for a common language and understanding to be established between government agencies. It is thought that it can enable systems to integrate and communicate, facilitate the exchange of data without reformatting, and make partnerships and collaborations easier to create.

### **A balance between standardisation and uniqueness**

This research study, based on findings from interviews, suggests that government agencies should aim to standardise as much as possible, to save cost and ensure an efficient use of resources. This should minimise duplications, which will in turn reduce applications, and

therefore reduce the cost of maintenance and support. It is also mentioned by a respondent from IT that in the public sector there is no element of competitiveness as in the private or commercial sector, and thus services can be highly commoditised, which means that there is no great need to develop services that are unique for competitiveness reasons. Rather, the priority should be efficiently meeting local needs.

However, while standardisation is advised to save cost, Silvius's (2007) study revealed that there is a delicate balance between central IT standardisation and decentralised uniqueness. This means that an organisation may not be able to establish alignment, or may lose uniqueness, while attempting to save cost. This is because some organisations cannot standardise in order to achieve more alignment because there is a cost to standardisation, as explained next. Uniqueness can be lost when there is standardisation to save cost without maintaining a balance between standardisation and uniqueness. An interviewee from local government IT noted in this regard that standardisation will restrict innovation: “a local approach means that we can test out new ideas at a manageable scale, and provide an environment to incubate new ways of delivering services. Variety can be a strength” (T30). While some interviewees believe that standardisation is crucial for alignment and to save cost, others fear that it will restrict innovation and originality. Therefore, a balance is seen to be crucial between the two. Additionally, it is important to note that developing services that are unique may not only create misalignment because it is the opposite to standardisation, but also can be expensive. On this issue, a respondent from local government IT highlighted that the focus on developing commoditised services will allow government agencies to be more cost efficient.

One way to maintain or enable this balance is by *communication*. It was found by a senior manager in central government, that when talking to local authorities about standardisation the response usually is “we have unique needs and therefore we need to have a more detailed conversation, we need to bring our architecture and show it to you and give you all these reasons why it can’t work or it doesn’t work, or it’s better this way” (T8). A more developed form of communication is therefore needed in order to allow local organisations to establish a balance between standardisation and uniqueness. However, some participants reported that such conversations can be slow and they would therefore prefer to avoid them.

However, it is important to move beyond communication, to performing action and creating the change required for alignment. This is highlighted by a participant from GDS who stated that: “you want to make sure that you are listening to people and you’re giving the correct opportunities for engagement, but you also want to actually achieve something in terms of change” (T14). This is a concern for some of the interviewees, as often communication is not followed by concrete action in the public sector. As stated by a senior manager in central government: “people are very capable of slowing the conversation down to such a point that you actually never begin the process of getting rid of what is there, in terms of legacy technology or legacy processes, and replacing it with things that are faster, better, simpler and standardised” (T8). As a result, communication that bogs participants or (people) down in the public sector negatively impacts standardisation.

In addition, as mentioned previously, UK government - given the range of bodies involved - is considered to be a complex and diverse organisation. The significance of this is reflected in the work of Reynolds and Yetton (2015), when discussing the lack of studies that consider the complexity of alignment in multi-business organizations (MBOs); citing Ciborra (1997, p. 69) they note: “overly simplified models do not reflect the ‘intricacies of real business processes and behaviours, which in the meantime [in practice] have become even more complicated’. The solution the authors suggest is to consider and identify the different needs of strategic business units (SBUs) and their unique IT capabilities. In order to manage complexity, they say, co-ordination is required between both levels - SBUs and corporate - where SBUs need to use both corporate and their unique SBU capabilities to create value (Reynolds and Yetton, 2015). This suggests that local authorities standardise with some flexibility, allowing tailoring and personalisation depending on different local council needs. Nevertheless, data analysis has shown that there are a number of benefits to standardisation at the back end (e.g., open data), rather than at the front end, which will be explained later.

An interviewee from GDS who is involved with standardisation - when asked about standardisation in local government - stated that it depends on the type of digital service. There are services that require local delivery and therefore have to be unique. There are also common digital services across local authorities, such as digital identity, resulting in GOV.UK Verify, which was developed by GDS and has been shared and piloted for LAs to reuse. Further details on this will be included in the GOV.UK Verify case study (6.3). The same respondent explained that “depending on the scenario and on the digital service, there might be opportunities for things to be done more consistently or for things to be done in a



slightly different way” (T7). This also depends on the business case, the benefits and the cost of running a service, which will be discussed in the next section.

In conclusion, as mentioned previously, one of the barriers to standardisation is silo-based systems associated with localism, which is covered in detail later in section (4.2.2). This is mainly because it is seen that standardisation restricts personalisation depending on different local council needs, and also restricts innovation. Therefore, maintaining a balance between standardisation and uniqueness is seen to be crucial. This is to allow local authorities (LAs) to standardise for more alignment whilst at the same time maintaining the ability to tailor to and meet local needs. This research study finds that this balance can be enabled by establishing *communication*.

### **Cost of standardisation**

It is thought by respondents from local government IT that even if there is an expectation from central government for local councils to adopt common standards, and/or a common IT platform, system and solution for the delivery and redesign of services - either those centrally defined or defined by other bodies (e.g., LocalGov Digital) - it may not necessarily be beneficial. Some respondents explained that when looking at a business case (e.g., for an IT platform or solution), which is already being used in central government and has many benefits, including cost effectiveness, it is found that when applied in local government, it might not be equally advantageous, particularly in terms of cost. This may be the case sometimes because a local authority could be using an IT solution that is specifically designed to meet their needs. A participant from a local authority IT department highlighted

the importance of cost effectiveness in local authorities by stating that “if central government can give us a nice demonstrable working platform that is cost effective for us then I’d be the first to recommend it” (T2). Therefore, as argued by these participants, it is crucial for local government to consider the cost of standardisation. The importance of demonstrating practical benefits from a cost perspectives will be discussed in detail in *Mandating standardisation in UK public service redesign*.

In the cases mentioned above, the informants reported that there is a financial barrier to standardisation, specifically in local government. As stated by an interviewee from GDS when talking about standardisation, “those sorts of things might cost quite a lot of money. So there might be some upfront costs and then downstream production costs, but where do you get the money from for the upfront costs?” (T7). In addition, certain respondents from central government mentioned that in local government there is sometimes an over-reliance on very large vendors and outsourcing, and GDS is trying to show that there are opportunities to work with smaller companies, or even to develop in-house instead of outsourcing, to save cost. However, it was also argued that local government sometimes signs massive contracts with large vendors not only to save cost, but because it can be easier, or as mentioned by a senior manager from GDS “sometimes it is because of lack of skills, or confidence” (T8).

However, one interviewee from local government IT suggested that it is possible to minimise the cost of standardisation by economies of scale, and sharing, or by establishing collaboration and partnership, as explained earlier.

In summary, whilst a view echoed by several informants is that there should be more standardisation to increase alignment, others have argued that there is a cost of standardisation that must be considered, specifically in local government. The next part of this standardisation section will demonstrate the overall level of vertical and horizontal standardisation in UK service redesign.

### **Levels of vertical and horizontal standardisation**

The data gathered have indicated that standardisation is key for establishing vertical and horizontal alignment. The aspects of standardisation that could be argued to positively influence alignment, and were covered previously, include adopting a common approach to service redesign, service redesign standards, common open data standards, and the use of common platforms such as ('government as a platform' GaaP) to build and run services on. In terms of creating more standardisation and shared services in the public sector, a Head of ICT Business Delivery in local government stated that "there've been various attempts and I think they've been to a certain extent positive attempts, but they have been just attempts" (T4). This section will cover some of those attempts and the means used to create vertical and horizontal standardisation in UK service redesign.

An interesting finding from interviews was that for standardisation in central government, there are cross-government groups looking at different elements of standardisation, such as data standards, attribute standards, security standards, digital identity standards, biometric

standards, and document scanning standards for digital services. These are all coordinated by GDS and the Cabinet Office. In these groups, there are also representatives from different organisations in central government, and only a few representatives of local government.

According to one of the interviewees from central government IT, local government in the UK has various working groups but they are only looking at standards that would be of use to local government. For example, as mentioned previously, there is LocalGov Digital (LocalGov Digital, 2016), and the Local e-Government Standards Body (LeGSB) (iStandUK, 2016). The same is happening in central government, where there are groups responsible for the development of data standards, process standards and technical standards. The same interviewee commented that for establishing vertical and horizontal standardisation, there is sharing between these groups in local and central government. Additionally, there are also subject matter experts working in local and central government, who are cooperating with the private sector to try to understand the new innovative approaches available for standardisation, and to stay up to date with the standards community. The respondent explained that after learning about methods of standardisation that could be useful, they are then applied in local and central government. Having groups concerned with standardisation in central and local government was viewed by interviewees to be important for increasing standardisation. However, further analysis showed that there is a lack of communication, and knowledge exchange and transfer, between these groups, and the private sector, regarding standardisation. This leads to and supports what this research is suggesting, which is need for the adoption of a network arrangement that facilitates communication for increasing alignment, as is explained in detail in the discussion Chapter (7).

Some interviewees described the pace at which standards are being adopted in the public sector as slow. An interviewee from local government IT explained that the reason for this is that increasing vertical and horizontal standardisation is considered to be a significantly complex undertaking, and therefore there is a lack of clarity around it. A number of participants from local government put this down to a lack of guidance and support from central government. This will be discussed in detail in the next section: *Mandating standardisation in UK public service redesign*. Communicating best practice was covered in section (4.1.1).

Nevertheless, some participants commented that it is mostly down to the willingness of local government organisations to create connections, and to communicate and exchange knowledge and learning about standards. In order for local government organisations to be aligned with national or central government standards, some local authorities have staff plugged into, or connected to, the two organisations at the centre of digital planning and implementation in government: the Cabinet Office and GDS. The same is true of other local authorities for horizontal standardisation. These links and relationships were created by attending meetings and forums and by ensuring that information and knowledge are exchanged. Therefore, vertical and horizontal standardisation is found to be aided by informal mechanisms, such as external networking forums or reactive informal networking. Nonetheless, there are also other tools used for exchanging information for standardisation, as illustrated by an interviewee from central IT: “there’s improvements in how we can interoperate and share information. And there’s definitely not just the actual working groups, meetings and workshops but also, we’re using collaborative tools to share information and

ideas” (T7). Information relating to standardisation is also published and made available on the GDS blog (<https://gds.blog.gov.uk/about/>), as indicated in the *communication* section.

It was explained by one of the participants from a local district that it is completely their responsibility to keep up to date on all the central government and local council plans, and where it is statutory they have to comply. An example provided by the respondents, is that their organisation has to be Public Services Network (PSN) compliant. Local authorities have to apply for a PSN connection compliance certificate and meet PSN connection requirements (Cabinet Office, 2016). However, these requirements are concerned with the protection and prevention of any security issues and not with standardisation (Cabinet Office, 2016).

The services government organisations and councils consume, and the services the private sector provide to public sector organisations, have to be Public Services Network PSN-compliant. Otherwise, these organisations are not allowed to interact and link with the PSN and to others connected to it, or to share information and services. For instance, if a private sector company wants to provide IT solutions or services to PSN customers, it has to first comply with the connection compliance requirements, which are designed to protect and secure the PSN network, before they can access the PSN.

One of the participants from local government IT explained that there are other situations of course where it is not statutory, unlike being PSN-compliant, and where they are only told ‘we urge you to do this’. An example is the use of Digital by Default standards. However,

according to the interviewee, most of the time, and after assessing these statutes, they find that there are good reasons for them to comply, and it helps with creating more alignment.

In addition, while a number of interviewees said that it is certainly important to standardise for alignment, a different view was provided by one interviewee from a local council business department. According to him, there is no need to standardise to align with central government, and in his own words “it has no impact on their organisation whatsoever” (T10). In terms of horizontal standardisation - which is standardisation with other local authorities - he explained that the local council’s procurement plan, where they are sourcing from a range of suppliers, makes standardisation for alignment impossible nor required. As mentioned previously (in the *Siloed approach to service redesign*) section (4.1.6), this study indeed sees that outsourcing from a range of suppliers makes standardisation challenging, however, it certainly does not mean that it makes standardisation for alignment irrelevant or required. The barriers to standardisation, which include cultural change and silo-based systems associated with localism, will be covered later in *Alignment inhibitors in UK service redesign*, section (4.2).

From the perspective of some participants, contracts with vendors should be designed in such a way that local authorities are asking for a capability and outcome to be delivered, rather than asking for a specific technical specification. This is similar to what has been mentioned previously in communication between business and IT, where the business has to communicate a requirement and not request a specific technical solution. In addition, local councils have to make clear in such contracts that the outcomes they require may change depending on security, usability or demographic issues. According to an IT interviewee from

GDS, this is “a way to make sure we’re locked-in with a certain vendor, and not locked-in with certain technical specifications” (T7). This was thought by those interviewees to be an important aspect for creating more vertical and horizontal standardisation.

The results of the study have also shown that some participants from local government believe that central government organisations are more aware of the importance of standardisation than local government; but equally, a number of respondents from local government stated that in fact the level of standardisation in local government is higher than in central government. Central government is considered to be the centre of best practice, and this will be elaborated upon in the next section. However, as explained by a respondent from central government, “even though we have issued best practice, we were in a situation in the Cabinet Office where we don’t have everybody working off the same standardised equipment, off the same design pattern in terms of the devices we use” (T8). The participants indicated that this creates challenges, specifically, in terms of rapidly and easily exchanging information and ideas, which is considered to be important for business-IT alignment.

A respondent involved with standardisation and service redesign from central government commented that “I think there’s been a more significant push and more motivation from local government than central government, to work more effectively together and think about standardised ways of delivering digital services” (T14). Conversely, a participant from central government stated that local authorities have more interest in standardisation. The reason given for this is that local authorities have to interact with a number of organisations. For example, if they are dealing with the use of parking permits service then they have to



interact with the Department for Work and Pensions, which is a central government department. Whereas, central government departments, such as HM Revenue and Customs (HMRC), are more focused on providing services their own way without necessarily interacting with local government. The respondent explained that in local government, “it’s easier to think about things in a more standardised way, because you’re working with multiple different organisations, services, stakeholders and actors” (T15).

It is also the case that the public interacts with local government much more frequently than they interact with central government. For example, UK citizens have to pay their tax once a year, but have to pay their council tax every month. Another important point is that local government provides more than 700 services, which is more than central government provides (Local Government Group, 2010). Therefore, it is crucial to standardise in local government, and also to have a standardised method for citizens to prove their identity and to obtain a digital identity to interact with local government, as is covered in detail in the GOV.UK Verify case study.

Another view echoed by some respondents is that local authorities are smaller in size than central government departments, and are therefore more capable of standardising. Local government budgets are also much lower, and are operating under significant financial cuts and pressures and, therefore, it is thought by some participants that local authorities more than any other government organisations, have to redesign services in a standardised manner, and by sharing ideas and resources. As one participant from a local authority IT illustrated: “there’s a lot of cost that local government has been impacted by historically” (T2). The incentives for local government standardisation therefore include cost and

resource saving, along with maximizing the return on their IT investments. As stated by an IT participant from central government “local government should be more inclined to make better use of their investments, rather than creating 50 different bespoke ways of doing the same thing” (T7).

However, a small number of respondents from local government alluded to the fact that the driver, specifically for local government, should be establishing standardisation at the back end - for example, by the use of open data, which is covered in section (4.1.6), and cloud computing. One informant reported that “standardisation at the back end already occurs, but not enough” (T16).

In conclusion, the findings discussed in this section showed that not only are participants from IT more aware of the importance of standardisation than participants from business, but also that there is more motivation and interest in standardisation in local government compared to central government. The reasons provided for this included that local government provides services and interacts with the public to a greater extent than central government. Local government organisations are, moreover, smaller in size and therefore more capable of standardising. In addition, the majority of participants from local government agreed that they should be provided with more guidance and support for standardisation and demonstration of best practices, by central government. This study finds that standardisation - specifically, the use of a common service redesign standards - and common open data standards, should be adopted by government organisations for more alignment in service redesign. Mandating those standards to be used across the UK government is discussed next.

## **Mandating standardisation in UK public service redesign**

The Cabinet Office delivers many of its IT-related services through GDS, which is considered to be a lead organisation and at the forefront when it comes to digital transformation, and service redesign standards, frameworks and approaches. An IT senior manager from GDS commented with respect to this that “we are the centre of good practice across government. So, our job is to capture and disseminate the best way in which to design services or to deliver services, and to codify that in a way that is scalable” (T8). The participant explained that this is achieved through their service manual, service redesign standards, technology controls (e.g., Technology Code of Practice), and many of the published standardisation tools that allow civil servants in central and local government to self-serve good and best practice. The Technology Code of Practice is concerned with “creating a common and secure IT infrastructure based on a suite of agreed, open standards” (Open Standards Principles, 2015). The provision of common open data standards has previously been considered.

Another IT participant from GDS explained that “a lot of my role is to help support improvements of standardisation” (T7). This includes providing support related to, for example, technical protocols, data standards, and Application Programming Interfaces (APIs). Nonetheless, an example and further details of the support and guidance provided by GDS to local authorities (LAs) for the creation and use of common services, and integration of GOV.UK Verify with their services, will be included in the GOV.UK Verify case study, section (5.3). The case study also explains how GDS were able to identify common

support needs and knowledge gaps among local authorities involved in the Verify Local pilot, and how, based on that information, they tried to enhance the support provided to them.

According to an interviewee from central government IT, GDS has a responsibility and accountability for helping with standardisation across central and local government. However, while GDS is considered to be the centre of good practice, some respondents from local government, as mentioned in previous section, still feel that there is a lack of guidance and support for standardisation, and communication of best practices from central government, as covered in section (4.1.1). A Head of ICT Business Delivery in local government commented, when talking about standardisation, “I don’t necessarily think they’re being driven enough from the top, from the Cabinet Office, who are supposedly telling us what we should and shouldn’t be doing” (T4). Therefore, these findings suggest that there should be more good practice, guidance and support provided by central government targeted to local government in order to establish more standardisation. As also mentioned by a director from central government, what is required in his opinion is “a strong central authority that is empowered to say what good looks like, because the reality is you are very often working in an environment where people do not know what good looks like” (T8). From the perspective of one interviewee, this can enable cultural change (Resistance and fear of change), which is considered to be a barrier to standardisation, as is discussed later in *Alignment inhibitors in UK service redesign*, section (4.2).

Nevertheless, respondents have repeatedly highlighted that when standardising it is important to consider cost effectiveness, as mentioned previously in the *Cost of standardisation*, as part of section (4.1.6). It can thus be suggested that a key approach for

creating more standardisation for alignment is by demonstrating practical benefits, which also generally should come from a cost perspective, and from organisations being able to operate more efficiently, particularly in the current economic environment where the pressure is on cost reduction, and controlling spending on public services.

It was suggested by an interviewee from local government IT that a way to create more standardisation for alignment in central and local government is by mandating and making those service redesign practices statutory across the UK government. However, a barrier to this is cultural change (Resistance and fear of change), which is covered later in section (4.2.1). As mentioned by a head of IT from local government: “I doubt that central government can impose something like government as a platform, unless they actually mandate it and then I think they’d get a lot of resistance” (T2).

There is also a concern about whose authority it should be to mandate these standards, and what the standards should be. Another participant from GDS stated that, “the challenge you have most of the time in government is who is the authority that everyone else has to redirect their commercial processes, their procurement processes, their policy development processes, their financial processes, around” (T15). It is seen that there are a number of sovereign entities, police forces, National Health Service (NHS), Fire services and also local authorities, and so the challenge lies in determining to whom those services should be mandated. LocalGov Digital (2018) provided an example of a local council adoption and implementation of digital service standards. It illustrated that Buckinghamshire County Council, when adopting service redesign standards, has avoided asking questions such as “who would enforce the standard? Who would it apply to (and who would it not)? What would

happen if it wasn't met?" (ibid). The council focused on simplifying the process of service redesign standards adoption, and as mentioned by LocalGov Digital (2018) "they were clear there was lots they didn't know. They said we'd learn on the job. And that was enough."

Furthermore, it was stated by a senior manager in GDS that "GDS has had a mandate to uphold standards for digital services, and we shall continue to do that. We are allowed to direct things. We are allowed to say that some things should be stopped when they're not being done the right way" (GDS, 2016). An interviewee involved with standardisation from central government also expressed the view that "part of the GDS' remit is to drive the digital agenda, service standards and standardisation where appropriate, and drive some of the other kind of linked goals, like open data standards" (T7). While it is seen by some respondents that GDS is the lead organisation in service redesign, and should therefore mandate the standards developed by them across the UK government, there are others who believe that this is not possible because of the silo-based systems associated with localism, as is discussed in detail later in section (4.2.2).

In summary, according to the data discussed in this section, it can be inferred that there should be more guidance and support for standardisation, communication of best practices, and also demonstration of practical benefits from a cost and efficiency perspective, targeted to local government.

## **Intellectual / Strategic**

This section covers the intellectual and strategic factors pertaining to alignment found in the data collected. It illustrates the lack of strategic thinking and planning, the way business is viewed as the “formulator” and IT as the “implementer” of strategy, and the differences in terminologies used by interviewees to describe business and IT strategies. Lastly the UK’s digital and transformation strategies are briefly described.

#### **4.1.7 Strategic thinking and planning**

The results of this study have shown that the development of strategies, and strategic thinking and planning are considered to be a weakness in many public sector organisations, specifically in local government. The lack of clearly defined strategic plans, or business and IT strategies, is seen to negatively impact business-IT alignment, and can make alignment very challenging; some interviewees even felt that it makes alignment irrelevant, as discussed later in detail in the *Lack of clearly defined strategic plans*, as part of the *Cases where alignment could be irrelevant*, section (4.3.1). The lack of clearly defined strategic planning is seen to be caused by a lack of strategic thinking in the public sector, as will be explained next.

Mintzberg (1994), stated that organisations, before they start their strategy making process, must understand the difference between strategic planning and strategic thinking. According to the author, strategic planning is “strategic programming, the articulation and elaboration of strategies, or visions, that already exists” (Mintzberg, 1994, p.1). On the other hand, strategic thinking is the process of capturing what the manager learns and synthesising that

knowledge into a vision that the business should pursue (ibid.). Furthermore, the author added that most of the time strategic planning ruins strategic thinking. It is found that in order for strategies to be successful and well developed, it has to include “visions, not plans” (Mintzberg, 1994, p. 1). Therefore, it can be argued that when developing strategic plans public sector organisations should start with strategic thinking and having a vision.

#### **4.1.8 Strategy formulation and implementation**

As mentioned previously, there are differences in the way strategies are created or formed by organisations. Nevertheless, in business-IT alignment, and by referring to Henderson and Venkatraman’s (1993) Strategic Alignment Model (SAM), it is important to understand who is formulating the strategies and who is implementing them. As already illustrated, the results of this study have revealed that the interviewees mostly have a classical view of alignment, where IT is an implementer, and is rarely seen as an influencer or driver of the business strategy. In this classical view, the business is the driver of both the organisational and the Information Systems infrastructures, and in most cases is the main formulator of the business and also digital and transformation strategy, whereas IT is the achiever of the business objectives (Appendix 2, Perspective 1). The importance of IT involvement in strategic planning, and how their role and contribution are articulated in public sector organisations, were examined in *Levels of Business-IT engagement, IT involvement in meetings and planning*, section (4.1.3).



Contrary to this classical perspective on alignment, where business is the driver and formulator of the strategy, the role of IT in e-government literature as covered in Chapter (2), assumes that IT has all the answers for many public sector problems. Helbig et al. (2009) moreover note that even the benefits and gains that IT brings are presumed to happen almost naturally and automatically. IT technologies are thought to be “the reasons for embracing e-government as a means of reforming public management and contributing to broader policy objectives” (Ho, 2002; OCDE, 2003, p. 28). However, findings from the interviews suggest that IT does not necessarily have all the answers, and at the same it is crucial that it is viewed as a strategic partner and not only as an implementer, and that it is more involved in the process of strategic thinking and planning, and strategy formulation for an increased alignment.

### **Terminologies used to describe business and IT strategies**

Other than the lack of strategic thinking and planning, another important finding expressed by some interviewees is that there is a lack of clarity and understanding related to the actual meaning of the different types of strategies, e.g. IT, ICT, transformation and digital strategies and what each term encompasses. Moreover, there are no clear borders found between these strategy types, and there is an overlap between the definitions of the strategies provided by interviewees. For example, it is found that IT strategies can take a number of forms and are connected in an organisation with Information Communication Technologies (ICT), digital and also sometimes transformation strategy. The UK’s digital and also transformation strategy are described in the next section.

Thus, this research study argues that for successful alignment, each strategy type should not be considered or created in isolation. In other words, and as this study highlights, the strategies of an organisation should be developed in a way that ensures that there is harmony and alignment between them. There should be an alignment between an organisation's IT and business strategy, and any other strategy they may have, such as digital strategy and financial management strategy. However, this research is concerned with business-IT alignment and as a result focuses on business and IT strategies.

Organisations have different approaches to developing and formulating strategies. In this respect and based upon findings, it can be assumed that business, IT, digital and transformation strategies are being formed, viewed and understood differently from one organisation to another. Next, digital and transformation strategies in the UK service redesign will be discussed briefly.

### **What are digital and transformation strategies?**

One of this research study's aims is to establish an understanding of alignment between business and IT strategies. As mentioned in the previous section, a small number of respondents mentioned that there is a lack of clarity as to the actual meaning of the different types of strategies, e.g. IT, ICT, transformation and digital strategies. It was also stated that it is difficult to draw a clear border around these types of strategies. This section briefly discusses findings related to the UK's digital and transformation strategies, and their possible influence on strategic business-IT alignment.

One respondent indicated that there are some public sector organisations that find it hard to distinguish the difference between digital and IT strategies. The same participant added that there has been a noticeable rise in digital strategies and digital leadership in public sector organisations. In terms of digital strategies, Howe (2015), cited in SOLACE (2015, p. 1), states that: “digital’ has become a bucket term in organisations limiting it to ‘bits and bites’ and not letting us embrace the fact that technology can help us in reshaping the public sector”.

However, a participant from local government business explained that the UK’s digital strategies are concerned with the design, development and delivery of innovative high quality public services. The 2012 digital strategy highlighted the importance of adopting the Digital by Default service standard, covered previously. The digital strategy for 2015-2016 included a number of principles. One of these principles is adopting a platform approach such as, ‘government as a platform’ to build services that can be reused across UK government. Another principle is the standardisation and management of data (Home Office, 2016). ‘Government as a platform’ and open data standards were illustrated previously. The UK’s digital strategies thus cover some of the factors that this research study has shown to enable more alignment in service redesign. In addition, a senior manager from GDS explained that BIA is part of the UK digitalisation agenda for providing user-centric services: “we’re very, very conscious of ensuring we’re aligning the business needs and the IT needs, but primarily with regard to meeting the needs of the end user, which is, they are the driving ideology of digitisation of the UK government” (T8).

Another type of strategy in UK service redesign, which is found to link to IT strategy, is the government transformation strategy, as mentioned in the literature review. One of its objective is to increase the use of shared services, platforms, patterns, and open standards for an agile transformation (Cabinet Office, GDS, and The Rt Hon Ben Gummer, 2017). This research study has covered these aspects as part of *Standardisation*, section (4.1.6).

#### **4.1.9 Partnership and Collaboration**

This section discusses the shared workforce, joint working, collaboration and partnership between business and IT as one of alignment enablers as shown in the data. Partnership was also identified by Luftman (2003) as one of the six business-IT alignment maturity criteria.

One of the participants interviewed pointed out that in the local government council where he works, a collaboration and partnership has been created with another council. In this collaboration they have established a programme to merge management structures, reduce management teams, minimise duplications, and save costs without reducing and affecting the quality of public services. As a way of harmonising and aligning, the two councils have had to work in the same way technologically and to standardise for efficiency purposes. However, the interview data showed that aligning two councils and creating a shared workforce is not necessarily straightforward, as each may have different political and business priorities and goals. An interviewee from one of the partnering councils' business team, indicated that in cases like this, business and politicians should set a direction for the two councils, and come to agreement for a successful partnership and collaboration.

Nevertheless, findings from interviews have also indicated that partnerships and liaison are challenging in the UK public sector as there are different systems used in government sector organisations, and as a result these organisations are operating in silos. Silo-based systems are therefore a barrier to collaborations and partnerships in UK government, and also a barrier to alignment, which will be covered in section (4.2.3). Another barrier mentioned by a participant from central government business is that “in the local case, there is no local Cabinet Office, there is no local Government Digital Service GDS. And local budgets are quite separate” (T15).

In addition, there are some local authorities that work in partnership by providing services that they have contracted from another council. One respondent from local government IT argued that instead of developing new services, public sector organisations should reuse services already developed by other organisations, and which have been assessed and evaluated as efficient. These though are usually decisions made by the leadership or senior management team, both from business and IT, and they relate to the leadership role in cultural change, which is covered later in section (4.2.1). The same participant also suggested that senior managers or decision makers should focus more on establishing this type of collaboration and partnership, specifically between small and large local authorities. For example, small local authorities can buy services from large local authorities at a cheaper price than developing it themselves. Establishing more of this type of collaboration and partnership will increase shared services, and therefore horizontal standardisation among local authorities (LAs). Additionally, the main incentive found for local authorities to work in partnership and to standardise is cutting cost and increasing efficiency. An interviewee from central government business department added that, for an enhanced

efficiency, “if we’re all planning on doing something at the same time. If we all have the same problem, it only makes sense to collaborate” (T15).

Moreover, not only can partnerships enable standardisation (e.g., by increasing shared services) (as previously shown), but standardisation can also enable more partnerships and collaborations. As indicated by the Local Digital Coalition (LDC, 2016f), one of benefits of standardisation includes creating new organisational partnerships. Other benefits include the creation of new business models, and enhancing innovation. This contrast with what is mentioned by some interviewees which is that standardisation restrict innovation, discussed previously in section (4.1.6): *A balance between standardisation and uniqueness*. Nonetheless, the coalition emphasised that those benefits can only be acquired when LAs and their suppliers adopt and implement the same standards (ibid). The Local Digital Coalition (LDC) case study will be covered in section (5.1).

In addition, an issue mentioned by some respondents is that in UK service redesign, there are partnerships that are being established and services that are being designed without agreed common criteria or standards. The Local Digital Coalition also commented on this aspect by stating: “this presents a risk that local authorities will become less joined-up, and instead devise bespoke and isolated solutions to problems that could be better solved with common standards and functions” (2016, p. 1). It can therefore be said that when creating a partnership and collaboration, it is important to ensure that standards are adopted to minimise the siloed approach to service redesign, and to facilitate more partnerships and collaborations which are seen to be essential for alignment.

## **4.2 Alignment inhibitors in UK service redesign**

This section of the findings chapter focuses on alignment inhibitors, which include social/cultural barriers and cultural change (resistance and fear of change) and in addition, structural barriers such as silo-based systems associated with localism, and silo-based systems in UK service redesign, including central government, that are not associated with localism.

### **Social / cultural barriers**

In relation to the social and cultural factors mentioned previously, this section discusses cultural change (resistance and fear of change) as one of the barriers to alignment, and particularly a barrier to communication, levels of IT engagement, and standardisation. As mentioned by a senior manager in GDS, “often, people will say, ‘can’t do this because of the rules’ or ‘can’t do this because of the law’, and actually it’s merely a cultural barrier, it’s not a genuine legal or process barrier” (T8).

#### **4.2.1 Cultural change (resistance and fear of change)**

It was shown previously that the lack of IT engagement is found to be linked to a lack of trust in IT by business. It is also found that increasing levels of IT engagement requires cultural change. Levels of IT engagement were discussed previously (section 4.1.3), including the way in which IT is viewed as a services provider, the lack of IT decision-making power, IT

as a supporter or enabler and not driver, and the lack of IT involvement in meetings. For instance, a number of respondents from IT said that IT sometimes has insight into a new technology or innovation, and will suggest a change of practice that in their opinion will be beneficial to the organisation. These suggestions are also in relation to and aligned with the organisational goals. However, on the other side, sometimes the business finds it hard to accept change, or to understand the benefits IT is trying to communicate. In this it is seen that there is resistance and fear of change, which can be addressed by establishing better communication and SDK between business and IT.

Data collected from interviews have shown that cultural change is also required for standardisation. As explained by an interviewee from local government, “the problem is not technology or digital transformation, the real problem is cultural change, and people working differently” (T19). The lack of a common approach to service redesign was discussed as part of standardisation (section 4.1.6) in the *Siloed approach to service redesign*. It is found that some local authorities are not ready to standardise, or to adopt a new system or new way of working, and will not know how to deal with such transformation. According to one of the interviewees from local government, “you’ll start to look at a whole different way of staffing, of culture, it’s a business change not only a technology change” (T6).

Findings have indicated that the reason cultural change is seen as a barrier, is because of people’s desire to operate in a familiar way and without taking any risks, including a lack of readiness and preparedness to adapt to a new way of operating, developing or delivering



services. As mentioned by a respondent from central government, “trying to recreate a new way of doing, delivering public services; you have to just stop doing a lot of things, and that makes people very uncomfortable” (T8). This is also identified by Madinda (2014) as one of the sources of resistance to cultural change in the public sector. The causes of resistance identified by the author, and which are similar to the research findings include: habit, and the lack of readiness to accept a new way of executing a job. “The introduction of a new set of steps may make job more difficult hence resistance can be seen as the only solution” (Singh, 1985, cited in Madinda, 2014, p. 168). The author added that when employees are not capable of adapting to a new way of executing a job, performance and the quality of service delivery are affected. It can be assumed, therefore, that this type of resistance to cultural change can be overcome by increasing the employees’ knowledge, understanding, preparation and training to make them familiar with new ways of operating, designing or delivering services for more standardisation and alignment in service redesign.

It was suggested that one of the ways of overcoming resistance to change is by encouraging and maximising the ability of people involved in service redesign to take risks. This was mentioned by a senior manager in central government: “giving people the confidence to try something new and different, means unpicking the ways in which departments or services, or even politicians, view risk and risk taking” (T8).

Additionally, as stated by a respondent from GDS, “people know what familiar looks like and they want to maybe hang on to that for various reasons, so that’s the first thing you need, you’ve got to have that strong central authority” (T15). The participant explained that cultural change can be established by having a central authority that provides clear guidance, help,

and best practice for more standardisation, as mentioned previously in *Mandating standardisation in UK public service redesign*, section (4.1.6).

It was suggested by a respondent from a business department in local government that cultural change can also happen by having a leadership team or senior managers within the organisation who are capable of defining a clear strategy that ensures the creation of more alignment, and that facilitates communication and engagement between business and IT, and also standardisation. This is explained later in detail in *Lack of clearly defined Strategic Plans or Business and IT Strategies*, section (4.3.1).

In addition, another way to resolve issues relating to cultural change in service redesign is by increasing decision makers' understanding of public services, and the best way to redesign and deliver them, which as mentioned previously will increase alignment between the strategic and operational level. This was covered in *Decision makers' understanding of public services*, section (4.1.5). This was also pointed out by a participant from IT in a local authority: "at the end of the day it is driven by senior managers having an idea of what they think is the best way of developing and delivering those services" (T26).

As explained previously, resistance and fear of change are seen to be a barrier to standardisation, the level of IT engagement with business, and communication between central and local government, and another obstacle is silo-based systems associated with localism, which will be covered next. Nonetheless, standardisation, the level of IT

engagement with business, and communication between central and local government can be increased, and resistance and fear of change can be decreased by the adoption of a network arrangement, illustrated in Chapter (7).

## **Structural barriers**

This section covers further barriers to alignment, which form part of the structural factors (i.e. silo-based systems associated with localism, and silo-based systems in the UK service redesign), and are specifically barriers to communication and standardisation, levels of business-IT engagement, SDK, and partnerships and collaborations.

### **4.2.2 Silo-based systems associated with localism**

Participants have continuously emphasised that IT itself is not a barrier to standardisation. As explained by an interviewee from a central government business department, “it is not an IT barrier at all, it is largely a political barrier, so all this regional tension, political tension means that combing those has been subject of discussion for many many years, but never been solved” (T31). However, there are many benefits to standardisation and communication (horizontal and vertical), which can result in a higher level of business-IT alignment. The siloed-based system in UK service redesign, which is seen to be associated with the localism agenda, is found to be a barrier for both.

The UK Localism Act was created in 2011, and is concerned with decentralisation by devolving power from central government to individuals, communities and local authorities ([legislation.gov.uk](http://legislation.gov.uk), 2017). Central government is encouraging localism and meeting local citizens' needs through the Act. At the same time, it recognises the importance of having a common and not a siloed approach to transformation (Bracken, 2015).

The localism agenda seeks to locate power and responsibility at the local level. In this account, a senior manager in local government stated that local councillors tend to believe that their responsibility is to serve the needs of their local community who elected them, and may find that the way to do this is by having control and ownership. It was also mentioned by a participant from local government IT, in regards to standardisation and communication, "I think the issue is the desire of individual local government to keep control of their own service" (T17). As a result, they may have some doubts about the ability of a single centralised solution to deliver the right functionalities and to serve local needs. As explained by one of the interviewees from a local authority IT team, "local politicians will want to retain some local autonomy and the danger that they would see from signing up to some sort of central solution, is that you don't know what's going to happen to it" (T4). Therefore, in addition to silo-based systems associated with localism, it can be said based on data from interviews that there is resistance and fear of change because of uncertainty, and lack of understanding and awareness of the importance of standardisation and communication; *resistance and fear of change* was covered in the previous section.

Additionally, it is seen by a number of interviewees from local authorities, that they operate differently from other authorities (politically and administratively), and would therefore prefer to operate autonomously. The silo-based systems in UK local government associated with localism agenda are seen to be a barrier to communication as the data gathered have shown that local politicians or councillors usually prefer to focus on serving local needs independently without any outside influence. In most cases it is believed that there is no need to or benefit from communicating with other local authorities or central government. A Head of IT explained, “when they feel that they’re being dictated to by central government on areas which they feel are part of, and which are really should be part of their own remit, they tend not to react terribly well” (T2). Therefore, this study concludes that silo-based systems associated with localism agenda are an important reason behind the lack of communication between local and central government.

Such systems are also a barrier to standardisation, as mentioned by one of the respondents from local government IT: “so you can see at least in theory, that the idea of having all councils using a common IT platform for delivery of things like council tax administration, you can see the attraction of it, but that is at odds with the localism agenda” (T2). There is a lack of political influence that says that local authorities have to standardise, and this is seen to link to localism in the UK. As mentioned by a senior manager in central government, “it’s very challenging for someone to say authoritatively, ‘this is what good looks like, this is what we are all going to do’, without people immediately reacting with ‘well, we have unique needs’” (T8). Therefore, this research discussed previously the importance of having a balance between standardisation and uniqueness, in section (4.1.6).

Silo-based systems associated with the localism agenda are found to be the main reason for not mandating or imposing the same service redesign standards on local government, and also for not adopting common service redesign standards, shared solutions and services, and a platform (e.g., 'government as a platform') across local government. As expressed by one of the respondents from local government, "I think if central government tries to impose something on local government they'll find it's very hard unless they really take strong steps to force it" (T2). *Mandating standardisation in UK service redesign*, 'Government as a platform' and *A siloed approach to service redesign* were covered earlier as part of the *Standardisation* section (4.1.6).

The data collected from interviews showed that a possible solution to this is the alignment of political structures and agreement on standards and an operating model - which according to an interviewee is "something they are all striving to achieve as an outcome" (T18). This study sees that in order to overcome this barrier, it is important to establish an alignment of stakeholders' motivations and incentives, as will be discussed later in the discussion chapter, section (7.1.4).

### **A balance between localism and alignment**

Citizens need consistent high quality services across the whole government sector and this can be achieved through alignment. There is a delicate balance therefore between localism and alignment. Localism means independence, which is opposite to what alignment needs or requires in the UK, namely integration and cohesion between business and IT vertically (between central and local government) and horizontally (across government agencies).

Similarly, and as mentioned before, there is also a balance that needs to be maintained between standardisation (which is an important enabler of alignment) and uniqueness. Therefore, there should be a balance between localism and alignment, and also alignment and uniqueness. Uniqueness and innovation are seen by some of the respondents as one of the benefits of localism. As stated by SOCITM (2015b) the devolution agenda is allowing for more digital innovation to thrive. A balance between localism and alignment can be established by creating a network for increasing alignment across government agencies, as explained further in Chapter (7).

### **4.2.3 Silo-based systems in UK service redesign**

The siloed approach to service redesign in the UK was mentioned previously as a barrier of standardisation in section (4.1.6). Nonetheless, the diversity of government services, and having a complex organisation with multiple departments and divisions mostly acting and operating in silos (without talking to each other), have been mentioned by some of the respondents as an inhibitor of alignment. Silo-based systems are created or result when each organisation, department or division is only interested in its own area or division. This is different to the silo-based systems associated with localism, discussed in previous section, because it is not associated with a political agenda or UK legislation, and it does not only apply to local government, but also central government organisations.

It was mentioned by one of the interviewees from a local government business department, that there are public sector bodies which don't see that they share any commonality, and may not have any natural joint, such as with the Highways department and the Children's and Social Care departments. The respondent stated: "inevitably because you do not have I suppose a natural joint between some public sector bodies in some cases, there will always be silos" (T4). There are other respondents who have also stated that it is important to accept the fact that there will always be parts of the organisation operating in silos. Nonetheless, silo-based systems are seen to be a barrier to communication, standardisation, SDK, engagement, and partnerships and collaborations across UK service redesign.

The questions that this research asks in regards to this are:

- How the actors involved in alignment establish the prerequisite communication, standardisation, SDK, engagement, and partnerships and collaborations necessary for business-IT alignment (given the complex nature of relationships, the diverse services provided, and the fact that each department or division may only be interested in its own area or division?).
- How then can alignment be effectively established in UK service redesign, accepting the fact that there will always be silos?

These questions are addressed as part of the propositions included in the discussion Chapter (7). In addition, while silo-based systems in UK service redesign is seen to be a barrier to communication, this study also finds that communication is part of the solution to



break silos and create a dialogue between business and IT staff, and therefore to establish more standardisation, engagement, SDK and partnerships and collaborations. This was evidenced throughout this chapter, whilst the relationship of communication with the alignment key factors of this study will be explained in Chapter (6).

To summarise, this section explained the structural barriers to alignment, which includes silo-based systems associated with localism where some LAs have a preference to operate autonomously, focus on serving local needs independently without any outside influence, and also to have control and ownership to serve local needs. This is a barrier specifically, to communication and standardisation in UK service redesign. Another structural barrier is silo-based systems in UK service redesign where each central or local government organisation, department or division may only be interested in its own area or division, and operating in silo. This is a barrier to communication, standardisation, SDK, engagement, and partnerships and collaborations in service redesign.

### **4.3 Interrelation between the alignment factors in the UK service redesign**

This section focuses on the interrelation between the alignment factors identified from interviews and explained throughout this chapter, as also illustrated below in Figure (6). From the data collected from interviews, it was found that there are a number of factors which were mentioned in earlier studies (e.g., Luftman, (2000), and Charoensuk et al. (2014)), as also included earlier in the conceptual model in Figure (3). These factors influence alignment and are identified as 'enablers' of alignment (i.e. communication, SDK,

levels of business-IT engagement, trust, standardisation, and partnerships and collaborations).

Nonetheless, this research contributes by presenting a number of new factors, which have been discussed as 'enablers' (i.e. integration between the strategic and operational level, strategic thinking and planning, and strategy formulation and implementation). This includes new alignment 'inhibitors' (i.e. cultural change (resistance and fear of change), silo-based systems associated with localism, and silo-based systems in UK service redesign). The interrelationship found between these factors is shown below in Figure (6).

This research uses a grounded theory method as mentioned previously. Therefore, and in order to ensure that the theory is grounded in the data collected and to go further and deeper into the research question, it explores and expands on these factors by the use of a number of case studies. These case studies are covered in the next chapter (5), and were selected based on the data collected and a grounded theory strategy: theoretical sampling, explained in section (3.4.4). These factors and the interrelationship between them presented below in (Figure 6), are therefore revisited later in chapter (5) to ensure an in-depth and holistic understanding of the 'process of aligning'. This is part of two grounded theory analysis techniques: constant comparison and iterative conceptualisation, covered earlier in section (3.5).

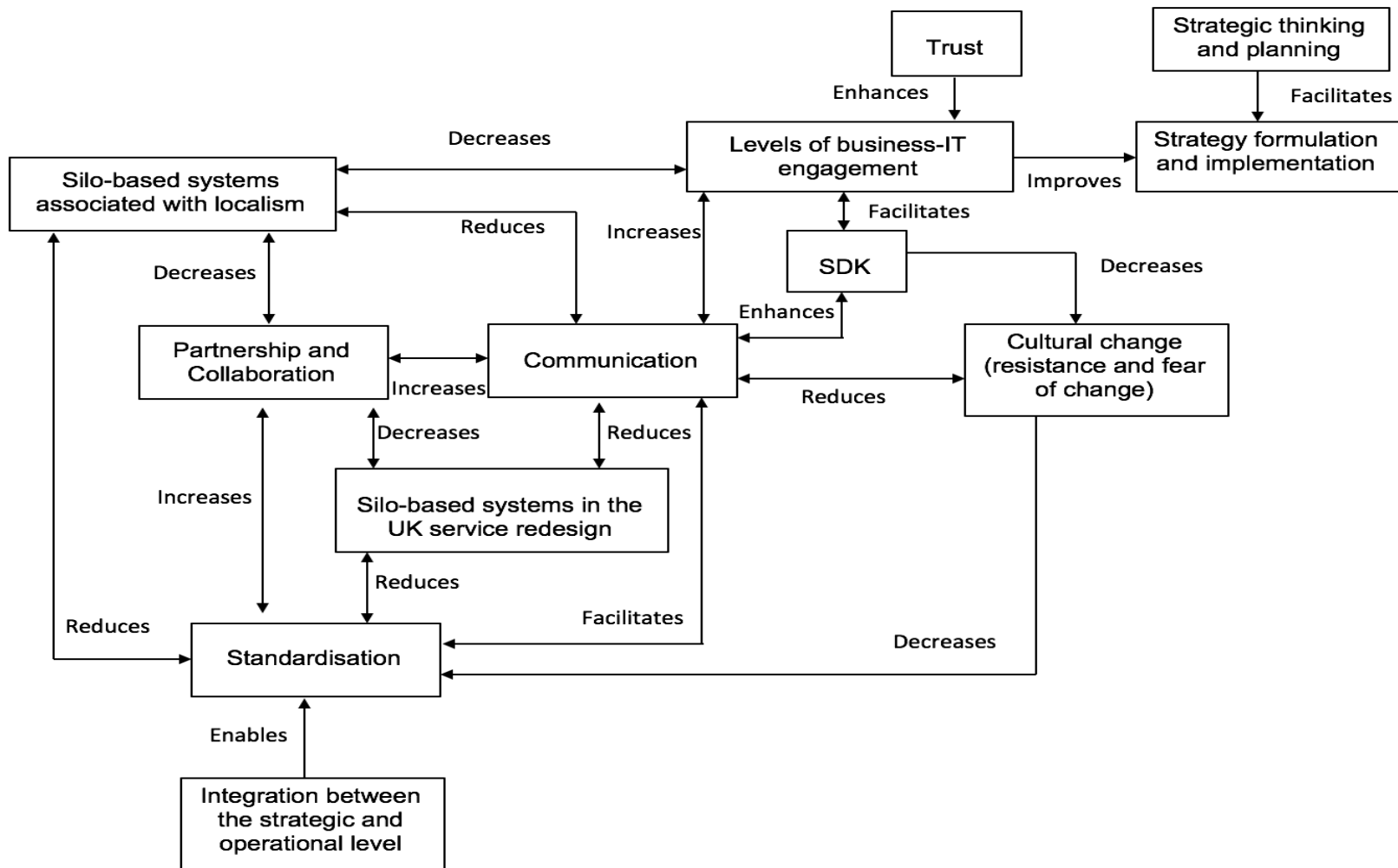


Figure 6: Interrelation between alignment factors in the UK service redesign identified from interviews

## **4.4 Other views on business-IT alignment**

The results of this study showed that there are other views in relation to BIA. There are a number of cases where alignment is seen to be irrelevant, and also some cases where misalignment is believed not always to be negative. These cases are examined in this section.

### **4.4.1 Situations where alignment could be irrelevant**

This section covers the perspectives of the respondents who believe that alignment is irrelevant. It is found that there are two main cases, firstly when business and IT are considered to be one entity in the organisation, and second when there is a lack of clearly defined business and IT strategies.

#### **Business and IT as one entity in the organisation**

It was found from a representative of GDS, that they see business and IT as one entity: “there isn’t an IT and there isn’t a business, there is simply the user and the user’s needs and everybody must participate in helping the user needs” (T11). The interviewee strongly believed that IT is not an internal service provider, and not even a strategic partner to the business, but in fact part of the business leadership team.

Looking at this in relation to the second perspective of business-IT alignment presented in Henderson and Venkatraman's (1993), Strategic Alignment Model (Appendix 2), the business is not the only driver, but so too is IT, rather than IT only being involved to ensure that it supports the organisation's objectives. This is then followed by the alignment of IS infrastructure and processes with IT strategy.

Another interviewee from a local government IT department added, that if IT is looked at separately from business or vice versa then you create the need to have a false alignment. This will result in not being able to receive the value of technology to drive performance and support the business. Similarly, a respondent from a local authority illustrated that alignment should almost be a natural way of operating in an organisation. He added that normally IT should not be acting independently from what the rest of the organisation is doing. It was explained by the interviewee that "IT is part of the business and should have the same objectives as the rest of the business" (T17).

A respondent from a local authority LA provided a similar view: "I think the end goal is there should not be separate IT strategies to business strategies, it's just one" (T19). He explained that in the borough in which he works, there is a single business plan and strategy developed by the business to include elements such as finance, HR and IT. This Chief Information Officer suggested that there are not separate business and IT strategies, and in this case alignment is irrelevant and not required. This links to what is discussed previously in *Terminologies used to describe business and IT strategies*, where it was indicated that there are no clear borders found between the different types of strategies, section (4.1.8).

Another participant from local government IT added that examining alignment in an organisation could encourage business and IT separation: “I think by talking about IT and business alignment and having that in the language of people in organisations I think it continues to create a bit of a split” (T17). A senior manager from GDS also stated that the language used in an organisation is important. He explained that those who work at GDS do not use any language that implies separation such as, “we are IT and they are the business”, he added, the way staff think at GDS is “we are all the business” (T11).

Additionally, this view is associated with what SOLACE (2015) has described as context collapse, where living in the digital world leads to many consequences and one of them is the difficulty of creating separation between certain elements: in this instance, the separation between business and IT and including the separation between IT, digital and transformation strategies, which was explained earlier in section (4.1.8).

Another consequence is that the ‘digital’ and the continuously changing technological environment makes alignment even more challenging as continuous adaption is required, and it therefore means for some participants that alignment is irrelevant and unnecessary. As indicated by SOLACE (2015, p. 1) when talking about the consequences of digital in the public sector “there is a need of a shift in attitude because we are always going to be in a state of continuous improvement and, therefore, the speed of adaptation is critical”. Therefore, it is said that one of the reasons that alignment could be considered irrelevant is

context collapse and a changing technological environment. This will be discussed further in the following section.

### **Lack of clearly defined strategic plans or business and IT strategies**

An interviewee from a local district stated that to them, business-IT alignment entails the ability to have well-integrated business and IT plans where one is enabling the other. However, contrary to this statement, and to management theories and fundamentals, this respondent confirmed that they don't actually have well-planned long term strategies, and instead only have short term plans. The explanation given for this is that at their local district, they find strategies to be fairly constraining. According to Mintzberg (1994, p. 112), "strategies must be left as broad visions, not precisely articulated, to adapt to a changing environment". Nonetheless, it could be argued that having a well-planned long term strategy does not necessarily restrict an organisation's ability to adapt to changing environment. *Strategic thinking and planning*, was discussed previously in section (4.1.7).

The participant added "we haven't got a very well integrated business and IT plans, even on those sort of shorter range things, we still haven't agreed the priorities in terms of what IT needs to be delivered and when" (T3). It was clear that there is a lack of strategic planning and coordination. As stated by another participant from the same district, "you tend to do what you're responsible for and perhaps looking at what other people are doing and trying to coordinate with them" (T2). This type of practice, where there is no formal strategy or there are actually no strategies at all, was seen by some participants as one of the cases where BIA becomes irrelevant. This is similar to a view presented by Chan et al. (2007),

where the author illustrated that alignment is not achievable if the business strategy is not defined or in progress.

To summarise, these respondents have provided two contrary views but in both they believe alignment is irrelevant or not required. One where business and IT plans are merged into one entity, and another where there are actually no clearly defined strategic plans. Next, other perspectives are provided where misalignment is believed to not necessarily be negative.

#### **4.4.2 Situations where misalignment is not always negative**

Some of the respondents from local government believe that it is mostly in theory that misalignment is expected to have negative outcomes. From their point of view, there are some cases in practical reality that mean misalignment at the strategic level is not necessarily negative. Some of these cases include, for example, when IT is not aligned with the business because it cannot meet its demands, or cannot keep pace with the continuously changing business plans or technological environment in the public sector. One of the reasons given for this by interviewees is that there are some advantages in not being right at the forefront of technology change because it minimises risks that can be, for example, associated with cost or reputation. These participants feel that embarking on and investing in new technological innovations can be risky, and can potentially go wrong. Moreover, some of the respondents also mentioned that not having a tightly integrated business and IT strategies gives them flexibility, and makes it easier to exploit new opportunities. These



respondents also believed that there needs to be caution against only focusing on achieving alignment and forgetting about seeking opportunities.

To conclude, this section covered other views reported from findings where alignment is seen to be irrelevant, and also some cases where misalignment is believed to not always be negative.

## **Conclusion**

This chapter examined the alignment factors identified from the data collected (Figure 5). These factors were discussed in this chapter as 'enablers' or 'inhibitors' of alignment. Some of these enabling factors have been referenced in previous alignment studies (i.e. communication, SDK, IT engagement, trust, standardisation, and partnerships and collaborations), as shown in the literature review, Chapter (2). As well as new findings were found (i.e. integration between the strategic and operational level, strategic thinking and planning, and strategy formulation and implementation). It also covered a number of alignment 'inhibitors' that have not been identified in previous alignment literature i.e. cultural change (resistance and fear of change), silo-based systems associated with localism, and silo-based systems in the UK service redesign.

In terms of the level of vertical and horizontal communication, this chapter illustrated that there is less communication between central and local government than between local authorities or between central government departments. An important finding was that SDK can facilitate communication, and not only the other way around as identified in the literature

(e.g., Reich and Benbasat, 2000). Standardisation was found to be one of the main technical/operational factors crucial for alignment in service redesign. More importantly, this chapter also explained that a balance needs to be maintained between standardisation and uniqueness, and also between alignment and localism in the UK.

Generally, there was a recognition by interviewees that alignment is a continuous process and not a state. However, some believe that business-IT alignment is not always desirable and misalignment is not always negative. It was seen that alignment in an organisation can restrict innovation, minimise flexibility, and make the exploitation of new opportunities more difficult. There were also some cases where alignment was seen as irrelevant. This was the case in relation to both business and IT strategies; in one case where there no clearly defined strategies, and another when business and IT strategies are seen as one entity. In this respect, it can said that some interviewees believed that the importance of alignment changes and varies (e.g. it can be seen irrelevant, or not desirable) depending on the context.

The next chapter will consider the research case studies, which are included to deepen and expand understanding of the alignment concepts discussed in this Chapter (e.g. communication and standardisation), and to further explore other alignment factors, and specifically alignment in practice in UK service redesign.

## **Chapter 5: Case studies**

As mentioned previously in the methodology section (3.4.4), this research includes multiple case studies. The selection of these case studies was based on a grounded theory sampling process: *theoretical sampling*. As shown in the previous chapter, *communication, standardisation, levels of business-IT engagement, partnership and collaboration, strategic thinking and planning, and integration between the strategic and operational level* were identified as alignment enablers. The case studies included in this chapter are used to deepen and expand understanding of these concepts, and to explore other alignment factors in UK service redesign. Findings from these case studies are also discussed as part of the ‘theory for design’, which this research provides for practical usefulness.

The Local Digital Coalition (LDC) is the first case study covered in this chapter. The coalition defines itself as “a single-point mechanism for coordinating digital transformation on a national scale that will ensure communication and collaboration” (LDC, 2016). A network is identified in the literature as a “mechanism of coordination” (Provan and Kenis, 2008, p. 4). The LDC can therefore be seen as an example of a network and collaboration, which facilitates communication and increases alignment in UK digital service redesign. In addition, the data collected indicates that the LDC’s main principles include communication and standardisation in service redesign, which are alignment enablers, as shown previously in the Findings Chapter (4). This data collected from LDC members shows that *governance* is crucial for the success of the coalition, and this chapter will explain how governance is considered by this research as an alignment factor. Governance is also known in the literature as an alignment enabler (Luftman, 2003), and therefore the LDC Governance case study allowed for this linkage to be further explored.

This research, as mentioned previously, aims to understand alignment in service redesign. The data collected reports that GOV.UK Verify is one of the services developed by GDS, and that local authorities are interested in its reuse. This chapter will explain how the GOV.UK Verify service was piloted to LAs, to be reused through the LDC. The GOV.UK Verify case study will enable the establishment of an understanding of the process of aligning vertically between local and central government, and horizontally across LAs. It is seen an example of a shared service that increases standardisation across UK service redesign, which is an alignment enabler, as shown in the previous chapter.

## **5.1 The Local Digital Coalition (2016) case study**

This section will cover the Local Digital Coalition (LDC) case study, which (as mentioned earlier) is a network / coordination mechanism among a number of UK local authorities (LAs) in England. The coalition mission, principles, participating members, sustainability and duration, and key projects and activities, will be illustrated. The coalition objectives, including developing standards and compliance along with digital infrastructures that support their collaboration, will be covered. This section also identifies and explains the challenges faced by the LDC and the advantages of their collaborative effort.

### **5.1.1 The coalition mission**

The LDC was established in March 2016 with the mission “to take over the resources created by the DCLG Local Digital Programme and to enable the many organisations involved in local public service transformation to collaborate on their digital transformation initiatives” (LDC, 2017a). To be more specific, it is a federally owned coalition with the purpose of enabling the local government sector in England to gain benefits by joining-up and cooperating. According to a member in the Local Digital Coalition (LDC), “there isn’t a local GDS equivalent, and the DCLG programme that preceded it was the closest thing that we had” (T25). Essentially, this coalition is continuing the work of the DCLG Local Digital Programme (LCD, 2017a), and has specified six principles to support its mission (LDC, 2016). Those principles are listed below, and are analysed and discussed in relation to alignment in digital service redesign.

### 5.1.2 The coalition principles

This section covers the six principles that the coalition has set out and specified in their action plan to describe their approach for their collaboration and operation. These principles, as mentioned previously, are discussed in relation to alignment, and linked to the findings covered in Chapter (4).

1. ***Design for people, not machines:*** with regard to this principle, the coalition is highlighting the importance of understanding citizens and their needs, and of delivering citizen-centric services. The delivery of citizen-centric services was discussed earlier in Findings Chapter (4), and is viewed as one of the outcomes of alignment.

2. ***Collate, communicate and connect***: this relates to the findings discussed in Chapter (4) which highlight the importance of communication and engagement for alignment, and for a successful implementation of service redesign and digital transformation initiatives.

3. ***Transformation over incremental development***: this principle shows that the LDC is acknowledging the need for the transformation of local services. This accords with the earlier observation made by this research study in Chapter (4), which states that transformation is required for increasing alignment in service redesign, as discussed in the Findings Chapter (4). The principle contrasts with the perception of some of the interviewees who have focused solely on challenges and barriers to alignment, such as cultural change (resistance and fear of change) and silo-based systems, as shown in the Findings Chapter (4). It is also associated with Madinda's (2014) observation that overcoming resistance and fear of change is deterministic of transformation in the public sector. Nonetheless, the LDC Action Plan (2016) states that: "we must not shy away from challenges because things have always been that way".

The LDC is described here as a network and a collaboration among local authorities, and with the private sector in England, for local service transformation (LDC, 2016). *Transformation* and *change* are therefore used to define what the coalition is and are seen to be essential constituents of both transformational government (or t-government), and also collaborations, as illustrated in the Literature Review, Chapter (2). This study therefore concludes that *transformation* is certainly a fundamental principle for the LDC collaboration.

4. **Get things live fast:** the research for this thesis identified this principle as essential for agile project development and delivery, which is found to be central to the coalition's philosophy. This links to the alignment enabler covered in the Findings Chapter (4) – an agile approach to service development and redesign – which is seen specifically to increase the level of strategic-operational integration. According to the Local Digital Coalition LDC (2016, p. 1), aspects underpinning this principle are: “iterate with partners, refine based on consistent feedback, and release minimum viable products early”. As a result, it can be assumed that the coalition – through its network and collaboration – can enable agile project development and delivery in service redesign. This also links to the principles of lean agile systems engineering and product development frameworks, such as Scaled Agile Framework SAFe. For example, one of the SAFe principles is to “*build incrementally with fast, integrated learning cycles*” (SAFe, 2017). This operates in addition to agile philosophy and concepts such as ‘*fail fast and learn quickly*’ (NAO, 2012).

However, it was found from the data collected that, in contradiction of this LDC principle, there are services in UK government that are not necessarily developed in an agile manner. Some services have been developed over a lengthy period, such as GOV.UK Verify, which, according to a participant from GDS, was developed across a six year period, as will be illustrated later in this chapter in the GOV.UK Verify, section (5.3).

5. **Be consistent, not uniform:** this LDC principle correlates with what has been discussed previously in Chapter (4) about maintaining a balance between standardisation and uniqueness by establishing communication. Alignment and consistency in digital service redesign does not necessarily restrict innovation or personalisation. In this respect,

consistency does not mean that local authorities cannot meet local needs or personalise their services. Some of the alignment and consistency benefits that are believed to relate to this principle, and which were mentioned in Chapter (4), included: saving cost, efficient use of resources, reducing duplication, breaking silos, and facilitating collaborations and partnerships between government departments and local authorities.

In addition, data collected from the LDC reports that being consistent and aligned makes services simpler for the user, in the sense that they do not always have to learn how to use a new service or how to find one. It was also found that there is a need to have some degree of commonality, which can be achieved by having standards. A number of participants from the LDC expressed their desire for standardisation, however, ‘only for things that matter’, which according to them, includes aspects related to security, privacy, and data exchange. However, the coalition has specified that the consistency for this principle, is one that includes using “common design patterns, language and data protocol where possible” (LDC, 2016, p. 1). This is similar to the consistency which this thesis has discussed, and its importance was stressed in the standardisation section (4.1.6).

6. ***Do things once:*** with this principle the coalition highlights the importance of sharing best practice and solutions, reusing them and making them available for others. In the Findings Chapter (4), the importance of communicating best practices, and standardising by the use of shared services, and reusing services and solutions in order to increase alignment, were highlighted. According to one of the interviewees, who is a Digital Advisor for the public and private sectors in the UK (T18), “some of these things have to be national - you don’t want every part of the UK inventing their own solutions”. One example of a service or solution that



we could argue should be “*done once*” is the verification and identification service: GOV.UK Verify. However, GOV.UK Verify does not work with all government services, and is not fully available for all local authorities to reuse, as illustrated later in section (5.3).

In regard to these principles, it was stated in the LDC Action Plan (2016) that “by adopting these principles, the basic components of local services will be consistent enough to stimulate innovation, unlock efficiency savings and promote best practice, while councils that need to do things differently for good reasons remain able to adapt their services to meet local needs”. This statement concurs with and supports what is discussed in this research, as illustrated in each principle listed above. Therefore, it can be assumed that if the LDC principles are adopted and the mission is achieved by local authorities, alignment in UK service redesign will increase.

In addition, in terms of service provision, local services make up the majority of services in the UK. Central government provides only a small percentage compared to the diverse services provided by local government. Therefore, establishing alignment in UK local service redesign will mean alignment in the majority of UK digital service redesign. It is therefore assumed by this research study that these principles can contribute greatly to alignment in digital service redesign across the UK government.

To conclude, the LDC principles have been discussed in relation to alignment, and it was found that they relate to a number of the alignment factors identified in Chapter (4). These factors are communication, standardisation, an agile approach to service development and

redesign, cultural change (resistance and fear of change), and silo-based systems. The next section will list the LDC participating members and bodies.

### **5.1.3 The coalition participating members**

The LDC includes representatives from different local authorities (LAs) across the UK (listed below), and also representatives from GDS. However, one of the interviewees participating in the coalition from a local council stated that it (the LDC) is more likely to grow in size. The LDC Action Plan (LDC, 2016) states that “all local public sector organisations are invited to join the coalition, by endorsing this Action Plan and a shared vision for the future of local public services” (p. 1). The plan covers their mission, principles, and key functions and activities (LDC, 2016), which are discussed in this case study.

According to LDC (2017b), the local authorities participating in the coalition [as of April 2016] are:

- Adur-Worthing Council
- Bristol City Council
- Camden Council
- East Suffolk County Council
- Leeds City Council
- Luton Borough Council
- Stockport Council
- Thameside Council
- Warwickshire County Council

The coalition also encompasses bodies concerned with local digital public service redesign and digital transformation (LDC, 2017b), such as:

- iNetwork
- iStandUK
- Local Government Association
- LocalGov Digital
- Local CIO Council
- Local Partnerships
- SOCITIM
- SOLACE

### **Introduction of new members**

According to a member of the LDC team, “since we’ve started we’ve had a massive amount of interest of people wanting to join the coalition” (T25). This indicates that the coalition is attracting new local authorities. But in terms of the coalition's membership, there is no specified set of criteria for joining. The coalition is welcoming all local public sector representatives, suppliers, and also bodies concerned with local digital public services in the UK.

#### **5.1.4 The sustainability and duration of the coalition**

The coalition’s initial programme included six meetings for the period between April 2016 March 2017 (LDC, 2016). Yet it was apparent from the interviews that participants had no knowledge of whether the coalition will continue its operations or terminate after the last

meeting specified in their programme. This shows that the coalition's sustainability and duration are as yet undecided. The coalition's stability and sustainability are one of the LDC challenges discussed later. They also constitute an aspect of LDC governance, which will be addressed in the following section (5.2).

### **5.1.5 Standards and compliance**

As discussed above, one of the coalition's principles is "*be consistent, not uniform*". Their statement below further highlights the importance of standardisation. It also identifies silo-based systems and solutions, together with a lack of integration and joining-up in the UK public sector, as possible risks of a lack of standardisation. As is noted:

*"Councils are already developing new ways to work with neighbours and local partners without the means to agree basic common principles and data standards once. This presents a risk that local authorities will become less joined-up, and instead devise bespoke and isolated solutions to problems that could be better solved with common standards and functions."* (LCD, 2016)

*A siloed approach to service redesign and breaking silo-based systems* were, of course, discussed in Chapter (4) and identified from the data as one of the factors influencing alignment.

### **5.1.6 The mandate to create local standards**

Similar to the findings presented in Chapter (4), standardisation is acknowledged by the LDC as a tool for more integration, collaboration and joining up in the UK local public sector. Chapter (4) also discussed the bodies concerned with standardisation and the creation of standards for UK local service redesign.

One of these bodies is iStandUK, which was given the mandate by the LDC to create official standards for local government. According to a member from among the coalition's local government participants, giving a mandate to those bodies will help them to become more proactive: "I think it's very, very powerful in establishing those standards across local authorities" (T25). Mandating such bodies - some of which have already put a huge effort into developing standards and solutions for local government (e.g., LocalGov Digital) - can be seen as a big step towards establishing common standards and approaches in service redesign. As mentioned in Chapter (4), the findings from the research indicate that one of the obstacles to standardisation and having common standards in local government was that these bodies lacked political influence or authority to impact, or impose the standards that they have developed, on local authorities.

The coalition has chosen iStandUK for the creation of common data standards, and design pattern standards for local public sector services (LDC, 2017b). iStandUK is an organisation that "promotes data standards for efficient transformed and transparent local public services" (iStandUK, 2017). The way that iStandUK has specified these standards is by creating a "standards needs" survey to collect and gather feedback from local authorities.

iStandUK aimed to establish an understanding of how standards can be used to improve local government services (ibid).

It has been stated by the coalition that they have “endorsed iStandUK as that common body for data standards and design patterns, but need to look at how we communicate this kind of decision outside the coalition” (LDC, 2017b). The coalition is planning to endorse these standards on local public sector organisations and their suppliers. However, there is not yet a specified endorsement plan. The coalition has only shown that they will be building relationships with TechUK to influence the supplier market to utilise those standards in their new and existing products.

### **5.1.7 LDC key projects and activities**

The coalition has adopted a number of projects that they believe will bring them closer to their aim. These were chosen not only to achieve a more joined-up local government and collaborative digital transformation, but also to create better and more enhanced digital services that meet their user needs. As seen in the statement below from a board member of the coalition and a Chief Information Officer at a local council (T25):

*“Basically, the spirit of that group is, we want to join up local government and to focus on a couple of big things that make a difference to citizens, so that’s the bottom line ethos.”*

The coalition started by defining the priorities of the local collaborative digital transformation, and initially decided to work on five projects in which all members would or should have an interest in. Those projects are:

- a. Blue Badge Eligibility Checker
- b. DVLA APIs for local government
- c. Extension of GOV.UK Verify to local authorities
- d. Integrated Care Record Standards Project
- e. Local Waste Service Standards Project

The coalition action plan was extended to include a sixth work stream, which is the Deferred Payment Agreement (DPA) Calculator for Adult Social Care (LDC, 2015).

The coalitions' members have also decided to develop a common approach and standards that can be adopted across the local public sector, and specifically for the development of those projects. To achieve this, the coalition have listed a number of activities to be undertaken in their first year. This list includes: (1) agreeing on a common vision that can be shared and supported by all members; (2) approving the first phase plans for the projects listed above; (3) creating and agreeing on shared data standards, and a common approach and patterns for digital services; (4) specifying the skills, expertise and capabilities needed for the projects and their coordination; (5) obtaining and acquiring the recourses needed; and (6) defining the administration arrangements and the funding strategy (LDC, 2016).

However, the coalition is not funded, and it was found that most of its projects and work streams are carried out by LAs themselves, and then endorsed and supported by the

coalition. Nonetheless, the data suggest there is a prospect of local authorities repeating their accumulated expertise with other authorities. Essentially, the coalition is connecting LAs and enabling contacts to be made between them to share knowledge, understanding and best practice. It was stated by the coalition that, “there were some tangible projects in the beginning and it (LDC) was a hub to keep up with those”. It can, therefore, be said that the coalition is acting primarily as a platform to speed up knowledge and information exchange between LAs.

### **5.1.8 Digital infrastructures**

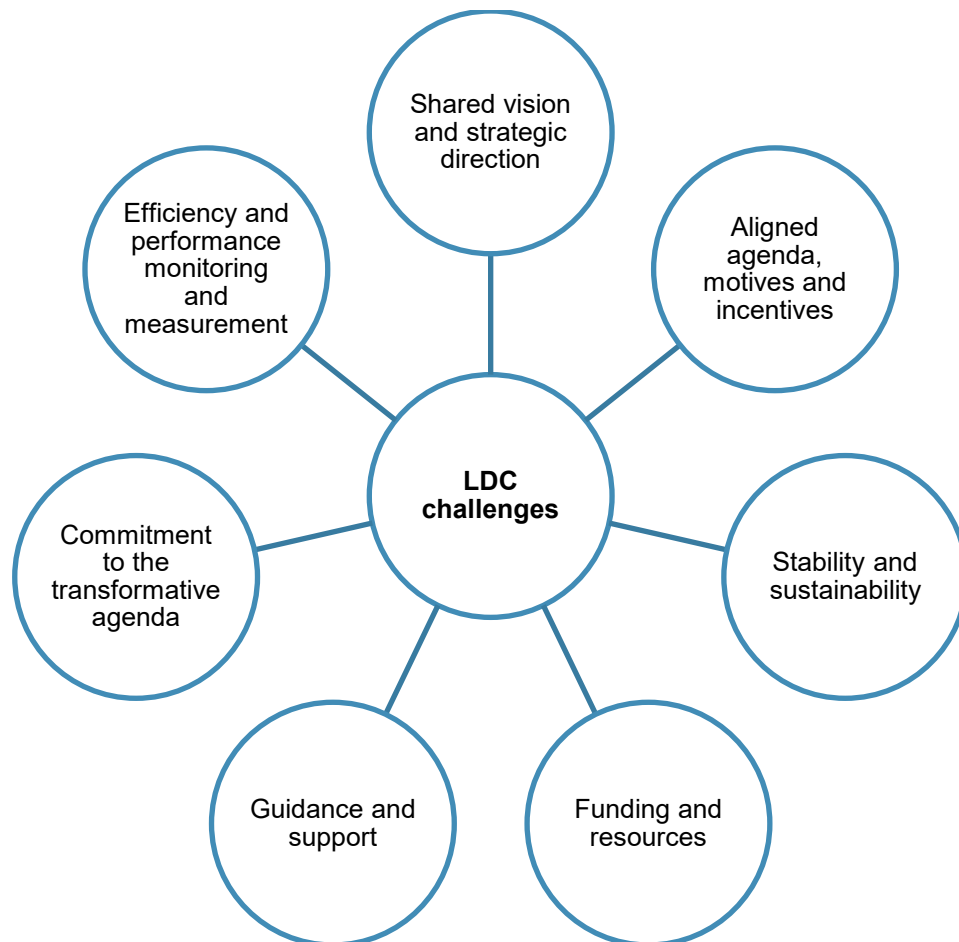
One of the LDC’s objectives is to enable the local public sector to adopt digital infrastructures that will make their cooperation easier (LDC, 2016). According to the coalition, it is important that the digital infrastructures enable cross-organisational information exchange. In addition, data gathered reports that the coalition is planning to create a digital roadmap describing the technology activities and capabilities required for their projects. An important aspect linked to this is IT governance for the management and use of IT that supports the LDC objectives and mission.

### **5.1.9 Challenges facing the LDC**

From the interviews conducted with coalition members, together with observation of meetings attended, it was found that a number of challenges and obstacles are facing the coalition. These challenges are identified by this research study as alignment inhibitors (see Figure 7), and will be explained and discussed in this section, as part of the ‘theory for design’ that this research offers. This research study suggests that addressing these



challenges is fundamental for the success of the LDC collaboration and for increasing alignment in the UK service redesign.



**Figure 7: LDC challenges.**

### **Shared vision and strategic direction**

It was found that one of the challenges facing the LDC is the lack of a clear shared vision and strategic direction within the coalition. As stated by the coalition “currently there is no 'vision' of what good looks like that we are working towards. We have the expertise and links, but no collective idea of what we are working towards. The coalition should be about more than just promoting projects or services” (LDC, 2017b). This study finds that there is a

link between having a shared vision and a strategic direction. This is because the lack of a shared vision creates a number of uncertainties and obstacles, including the difficulty of creating a shared strategic direction. This correlates with a lack of strategic thinking and planning in many public sector organisations, as explained in Chapter (4). Strategic thinking and planning is observed to be more challenging in the context of the LDC. The main reason for this is the shared element. The LDC is a collaboration among local authorities; therefore, the vision and strategic direction have to be shared.

In addition, it was expressed by some of the LDC members that creating a clear shared vision and strategic direction for the coalition is difficult and challenging in the absence of funding and resources. Establishing effective resource and funding management is discussed later in the LDC Governance Case Study (5.2).

It is suggested by this research that the coalition can overcome this challenge and create a shared vision by connecting and communication. This links to one of its principles mentioned earlier: *collate, communicate and connect*. Connecting and communicating should not be challenging for the LDC, as mentioned in the Literature Review Chapter (2), since network arrangements and collaborations allow for greater communication by creating closer contact, and a shorter distance between decision-makers and staff, and a shorter feedback cycle (Dodgson, 1993 and Hamel, 1991, cited in Ebers, 1997). Communication is an alignment enabler, as illustrated previously in Chapter (4). It is therefore important that the stakeholders involved in the LDC collaboration start with strategic thinking, communicating to envision the future and most importantly to create a shared vision, followed by planning and specifying a shared strategic direction. The LDC stakeholders have to define clearly the

ways and means to reach their shared vision, which should be created based on shared interest and incentives, discussed next.

### **Aligned agenda, motives and incentives**

A further challenge for the LDC is the lack of shared motives and incentives among the participating members. For instance, it was found from the data that the coalition includes members from public and private sector organisations, each with different interests. In addition, public sector organisations are often more complex and operate differently from the private sector. In the public sector, there is a changing political climate, and continuous funding and resource reductions, leading to a change in the member's motives, incentives and priorities over time. This will be examined in more detail in the Discussion Chapter (7).

### **Stability and sustainability**

Stability is one of the reasons found for engaging in partnerships and collaborations (Oliver, 1990, cited in Ebers, 1997). The authors here explain that collaborations allow organisations to minimise the uncertainties affecting their operations. Ironically, though, the LDC case study shows that new uncertainties are introduced at the collaboration level because it is at the initiation and formulation stage (e.g., lack of shared vision and direction, and aligned agenda and motives). It is therefore considered to be a consequence of this, among other reasons (e.g., lack of funding and resources, and lack of commitment), that there is no confirmation or certainty as to the stability and sustainability of the coalition. Commitment to the transformative agenda and having a collaborative mindset will be covered later. This

research assumes that over time, many of those uncertainties will be addressed by the establishment of effective communication among the coalition stakeholders.

## **Funding and resources**

The concern with respect to the sustainability of the the coalition, as expressed by some of the members, is found to be associated mainly with the lack of funding and resources. Public sector organisations over time are expected to do more with less funding. The lack of funding and resources is considered an ongoing concern and challenge in the public sector. It was mentioned in section (4.1.6), for instance, that local authorities, when standardising, have to consider the cost. As is also highlighted by Curristine et al. (2007) “citizens are demanding that governments be made more accountable for what they achieve with taxpayers’ money” (p. 4). Curristine et al. (2007) studied approaches to enhancing the efficiency of public sector organisations, and the use of performance budgeting in the public sector. According to the authors, utilising Performance Information (PI) in the budget process helps in shifting the focus from “inputs (how much money can I get?) towards measurable results (what can I achieve with this money?)” (Curristine et al., 2007, p. 2). However, Performance Information (PI) is not easy to utilise in the public sector (ibid). Monitoring, and performance and efficiency measurement are discussed later in detail as one of the challenges facing the LDC.

As mentioned previously, the coalition is not funded. This is despite the fact that it is believed by some of the members that true collaboration for local service transformation cannot be established without funding. And, according to one LDC member, “funds are not likely to be

available in the current climate” (T26). At the same time, there is the constraint that public funds have to be spent in specific ways. Additionally, it is mentioned by the coalition that it is “confirmed that Local Government Association LGA doesn't have a pool of funding that LDC could apply for. There is a £50,000 grant to arrange up to 5 projects around the local government sector, with the idea that one particularly advanced authority could repeat their expertise with others in the locality” (LDC, 2016).

As a result, the coalition is considering some funding alternatives, including public sector co-funding plan or crowdfunding. According to the coalition, crowdfunding has been successfully adopted by private sector organisations, and hence is considered an option. Crowdfunding is “raising external financing from a large audience (the “crowd”), in which each individual provides a very small amount, instead of soliciting a small group of sophisticated investors” (Belleflamme et al., 2014). The idea of co-funding here is for digital work and technologies that LAs could use and benefit from. The LDC is advising LAs to commission systems and find development partners for new technologies with the purpose of sharing the cost of development and to de-risk investment. This links to the Findings Chapter (4), where it is indicated that the cost of standardisation can be minimised by establishing economies of scale, shared services, and collaborations and partnerships.

The LDC is also gathering information on common capabilities that local authorities can have access to. One of the main benefits of collaborating is to share resources, skills and capabilities. Furthermore, networks are seen in the literature as a tool for a faster acquisition and for an effective management of resources (Dodgson, 1993 and Hamel, 1991, cited in Ebers, 1997). The key projects that the coalition have listed are the LAs

priorities (covered previously in the *LDC key projects and activities*), and thus they should be the first to consider when funds are available. As stated by Curristine et al. (2007), it is also important to align priorities to budget in order to control public spending. Therefore, the coalition can enable a more strategic and efficient use of investments, funds and resources. Plus, it is also believed that with careful strategic planning, common joint benefits for all participating stakeholders can be obtained.

### **Guidance and support**

Another obstacle facing the coalition is the lack of guidance and support from local government and GDS. This was expressed mainly when discussing the GOV.UK Verify project, which has been built by GDS and is being piloted for and used by some LAs. The role of GDS will be covered later in more detail in the GOV.UK Verify Case Study, section (5.3). According to LDC (2016), 20 LAs are working with GDS on the GOV.UK Verify programme. However, there is a lack of understanding around the financial cost of Verify to LAs. Nevertheless, GDS has confirmed to LAs that Verify will be free to use for the duration of the beta pilot. The data shows that the Local CIO Council has taken action by putting together a sub-group to challenge GDS with options for business models that can be used to underpin GOV.UK Verify in local government. This reflects the importance of communicating best practice, and the exchange of guidance and help to establish more alignment, as highlighted in the Findings Chapter (4).

### **Commitment to the transformative agenda / collaborative mindset**

The coalition has not shown any clear signs that it will continue its collaboration, and it was found that some of its members had sustainability concerns, as explained earlier in the stability and sustainability. Additionally, the lack of a clear vision and strategic direction, along with the many uncertainties, makes committing less desirable and more difficult. As expressed by one of the members, “it is a loose coalition” (T27). This study finds that in order for the LDC collaboration to succeed, a commitment to the collaboration and to a collaborative mindset are required, and these cannot be established without a clear vision and plan. According to Curristine et al. (2007), developing incentives can motivate and enable a change in behaviour. A member of the coalition has stated that “there should be a commitment from those who are part of the coalition that each will work on the agreed work streams and, when they are ready to roll out, will adopt them in their own home organisations” (T26). In this respect, it can be said that the way to collaborate is by defining incentives and motives for engaging in the LDC coalition, and also by making sure that there is an alignment of incentives and motives among the coalition members. Establishing an aligned agenda, motives and incentives was addressed earlier as one of the challenges facing the LDC. It will be discussed in more detail in the Discussion Chapter (7).

### **Efficiency and performance monitoring and measurement**

Another challenge facing the coalition are the difficulties of monitoring, and of performance and efficiency measurement. For example, one of the coalition members found that tracing benefits is challenging and not straightforward. Nonetheless, the literature has shown repeatedly the importance of using Performance Information (PI) and Key Performance Indicators (KPIs). Curristine et al. (2007) stated that Performance Information (PI) offers a number of benefits in the public sector. These comprise an increase in transparency of, the use of information as an input in the planning process (including in determining goals and

priorities, as well as the ways to achieve them), and lastly the establishment of a greater focus on results.

It can be said that the members concern regarding measuring performance and efficiency are also evident empirically. Curristine et al. (2007) have found that the literature lacks measures and affirmation of the impact of reforms on public sector efficiency. The LDC has also been facing difficulty in terms of measuring their impact. The reasons that the authors have provided to account for this include: insufficient performance measures prior to reform, difficulty of efficiency measurement in the public sector, and the problem of separating and distinguishing the direct reform effects from other external effects or indirect influences (Curristine et al., 2007). According to Curristine et al. (2007), it is also shown empirically that the reasons are linked to the limited resources available to monitor, assess and evaluate.

Those reasons are relevant and relate to the LDC case study, particularly the limited resources, which are considered to be one of the key LDC challenges. However, this study argues that there are more reasons found in the LDC case study causing difficulty with respect to performance and efficiency measurement. These relate to the *size* of the reform (and coalition). For example, the LDC is inclusive of all LAs, and hence faces difficulties in tracking and monitoring outcomes. Secondly, the members differ and their roles vary in the LDC. As mentioned, it includes both private and public sector members, and joining or participating members.



### 5.1.10 Benefits of the LDC collaborative effort

The statement below by the LDC, which has in part been mentioned previously, highlights the LDC main benefits:

*“a single-point mechanism for coordinating digital transformation on a national scale that will ensure communication, collaboration and learning around common practical solutions that are already underway. This is a critical time for such continuity.”*

*(LDC, 2016, p. 1).*

It was found from the data collected that the LDC does not fulfil the vision of all of the people involved in the local public sector: some, for example, instead envisioned a Local.Gov.UK website or a local GDS, as shown in the Findings Chapter (4). Nevertheless, the LDC has offered local authorities, and also the private sector, a number of benefits. Furthermore – and to reiterate the point made above – the coalition still plays an important role in increasing alignment in service redesign, which is further explained in this section. As we will now see, the benefits of the LDC collaborative effort, which are also considered to be BIA enablers, include: (1) communication and knowledge and information exchange; (2) standardisation; (3) GDS engagement with local authorities; (4) horizontal and vertical integration between the strategic and operational level; (5) increased competitiveness among public service providers; (6) shorter feedback cycles and a closer contact; and lastly (7) credibility and authority (see Figure 8).

## **Communication, and knowledge and information exchange**

The benefits of the LDC include providing a single platform for LAs to communicate, coordinate and connect. This relates to one of their previously mentioned principles, which is to 'collate, communicate and connect', and also to the communication alignment enabler identified in the Findings Chapter (4). The dsata has indicated that the LDC is enabling the faster exchange of knowledge, information, learning and expertise among LAs. This was illustrated by the LDC (2017) itself: "having individual local authorities joining the coalition is also great, as they get to feed in to the conversation". Moreover, it was found that the coalition is planning to adopt a mechanism that enables cross-organisational information flow. A member suggested that what the coalition could do next is to create workshops for LAs and their suppliers to communicate and discuss what is happening in the marketplace and the aspects that need to be improved. This it is believed will facilitate collaborative learning among LAs and their suppliers.

## **Standardisation**

The LDC has shown a commitment to standardisation with the aim of improving local public services. Standards are being created and endorsed for LAs and their suppliers to adopt, as mentioned earlier in the standards and compliance. Standardisation is also one of the alignment enablers covered in section (4.1.6). Therefore, this research views it as an important step that the coalition is taking towards establishing horizontal and vertical alignment in UK service redesign.

## **GDS engagement with local authorities and their suppliers**

Findings have indicated that GDS is leveraging the LDC as a vehicle to engage and connect with LAs and their suppliers. In this way, it is enabling GDS to connect and listen to LAs and to establish a better understanding of their needs. It was also found that LAs are working with the LDC, to challenge GDS with options for the services they are developing, to ensure successful service development, as well as integration with the services LAs are providing. At the same time, GDS - through the LDC - is providing LAs and their suppliers with information, guidance and support. This includes information about the projects GDS is planning to extend to the local public sector, as well as other work streams and service redesign updates. This shows that the coalition is helping in terms of bridging the information gap, and creating a bi-directional relationship between central and local government, and their suppliers. Communication for exchanging guidance and help was emphasised in Chapter (4) as one of the key factors found to support alignment. Therefore, it can be said that the LDC is being used to achieve some level of vertical alignment between central and local government.

## **Horizontal and vertical integration between the strategic and operational level**

One of the alignment factors discussed in the Findings Chapter (4), is integration between the strategic and operational level. Business-IT alignment frameworks, such as Henderson and Venkatraman's (1993) SAM model, illustrate the importance of this and have described it as 'strategic fit'. It can therefore be argued that suppliers and the private sector are included in the LDC as they may affect or be affected by the coalition. They are part of the service redesign effort, and are providers of digital and Information Technology services to the local public sector. Their inclusion in the coalition, we can argue, helps in making them

more prepared and able to plan for any future contractual amendments required. This is a benefit which is also described in the network literature as the increased capacity to plan and resolve complex issues (Provan and Kenis, 2008). This enables a higher level of strategic fit and integration between the strategic and operational level in UK service redesign.

Moreover, it was found that the LGA has failed in the past to find a forum where LAs and their suppliers in the private sector can come together in a friendly and informal way to communicate, share, and plan in a cooperative manner. According to the LDC, the LGA believes that the coalition is bringing together the right players from the private and public sector (e.g., GDS, Department for Communities and Local and Government DCLG, iStandUK and SOCITM). iStandUK, for example, is included in the coalition, and is developing common data standards and design pattern standards for LAs, as explained earlier. In addition, the coalition added that they will be “focussing on how the coalition ties in to the DCLG and the work that they want to do with local government” (LDC, 2017b). It was shown in the Findings Chapter (4) that there is a lack of communication and engagement between central and local government, one of the reasons being central government’s inability to connect with all local authorities. In regards to this, the coalition illustrated in their meeting minutes that “before the coalition there was a view that there are too many groups, and it was hard for central government to know who to engage with. There was value in having a group that brought all this together” (LDC, 2017b). Therefore, it is seen that the coalition can increase strategic, organisational, technological, and operational alignment and coordination across UK service redesign. Nonetheless, the different actors and organisations involved in the digital service redesign is one of the reasons that this study sees that BIA alignment has to be discussed at different levels in the UK public sector:

horizontally (across government agencies), and vertically (between central and local government).

### **Increased competitiveness among public service providers**

This study has found that the benefits of the LDC include increasing competitiveness among public service providers from the private sector. An example of this is the development of local common data standards and design patterns standards by iStandUK, which the coalition is planning to endorse for use by LAs and their suppliers. This also relates to increasing competitiveness among local authorities, for example, to adopt standards in order to provide better quality citizen-oriented services, and to be more advanced and at the forefront when it comes to digital transformation. A participant from business explained when asked about the use of standards: “no one is going to believe that the standards going to work. The only way that they believe they are going to work is if they see them, making services better” (T28). Therefore, when a LA adopts the standards and it helps them to deliver better quality services, and it is demonstrated through the coalition, then other LAs will be more committed to establishing standardisation. This research finds that this type of competitiveness can lead to advanced service developments in the supplier market and can also speed up the local service transformation required for alignment. Increased competitiveness is an advantage found also in the network literature (Provan and Kenis, 2008).

### **Shorter feedback cycle and a closer contact**

In addition, there are many benefits of network initiation and creation found in the literature, as mentioned previously, which are also evident in the coalition. These include a shorter feedback cycle, and closer contact between business and IT senior managers, decision-makers and staff, and also a closer connection with the private sector. One of the coalition members explained that front line staff views can be represented and reported to the coalition. The member added, it enables them to “participate in more senior meetings that you might not otherwise be part of” (T25). This is seen to be crucial for alignment, as explained previously in the levels of business-IT engagement section, that meetings should not only be restricted to business and IT leaders (Chapter 4).

### **Credibility and authority**

However, a benefit which is not mentioned in the literature, and yet is seen in the coalition, is the credibility and authority that members of the coalition have gained. According to a member of the coalition: “I have found it useful being able to point to the coalition when talking to suppliers” (T20). Another example refers to the coalition key projects, as stated by one member: “talking at a company’s investment board about Blue Badge work, and the fact that it is a key coalition project, has been very useful” (LDC, 2016h). In addition, it can be seen that the LDC gives LAs some assurance that their thinking in terms of service redesign is aligned with that of the coalition, and therefore it is facilitating horizontal alignment among LAs. The main reason given for this is that they feel the LDC is activating the right players, and is engaging a variety of members from local public and private sector who are considered to be the majority of service providers in the UK, as explained previously. This

is also one of the reasons for the complexity of BIA alignment found in UK service redesign, especially given the existence of the silo-based systems associated with localism, which is seen by some of the respondents as the 'biggest killer of collaboration'. Indeed, this study has found that silo-based systems associated with localism can be a barrier to alignment in UK digital service redesign, as illustrated in Chapter (4).

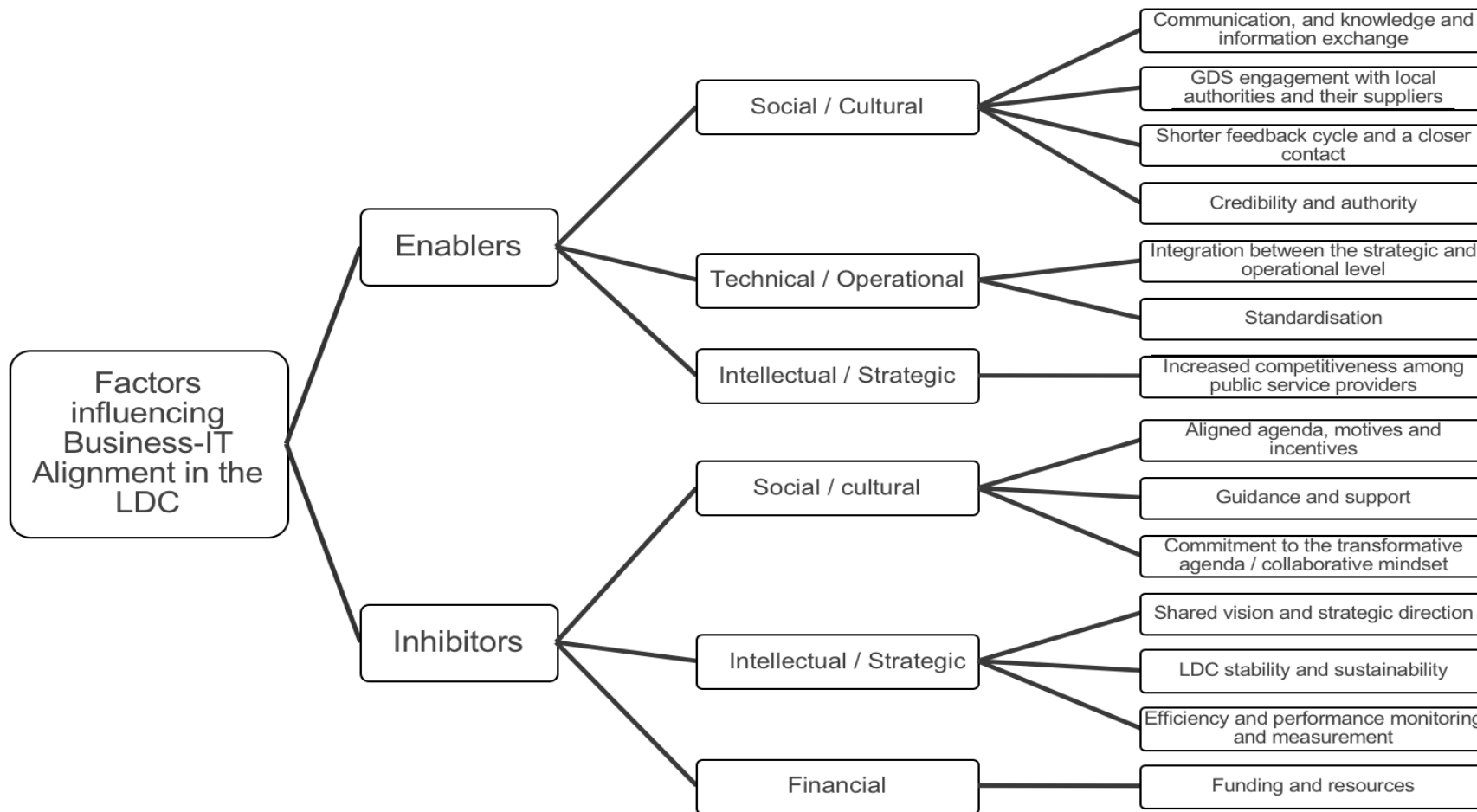


Figure 8: Factors influencing alignment in the LDC.



### **5.1.11 Interrelation between the alignment factors identified from the LDC case study**

This section illustrates the interrelation found between the alignment factors identified from the LDC case study, which were explained earlier in this chapter, and are also shown below in Figure (9). It includes some factors which were covered or relate to the factors provided in both the literature (Figure 3) and in the research findings from interviews (Figure 5). These factors are (i.e. communication, standardisation, partnership and collaboration, and levels of business-IT engagement). There are factors which only relate to the alignment enablers illustrated in Findings Chapter (4) and Figure (5) (i.e., strategic thinking and planning, and integration between the strategic and operational level). There are new factors which were not covered previously (i.e. shared vision and strategic direction, aligned agenda, motives and incentives, funding and resources, guidance and support, efficiency and performance monitoring and measurement, stability and sustainability, commitment to the transformative agenda / collaborative mindset, increased competitiveness among public service providers, shorter feedback cycles and a closer contact. and lastly credibility and authority). The figure below is a result of further exploring and expanding the alignment factors identified from interviews and presented previously in Figure (5) in the context of the LDC case study.

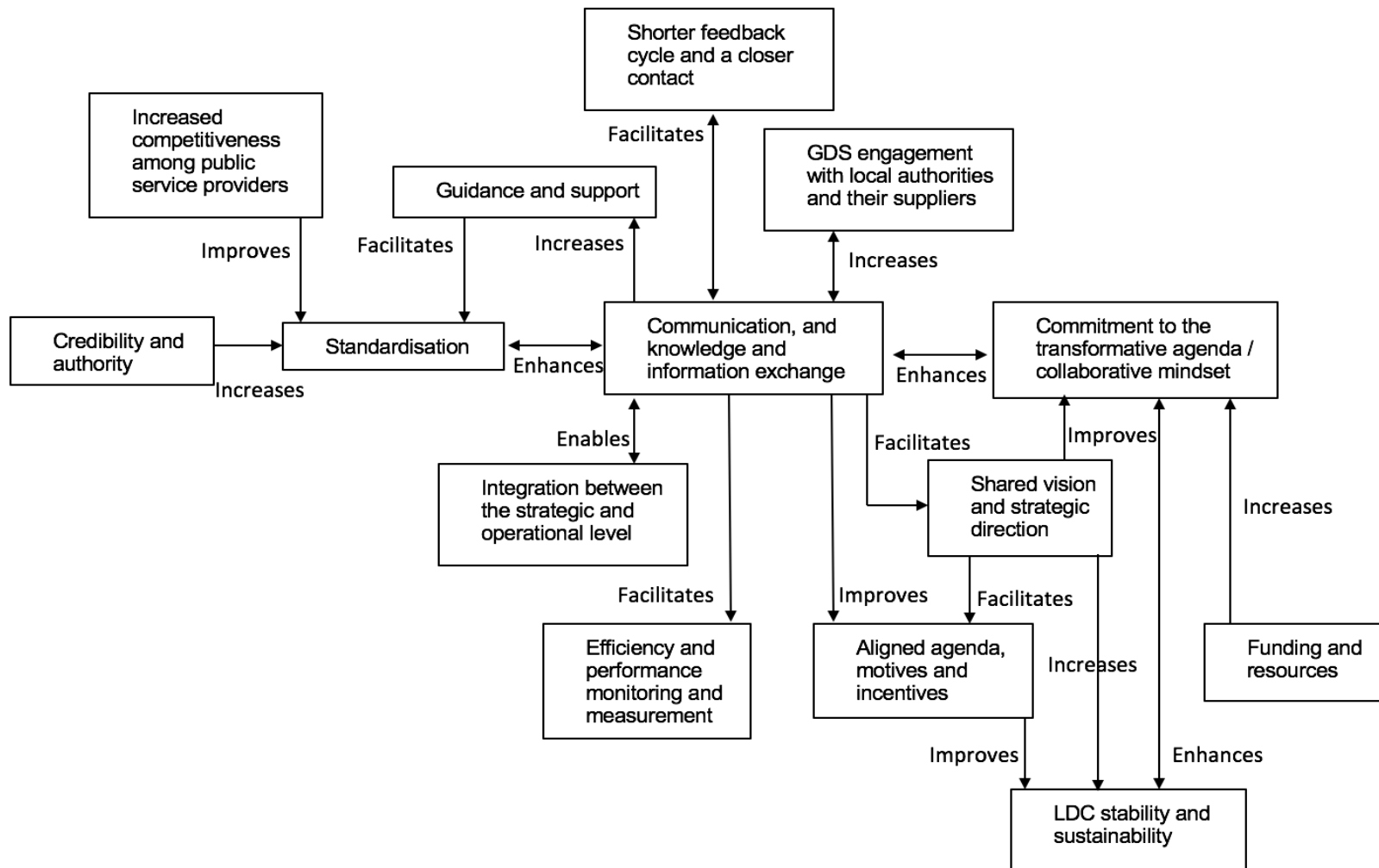


Figure 9: Interrelation between the alignment factors identified from the LDC case study

## Conclusion

The Local Digital Coalition (LDC) is seen to be an appropriate case study to bridge theories of BIA, as discussed in the Findings Chapter (4), and in practice. It also establishes an understanding of collaboration in UK service redesign that strengthens alignment. For example, it was found that the LDC facilitates the type of communication required for more horizontal and vertical alignment in UK service redesign (e.g. communicating best practice, and creating closer contact and a shorter distance between decision-makers and staff, as well as shorter feedback cycles). The LDC case study allowed for the alignment factors covered previously in Chapter (4) to be further explored and expanded (i.e. communication, standardisation, levels of business-IT engagement, partnership and collaboration, strategic thinking and planning, and integration between the strategic and operational level). For example, it was found that in association with the alignment factor of *strategic thinking and planning*, it is important for the LDC to have a shared vision and strategic direction.

The coalition includes a number of organisations and actors involved in local service redesign from the public and private sector. While the coalition is facing a number of challenges and difficulties, it is believed that it offers a number of benefits, and can increase vertical and horizontal alignment in UK service redesign. The challenges with which the LDC must deal are considered by this research study as alignment inhibitors. Conversely, the benefits of the LDC collaborative effort are seen to be alignment enablers in UK service redesign, as shown in Figure (8).

Moreover, local government provides the majority of services in the UK and if the coalition achieves its mission, adopts its principles and overcomes its barriers, then it can be argued that alignment in most UK public services will increase. The coalition principles, specifically, *collate, communicate and connect, be consistent, not uniform, and do things once*, can be seen as crucial for alignment, as they promote communication and standardisation, consistency and coordination of local sector services and digital transformation initiatives.

The next section will examine the LDC Governance case study and explain its link to BIA.

## 5.2 LDC governance case study

As has been established in chapter (5), the LDC is a network and collaboration among local authorities that increases alignment in UK digital service redesign. The LDC offers a number of benefits relating to BIA, such as facilitating communication and standardisation. The LDC also faces a variety of challenges (e.g., lack of funding and resources, no shared vision and strategic direction, and matters of stability and sustainability), which this study argues can be overcome by the adoption of an effective governance mechanism. Data from the LDC reports that governance is crucial for the success of the coalition and for facilitating alignment.

This section explores and explains the linkage between governance and alignment, and concludes that governance is an alignment enabler. The reason for this is that governance facilitates a number of alignment enablers and reduces inhibitors covered previously in Figure (5) and (8). It results in a higher level of alignment (e.g., by handling communication, information and knowledge exchange, standardisation and managing resources and funding).

As part of the research process, which was framed by 'theory for design', the research activity with LDC surfaced and confirmed the significance of governance, and during this process the researcher undertook to co-develop a governance framework with and for LDC. This bespoke governance framework, whilst not core to the research of this thesis, is however important enough to be referred to in the body text and provided for information in (Appendix, 17). This section starts by explaining the importance of governance for the

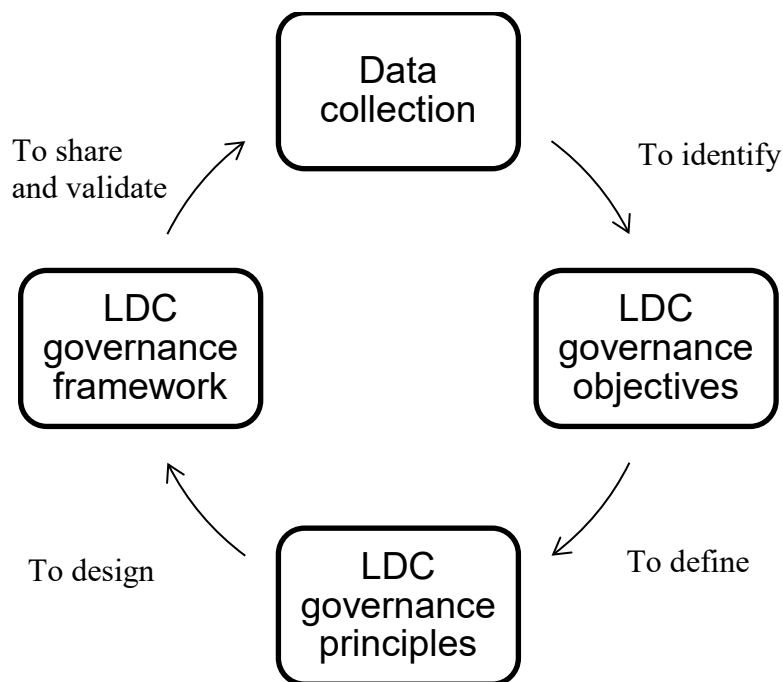
coalition success and its link to alignment. The LDC governance objectives, principles and framework designed and proposed for the coalition, as part of the 'theory for design', will be briefly illustrated. Lastly, the linkage found between governance and alignment will be explained.

### **5.2.1 The LDC need for a governance mechanism and its link to alignment**

The coalition, after its first meeting, identified the need for a governance mechanism, especially after receiving joining requests from many LAs across the UK. As explained by a Chief Information Officer from the LDC, "we identified that as a problem at the last meeting because we hadn't anticipated that so many people would want to join" (T25). Data from the LDC reports that governance is crucial for the success of the coalition. When referring to governance, the Local Digital Coalition (2016, p. 1) states: "having identified some national and local projects that could help the sector make significant savings and improve services, councils need an agreed and authoritative mechanism to plan and deliver this collaborative work, and to monitor and evaluate its success".

A number of governance objectives were shared by the coalition members, and it was found that many of these objectives in fact link to alignment. Therefore, the LDC governance was chosen and seen as a suitable case study to explore and explain the linkage between governance and alignment. After determining the LDC governance objectives, and in an effort to create a governance framework for the coalition to further investigate the

relationship between governance and alignment, a number of governance principles were identified by the researcher. These principles were defined based on the governance objectives and were then used to guide the design of the LDC governance framework. The governance objectives, principles, and framework (covered in the next section) were identified and designed iteratively (See Figure (10)), and are based on a dialogue with a number of the coalition members during two LDC meetings attended, and two interviews conducted with a LDC member (See Table (4) for details of data sources).



**Figure 10: The process of designing the LDC governance mechanism.**

## **5.2.2 The process of designing the LDC governance mechanism and the governance-alignment linkage**

### **Identifying the LDC governance objectives**

The objectives were collected and identified in an iterative manner, after presenting and sharing three governance framework proposals with the coalition and its members during two interviews with a LDC member and two meetings that were attended, as explained in the previous section (5.2.1), and depicted in Figure (10).

#### **The collected LDC governance objectives are as follows:**

- To manage decision making effectively
- To handle memberships requests
- To improve public sector services by an agreed important investments
- To manage resources and funding effectively
- To produce reusable examples in an effort to standardise
- To endorse standardisation across LAs
- To enable and handle cross-sector collaboration
- To collaborate and partner with central government
- To handle communication, information and knowledge exchange
- To be less formal and more transformative
- To focus on implementation and execution



A number of governance objectives from those mentioned above facilitate alignment factors covered in chapter (4) and (5). These include: (1) producing and endorsing standardisation; (2) enabling horizontal and vertical collaborations and partnerships; (3) handling communication, information and knowledge exchange: and (4) managing resources and funding.

### **Defining the LDC governance principles**

The LDC governance principles were identified based on the governance objectives (presented in the previous section). The LDC key governance principles are listed below, and more details for each principle is provided in a framework in (Appendix 14). Similarly to the governance objectives, it can be seen that these principles facilitate alignment and relate to the alignment factors covered in Figures (5) and (8). For example, the principle of relationship and communication management, funding and resources management, and joint processes. The relationship between governance and alignment will be explained further in section (5.2.3) in more details.

The LDC key governance principles are as follows:

- Relationship and communication management
- Work breakdown structure and joint processes
- Accountability and responsibility
- Funding and resources management
- Decision making authority
- Participation and power sharing

## **Designing the LDC governance framework**

Three governance framework proposals were designed, shared, and validated iteratively as seen in Figure (10) with the coalition to further investigate, collect data, and gain insight and understanding into the link between governance and alignment. As also mentioned earlier, these frameworks were designed based on data collected during two LDC meetings attended, and two interviews conducted with a LDC member.

The first framework proposal created for the LDC can be found in (Appendix 15), and the second in (Appendix 16), and the last in (Appendix 17). The LDC is adopting an agile method and process for project development and delivery. This will be explained in more detail next in the GOV.UK Verify case study. Therefore, it is found that it is more suitable for the LDC to adopt a governance mechanism that mirrors the agile philosophy adopted for project development, explained in details in (Appendix, 17). The way that governance facilitates more alignment is explained next.

### **5.2.3 The relationship between governance and alignment**

As stated earlier, the LDC was found to be a suitable case study to investigate the governance-alignment linkage. The data gathered from the LDC for the governance (objectives, principles and framework covered earlier) shows that governance is an alignment enabler. This is because it was found that governance can facilitate a number of the alignment factors covered previously in chapters (4) and (5). These factors are

highlighted and presented below in Figure (11). For example, governance can produce and endorse standardisation, enable horizontal and vertical collaborations and partnerships, and allow for a successful handling of communication, information and knowledge exchange.

There are a number of alignment challenges and difficulties that the coalition is facing, as covered earlier in the LDC case study, section (5.1). Some of these challenges relate to the absence of effective governance of the coalition. This is because it can be seen that the governance (objectives, principles and framework) covered earlier are concerned and addresses many of these alignment challenges. For example, governance allows for a better management of funding and resources, establishment of stability and sustainability of the coalition, development of a shared vision and strategic direction along with shared incentives and motives, and lastly facilitating efficiency and performance monitoring and measurement.

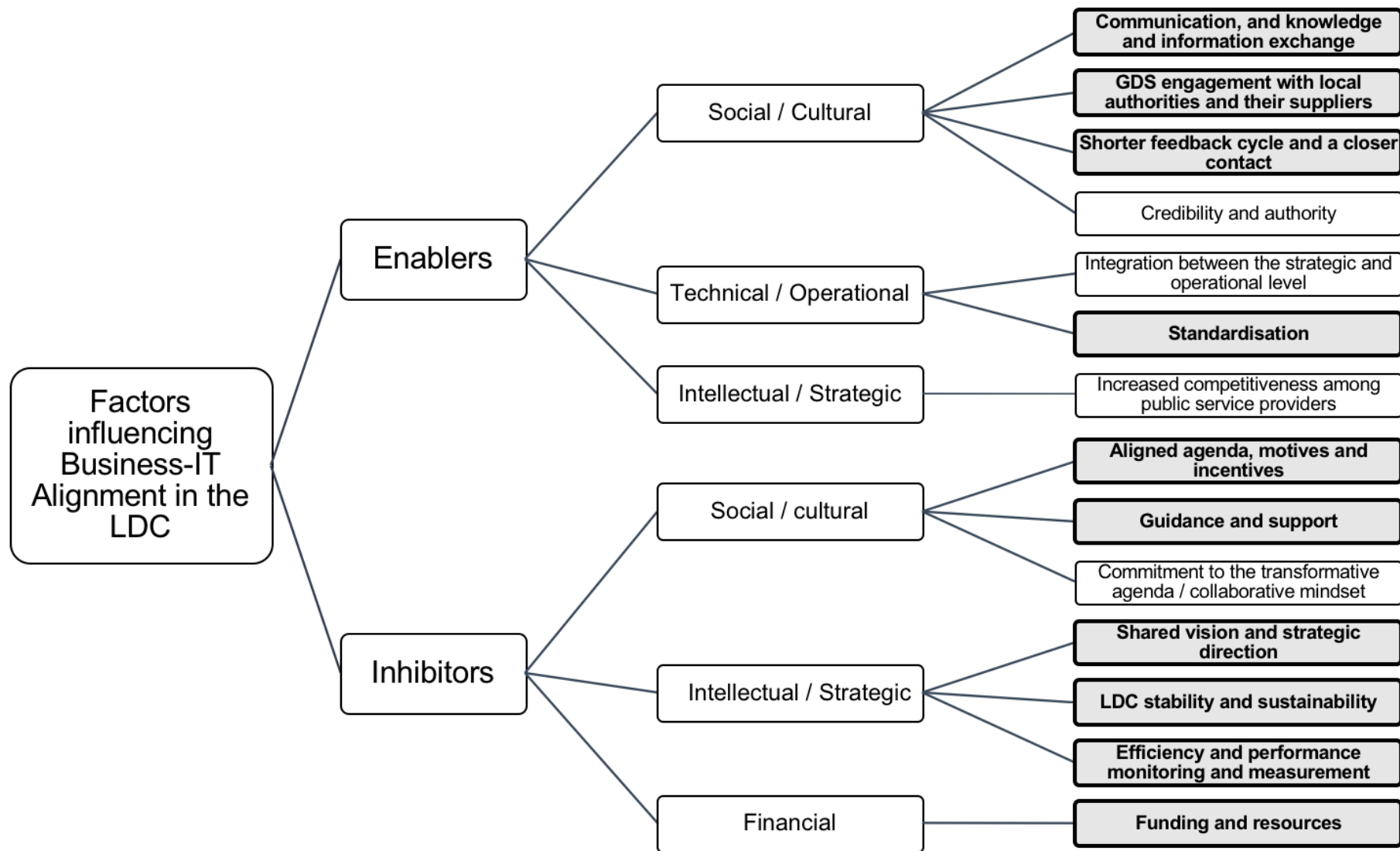


Figure 11: Alignment factors facilitated by governance.

## **Conclusion**

The aim of the LDC governance case study was to explore the relationship between governance and alignment. This research study identifies governance as one of the alignment enablers. The reason found for this is that governance can enable a successful handling of collaborations, communication, standardisation, and the exchange of best practice, information and knowledge, which are required for alignment (as explained in Chapter 5). Governance can moreover enable effective resource and funding management, the creation of a shared vision and strategic direction, as well as shared incentives and motives, and the improvement of efficiency and performance monitoring and measurement. These factors facilitate alignment in UK service redesign and were addressed previously as part of the challenges facing the coalition, section (5.2).

Governance is also seen to help the coalition with stability and sustainability, which is one of its identified challenges. At the same time this study shows that the lack of sustainability and stability of the LDC collaboration affects governance negatively. This research study sees that there should be a confirmation of the sustainability of the coalition in order to establish further in-depth thinking with respect to governance.

## **5.3 GOV.UK Verify case study**

The GOV.UK Verify project has been mentioned several times in this research as one of the services developed by GDS, and the findings have reported that local authorities are interested in its reuse. As also mentioned by an IT participant from GDS, “in the context of identity standards, and good ways to deliver digital identity, one of the major pushes for us doing that work has come from local government” (T7). GDS therefore has provided LAs with the option to use GOV.UK Verify with their services. In addition, after starting the Local Digital Coalition LDC, GDS approached local authorities (LAs) through the coalition to pilot the service for them to reuse. For these reasons GOV.UK Verify has been chosen as a case study to dig deeper and to examine this collaboration in more detail. A further aim is to understand the process adopted, and the contribution of and role undertaken by LDC and GDS in this collaboration to pilot and use a common service: GOV.UK Verify.

### **5.3.1 What is GOV.UK Verify?**

GOV.UK Verify is an authentication and identity assurance service developed by GDS. It went live in May 2016 and is “a new service that will give people a secure and convenient way to sign in to government services” (GOV.UK, 2014, p. 1). Identity verification is required to enable users to access their personal records, and to ensure that they are secure and protected from any claims involving fraud. It is “the new way for people to prove who they are online, so they access digital government services securely and safely, without having to use postal, telephone or face-to-face services” (GOV.UK Verify, 2016, p. 1). The

verification happens through a number of companies that the user can choose from (e.g., the Post Office, [www.postoffice.co.uk/government-verify](http://www.postoffice.co.uk/government-verify)). These companies are certified based on the validity of the checks they execute on the user and by meeting the identity check guidelines specified by GDS (GOV.UK Verify, 2016). Once the user identity is authenticated and verified by a certified company (e.g., the Post Office), single credentials (username and password) are issued for the user to use when accessing a government services that uses GOV.UK Verify. In doing this, GDS is protecting the users' personal information by avoiding locating it centrally (ibid).

### **5.3.2 Guidance and support provided by GDS to LAs to use GOV.UK Verify**

GOV.UK Verify does not work with all government services, and thus GDS provides guidance and support to LAs who would like to use it. This is done by publishing the stages and steps that LAs will need to go through in order to be able to use GOV.UK Verify with their service. These stages are 'proposals', 'needs analysis', 'planning', 'build and integration testing', 'production onboarding', and lastly 'in beta' (GOV.UK Verify, 2016). Mainly, LAs will have to complete an initial assessment form to distinguish the type (e.g., for a citizen or organisation), and level (e.g., LoA2, LoA3) of identity assurance service they will require (GOV.UK Verify, 2016). The council service manager will then have to confirm the need of GOV.UK Verify. In addition, the manager will have to provide GDS with a proposal and an analysis of how they are planning to use GOV.UK Verify and how it will be integrated with their service. The proposal is then reviewed by the GOV.UK Verify team, and approved if the council is intending to use the service appropriately. LAs will have to meet a number of operational and technical requirements, and to conduct service review meetings with

GOV.UK Verify team. Details of the requirements can be found in (<http://alphagov.github.io/identity-assurance-documentation/>). A participant from GDS IT team explained that at GDS they had to work on “trust models, for how digital identity can be trusted between different departments and the different bits of central government and local government” (T7).

### **5.3.3 The process of collaborating with LAs through the LDC**

GOV.UK Verify is one of the GDS projects piloted for and being extended to LAs. A new team from GDS, called the ‘local authority reuse’ team, has examined the possible uses of GOV.UK Verify by local authorities. Next and through the LDC, a number of discovery meetings have been conducted with the 17 LAs who have signed up for the Verify Local pilot project. The outcome of these meetings, of which GDS and DVLA were part, was to run two shared pilot projects: Residents’ Parking Permits, and Older People’s Concessionary Travel (LDC, 2016a). Those two projects were chosen based on the local authorities service prioritisation and the benefits that can be gained by connecting with GOV.UK Verify. The target set for those Verify Local projects was that they should be developed and used by Summer 2017.

The LAs who have joined the Verify Local pilot projects had to fulfil a number of participation requirements and show that they are able to commit. “Councils will commit to collaboratively redesigning the local service to make it as great as it can be using common standards and GOV.UK Verify” (LDC, 2016e). Those commitments and requirements listed in the project



agreement included: participate and attend all events; share knowledge and work with transparency; meet the GDS Service Standard Criteria; make all project related outcomes open source; standardise and meet the Technology Code of Practice, the Identity Assurance Principles (PDF), and the Code of Interoperability (PDF); ensure successful service management and that suppliers meet the pilot terms; and lastly sign off project agreement and buy-in through a senior manager (LDC, 2016e).

According to the LDC (2016a), it is “the first time GDS has had the opportunity to pilot the use of one of its platforms in an end-to-end service transformation across local and central government boundaries”. Consequently, it is expected that these two pilots will help in understating how collaborations in terms of service redesign between local and central government can be established. This type of collaboration is believed by this research study to facilitate alignment. The LDC added that it will “help councils realise economies of scale as they transform common services” (LDC, 2016b). A respondent involved with the development of GOV.UK Verify from GDS stated that it is one of the initiatives from which LAs can really benefit. He highlighted that there is a need in local government for a more consistent way of checking identity for access to digital services. The reason for this is that in previous years, many LAs had significant fraud and cyber security issues in the delivery of their digital services, and therefore they have a great need to improve the consistency with which they are mitigating cyber security risks. GOV.UK Verify helps improve the way that they manage their identity risk in a standardised way, and at the same time to save costs. Another benefit of the pilots is that they will increase local autonomy and encourage further collaborations among LAs.

## **The first step of service transformation: collaborate to create common reusable services**

The LDC approach and process to achieving this collaboration and to embark on this big project was divided into four steps. The first step was creating the work that a single council could do on its own to design a common reusable service. According to the LDC (2016a), the reason that councils are not cooperating when creating services is that to do so requires a great amount of coordination and organisation. In order for it to work, there has to be someone taking the coordinating role and thus bearing responsibility for aspects such as planning, organising meetings, and monitoring project progress. As was also stated by the LDC (2016a): “despite the savings and potential for transformation that more commonality could bring, working together does not happen spontaneously”. In addition to the administrative and coordinating role, it demands a range of expertise, such as a product owner, delivery manager and service design consultant, which are allocated by the LDC for each pilot product (ibid).

## **The role of GDS**

GDS provides assistance and guidance to make it easier and more possible for LAs to create common services and to integrate GOV.UK Verify with their service. It “will support the process with service design, user research and technical guidance, business case development, and project coordination” (LDC, 2016e). Additionally, the role of GDS involves communicating with LAs to pilot the service, and providing all the pilot information and

outcomes, including business cases and service redesign templates, which are also made available for anyone in the public sector to use for their service redesign initiatives (ibid). Communication was discussed previously in Chapter (4), as one of the alignment enablers, and the GOV.UK Verify case study showed the importance of this factor for increasing vertical alignment in service redesign. To sum up, GDS' role in the collaboration to pilot the service includes communicating, co-ordinating, and providing guidance, advice and user research. As well as providing support for the business case and integrating the service (LDC, 2016e).

### **Second step: Planning and testing a scaled pilot design**

The next step was testing a scaled pilot design of an agile service. This step is found to be necessary by the LDC, and it involves understating user requirements, creating a minimal viable product, receiving feedback, and lastly modification. These actions were done in an iterative manner for a successful service transformation. Initially, the work was carried out by short-term planning and a two week sprints, which the LDC described as a 'figuring it out as we go' approach. However, after a short period, this approach has changed as planning in advance was found to be necessary to make this collaboration work. As a result, LDC created a roadmap (Figure 12) and resource requirement for the pilot project (LDC, 2016g).

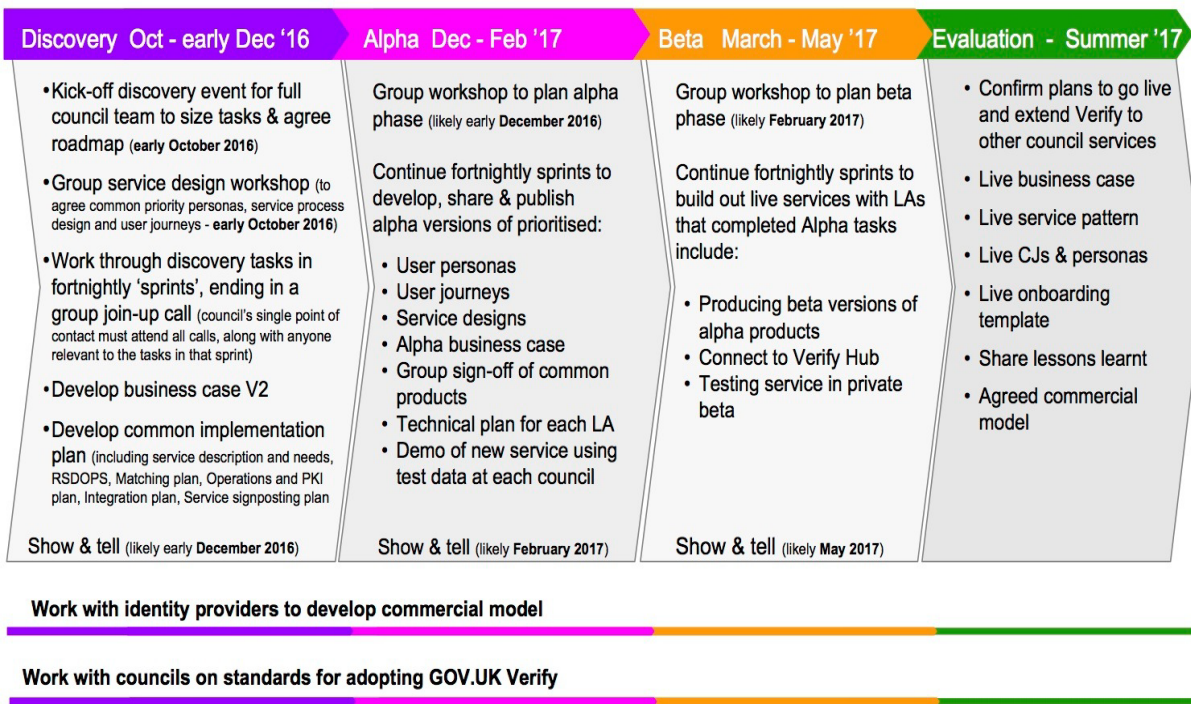


Figure 12: Verify Local pilot roadmap (LDC, 2016c)

In addition, communication was carried out between the teams responsible for developing the service via the use of a project organising application and a collaboration tool called 'Trello' (Appendix 20). It can be seen that communication between the local government teams is considered to be crucial during project development, and is believed by this research study to facilitate horizontal alignment in service redesign. A scrum product backlog and a project board were created using this application where the teams have broken down the work into feasible and achievable parts. It was divided into sprints comprised of a number of tasks, functionalities and realistic milestones (Figure 13). The agile scrum process adopted essentially breaks down the work into a list of user stories: to do, doing, and done.

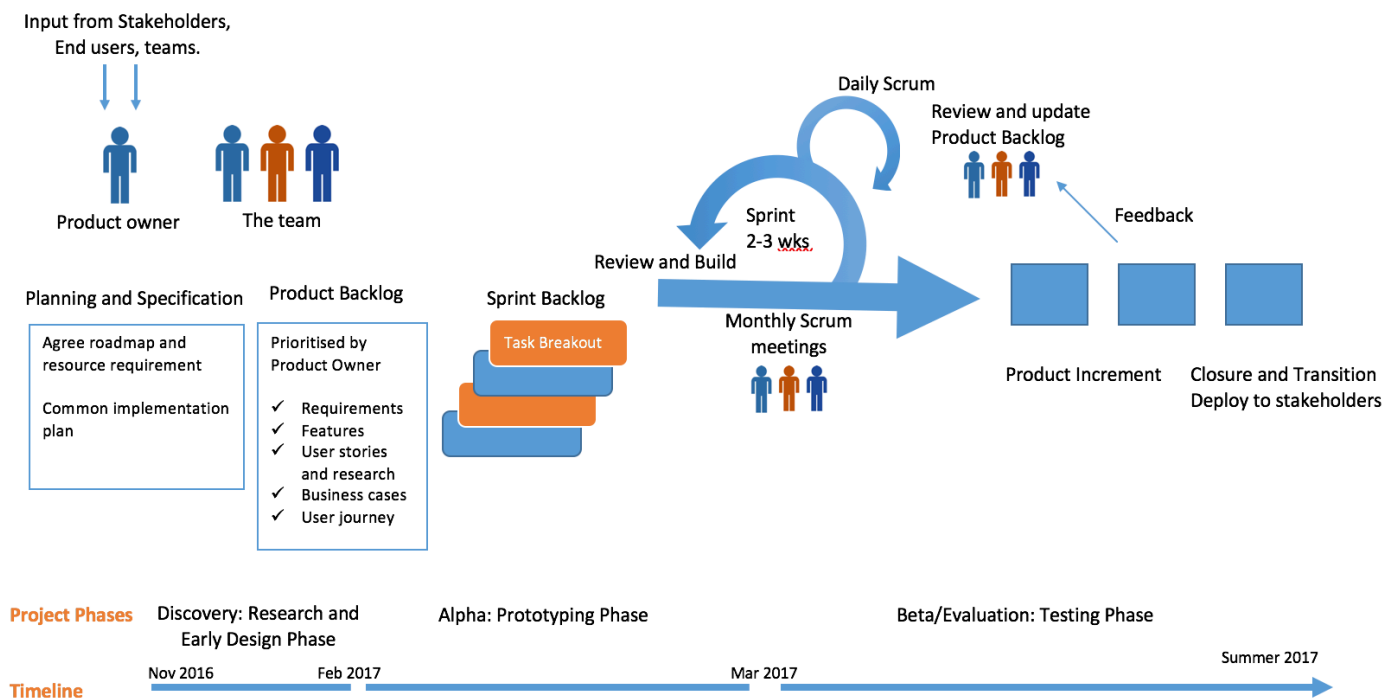


Figure 13: Verify Local agile scrum process and framework adopted.

### Third step: Divide the work into four phases

As stated by the LDC, the third step focused on dividing the project work into four phases: discovery, alpha, beta and evaluation phase (Figure 12, Verify Local pilot roadmap). In each phase a number of co-planning events took place, where teams from local councils communicated, co-planned and worked jointly to create a service that works for everyone. Communication is seen to be important in each of the project phases by local councils, and is used to ensure horizontal and vertical alignment. This was highlighted by the LDC by the statement that “web, IT and digital staff, customer services staff, parking and concessionary travel service staff, service design and user research leads and relevant suppliers are talking and planning together from the beginning” (LDC, 2016b). In these events, a work breakdown

was established where the teams divided up the work and achieved an understanding of roles and responsibilities. This entailed deciding who should be responsible for what, what are the resources, support or help required, and what service development approach they will use. It also included discussing how they can learn from, align with and link it to the activities conducted by GDS for GOV.UK Verify. Most notably, these co-planning events have enabled the GDS team to identify common support needs and the knowledge gaps of all councils involved to enhance the support provided to them (ibid). This links to the research findings in Chapter (4), where communicating best practices, and providing guidance and support (e.g., for standardisation) were highlighted by interviewees from LAs and seen to increase vertical alignment.

At the discovery phase, templates for Verify Local user research, service design activity planning, technology activities planning and performance monitoring were designed for councils to use in their service transformation (LCD, 2016d). According to the LCD (2016b), the aim of these templates was to “provide local authorities with practical methods and tools to conduct user research”. Every council involved conducted user research in which user requirements and expectations were gathered, and user stories were developed. Nonetheless, user research co-planning and service design workshops were organised by the LDC to communicate, collect and discuss the councils’ user research findings with GDS and other participating LAs. A common user journey and design pattern were designed by GDS and shared with the participating LAs for feedback at the service design workshops. These common patterns are then modified based on the outcomes of the continued user research and journey mapping, and then reviewed and approved by all participating LAs (LCD, 2016d). These workshops are seen by this research study to facilitate *communication*, which in turn increases *engagement*, and *Shared Domain Knowledge SDK* between the

business and IT from LAs and GDS. These factors were identified as alignment enablers in the findings Chapter (4).

#### **Fourth and last step: Transparency**

In the fourth and last step, transparency is key. This step is identified by the LCD (2016a) as “we’re doing it all in the open”. All the details of the pilot project, its phases and progress, are documented and communicated, to LAs and other organisations through the LDC website. For details see: residential parking permit webpage (LDC, 2018a), and older person’s concessionary travel webpage (LDC, 2018b). More information can be also found on the GDS website, the websites of local councils involved, and on the project page for each pilot (LDC, 2018c).

To conclude, it can be said that the process adopted during the pilot phases, and the co-planning events and workshops enabled some of the alignment factors discussed previously in the Findings Chapter (4): communication, standardisation, and engagement, and Shared Domain Knowledge SDK between the business and IT from central and local government.

#### **Other Local Authorities LAs who have not signed up to the Verify Local pilot project**

An interviewee from a local government organisation explained that there is an interest to use GOV.UK Verify, but they do not yet have the capabilities within their organisation to

pilot, or adopt it. The respondent explained that the reason for not piloting GOV.UK Verify in their organisation is that “there are other local authorities that are further ahead in the development of digital strategy, so they would naturally be better partners for central government to work with on those pilots” (T20). It can be said that there are LAs that are considered to be at the beginning of a digital transformation journey, and could be lacking readiness and possibly capabilities to partner with and participate in the Verify Local pilot project. It is also believed that there is an element of *Resistance and fear of change*, which is considered to be a barrier to standardisation, as discussed previously in Chapter (4.2.1).

It is also found by a respondent from a local authority that has not signed up to the Verify Local pilot project, that once the service has been proven, tested, and the developers have worked through the issues, then it will be much easier, and therefore more likely, for them to adopt it. This shows that there are LAs that are interested in using GOV.UK Verify and who might have the capabilities to participate in the Verify Local pilot project, however, they prefer to wait and adopt Verify Local when it is fully developed. But the study findings have shown that GOV.UK Verify cannot be used by all LAs. An example is Camden Council who were not able to use GOV.UK Verify because it did not necessarily provide them with what they are looking for in an identity authentication service, and also did not fit with their services.

## **Conclusion**

In conclusion, it was found that one of the main aims of the LDC and GDS collaboration is to standardise by creating an online authentication method that can work across all LA



services, such as Taxi licensing, parking permits services and concessionary travel services (LDC, 2016b). This supports what this study is highlighting - the essentiality of standardisation - which is established primarily by communication. The collaboration between GDS and LAs, the process adopted to pilot GOV.UK Verify for LAs to reuse, and the co-planning events and workshops conducted are believed to facilitate communication. Moreover, it is found that communication increases standardisation (e.g., the Verify Local common patterns and user journey), and the level of engagement and Shared Domain Knowledge SDK between business and IT from LAs and GDS. These factors were identified as alignment enablers in Chapter (4). In addition, the use of an agile approach to service development and redesign was also discussed in the findings, section (4.1.5) as one of the factors that enables greater integration between the strategic and operational level. It is also found that the agile approach adopted for designing Verify Local, increases integration. Therefore, it is believed that piloting GOV.UK Verify for LAs to reuse and the process adopted for this, increases horizontal alignment across LAs, and vertical alignment between central and local government.

In addition, the study findings have shown that there are LAs that did not pilot the use of Verify Local for a number of reasons. These include the facts that: (1) it cannot be used with their services; (2) it does not meet their criteria or requirements for identity authentication; (3) the local council is at the beginning of a digital transformation journey/ or not at the forefront of digital transformation; (4) a lack readiness and possibly capabilities to collaborate and form partnerships; (5) a preference to wait and adopt Verify Local when it is fully developed; and (6) resistance and fear of change. Nonetheless, it can be seen that in the collaboration between LDC and GDS, work has been done to ensure the creation of

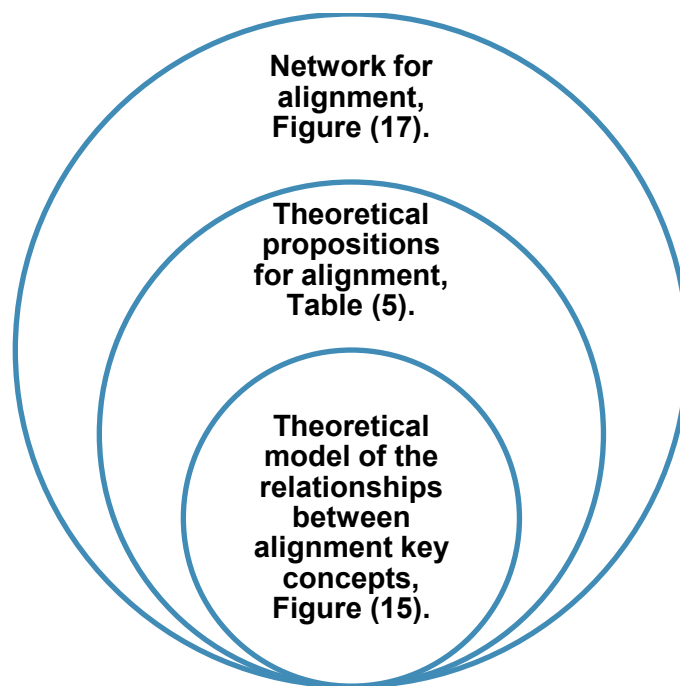
common benefits for local councils, and the production of an online authentication service that works for all LAs. More importantly, there was a focus on ensuring that there is a shared understanding of what those benefits are and how they can be reached. Therefore, this research believes that the pilot increases engagement and SDK between business and IT from local and central government. This study also predicts that the successful provision of GOV.UK Verify service for LAs to reuse will increase horizontal and vertical alignment. It will also facilitate the creation of further collaborations and partnerships with the aim of standardisation across the UK government.

## Chapter 6: Theoretical model and research propositions

As mentioned previously, this research aims to increase our understanding of the 'process of aligning' - vertically (between central and local government), and horizontally (across government agencies). The factors that influence alignment in the UK service redesign were covered previously in Chapter (4), and discussed as 'enablers' or 'inhibitors' of alignment, Figure (5), and the interrelationship between the factors was illustrated in Figure (6). Additionally, the case studies included in Chapter (5), were used to deepen and expand our understanding of those research concepts (e.g., communication and standardisation), and to explore other alignment factors in the UK service redesign (e.g., aligned agenda, motives and incentives, and governance), included in Figure (8), along with the interrelationship between these factors in Figure (9).

As illustrated in the methodology Chapter (3), this research uses Strauss and Corbin's (1990) coding stages for data analysis (i.e. open, axial and selective coding) that requires the identification of a core or central category. Communication was therefore identified as a central or core factor because it was found that all the major factors or categories of the research are connected to it (i.e. standardisation, SDK, business-IT engagement, and silo-based systems associated with localism). This was done by linking and identifying the relationships between the major categories covered in Chapter (4) and (5), and represented in Figure (6) and (9), with the purpose of transforming data into theory. This was explained in details in *iterative conceptualisation*, section (3.4.2) of methodology chapter. This chapter will explain the interrelationships found between the alignment key factors and present a number of propositions for increasing the level of business-IT alignment. This research also

proposes, based on the data collected, and particularly the analysis of the LDC case study, the adoption of a network arrangement to increase alignment across the UK service redesign. This is to provide a holistic and effective combination of tools and solutions along with the theoretical model (Figure 15), and propositions (Table 5), to minimise and resolve *alignment inhibitors* and enhance *alignment enablers* discussed in Chapter (4) and (5), as illustrated below in Figure (14). The relationship between the theoretical model (Figure 15) and the suggested network will be explained in details in the next Chapter (7).



**Figure 14: Overall research model for providing a holistic and multi-dimensional approach to horizontal and vertical alignment**

## 6.1 Relationships between key concepts

This chapter demonstrates the interrelationships found between the alignment key factors (i.e. standardisation, SDK, business-IT engagement, and silo-based systems associated with localism) with the core factor: communication. Nonetheless, there are a number of challenges and difficulties faced in aligning which were also covered in Findings Chapter (4) and Case Studies (5), and their affect on alignment was illustrated. For example, it was shown in Chapter (4) that there is a lack of communication between people involved in local government from business and IT departments. The reasons found for this include that there is a failure to communicate messages - by the use of a common language - to the right people or individual team members, which is an element of Shared Domain Knowledge SDK, discussed in section (4.1.2). This therefore indicates that communication is an enabler of SDK and not only the other way around, and hence the interrelationship presented in the theoretical model between communication and SDK (Figure 15, interrelation of key factors of alignment in UK service redesign).

In addition, as part of 'theory for design' that this research offers, this chapter also presents a number of propositions formulated to increase business-IT alignment in the UK service redesign (Table 5). These propositions are based on findings covered in Chapter (4) and Chapter (5), and interrelations of key factors found from data collected (Figure 15, interrelation of key factors of alignment in UK service redesign). For example, for the interrelationship found between communication and SDK, one of the propositions includes that there should be communication by the use of common language between the business and IT, and to the appropriate people to increase the level of SDK. Another example is the interrelationship found between communication and standardisation in both Findings

Chapter (4), and Case Studies Chapter (5). The results of this study, for instance, have shown that communicating best practices, and the exchange of guidance and help positively impacts standardisation, and hence the interrelation and propositions provided in this chapter for communication and standardisation.

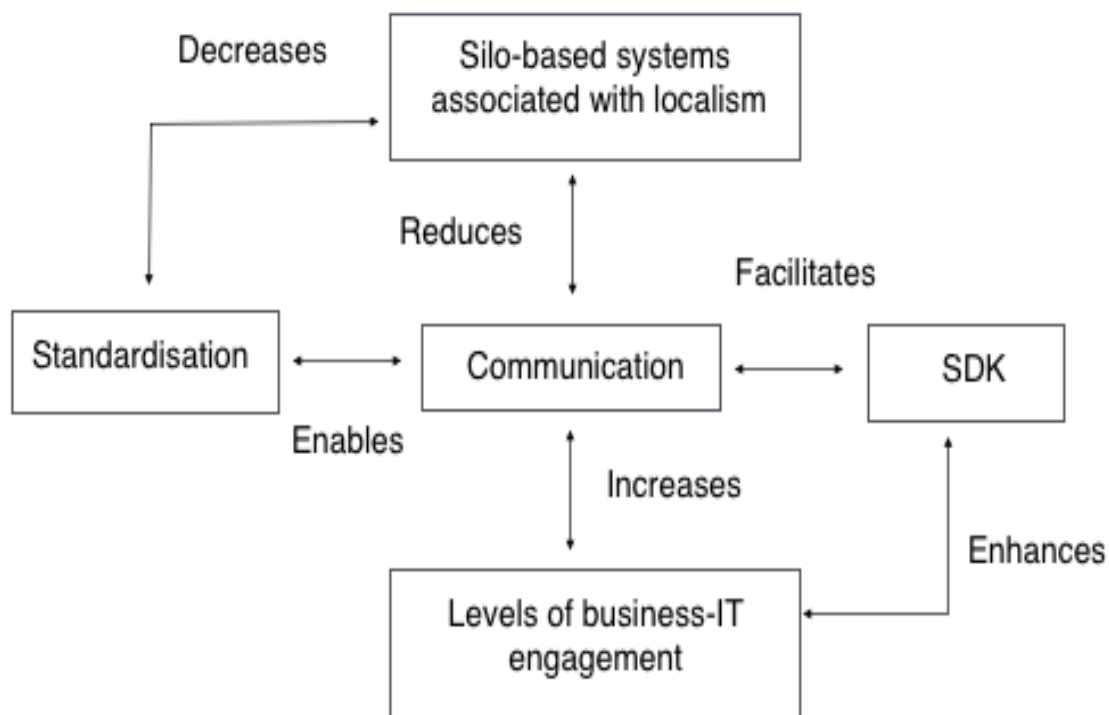
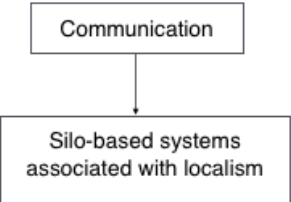


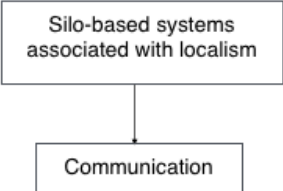
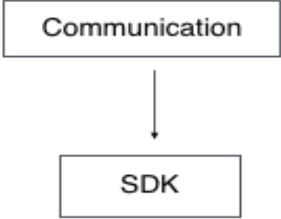
Figure 15: Theoretical model: Interrelation between key factors of alignment in UK service redesign.

## 6.2 Theoretical propositions for alignment in service redesign

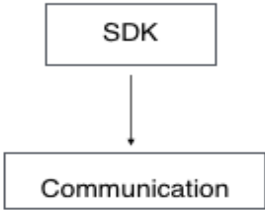
This section presents a number of propositions suggested by this research study and formulated based on findings covered in Chapter (4) and Chapter (5), to increase the level of business-IT alignment in the UK service redesign, see Table (5) below.

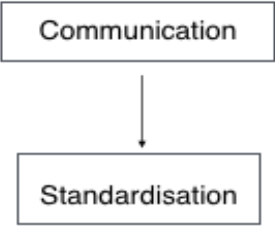
**Table 5: Theoretical propositions for alignment in service redesign.**

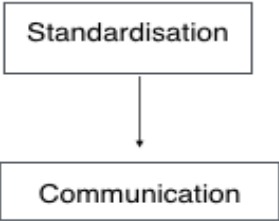
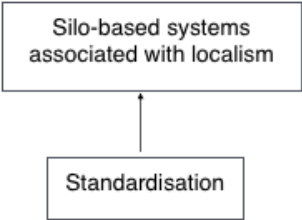
<b>Relationships</b>	<b>Propositions</b>
<p>Communication and Silo-based systems associated with localism</p>  <pre> graph TD     A[Communication] --&gt; B[Silo-based systems associated with localism]           </pre>	<ol style="list-style-type: none"> <li>1. Communication can overcome some of the potential disadvantages associated with localism, (e.g., by allowing for more standardisation across all areas in service redesign).</li>   <li>2. When a government agency is experiencing a low level of communication with other government agencies (e.g., that allows for more standardisation), the potential disadvantages associated with localism will increase (e.g., performing service redesign with minimum alignment).</li>   <li>3. Having a mix of informal and formal communication between government agencies reduces the barriers which are usually associated with localism (e.g., by allowing for more collaborations, partnerships and joint working).</li> </ol>

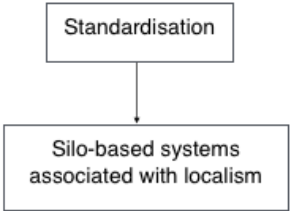
	<p>4. The creation of a platform by central government from which it is possible to communicate (e.g., to develop systems and co-design) with local authorities, will allow the barriers which come alongside localism agenda to be tackled and addressed.</p>
<p>Silo-based systems associated with localism and communication</p>  <pre> graph TD     A[Silo-based systems associated with localism] --&gt; B[Communication] </pre>	<p>1. Government agencies that prefer or have a preference to operate autonomously and to focus only on serving local needs, will more likely have a lower level of horizontal and vertical communication.</p> <p>2. When local authorities focus on localism and how they operate in very different ways, (e.g., politically and administratively), their horizontal and vertical communication will be negatively influenced.</p>
<p>Communication and SDK</p>  <pre> graph TD     A[Communication] --&gt; B[SDK] </pre>	<p>1. Communication between business and IT from central and local government will, over time, enhance understanding, and therefore increase SDK between the business and IT in service redesign.</p> <p>2. When IT communicates to the business its potential, capabilities, and how it can help the business, SDK between the business and IT will increase.</p> <p>3. Communication using the right language (common language between the business and IT), and to the appropriate people, will increase the level of SDK.</p>

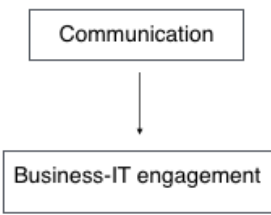


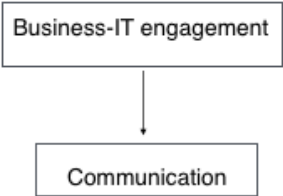
	<p>4. Communication using an operational (or business) rather than a technical based language will help to maintain the interest of the business (or communication by translating and using a language that the business can understand), and will therefore create more SDK.</p> <p>5. Communication using story-telling and real life examples will result in a deeper understanding between business and IT, and therefore increases SDK.</p> <p>6. Verbal communication with the business, rather than only relying on non-verbal communication (e.g., written strategies and business requirements), will allow IT to establish a deeper understanding of the business needs and requirements, thus facilitating SDK.</p>
<p>SDK and communication</p>  <pre> graph TD     SDK[SDK] --&gt; Communication[Communication] </pre>	<p>1. SDK, by having mutual understanding and a common language between business and IT, will facilitate communication.</p> <p>2. Low level of SDK will make communication (between the business and IT horizontally and vertically) difficult as it is perceived that no shared knowledge means little or nothing to communicate about.</p> <p>3. Government agencies that believe that an understanding and SKD cannot be attained or established between the business and IT across local authorities, and between central</p>

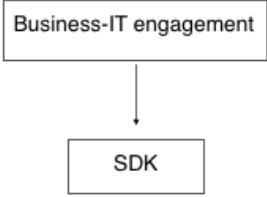
	<p>and local government, will have a lower horizontal and vertical communication.</p>
<p>Communication and standardisation</p>  <pre> graph TD     A[Communication] --&gt; B[Standardisation]   </pre>	<ol style="list-style-type: none"> <li>1. Communication between government agencies (centrally and locally) will increase awareness of the importance of standardisation, and the exchange of knowledge of standardisation (e.g., service redesign standards, and common platform or solutions).</li> <li>2. Communication both verbally and non-verbally between the business and IT, without requesting a specific IT solution from IT, will minimise the siloed approach to service redesign, and the adoption of a niche product or service, and therefore increases standardisation.</li> <li>3. When IT verbally communicates with the business (e.g., to suggest an alternative IT solution that fulfils more than one requirement in the organisation), without relying on non-verbal communication (e.g., written strategies and business requirements), standardisation will be enhanced.</li> <li>4. The level of standardisation will be higher when IT communicates ideas for standardisation (e.g., by the use of story-telling and real life examples), and demonstrates its benefits to the business over the use and adoption of a niche product or a siloed solution.</li> <li>5. Communicating best practices, and exchanging guidance and help between government agencies, will positively</li> </ol>

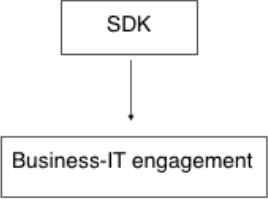
	<p>impact standardisation (by saving resources and time spent on trying to reinvent a solution and allowing for the same e.g., solution or method of service redesign, to be reused).</p> <p>6. When there is communication between government agencies involved in service redesign (e.g., by conducting co-planning events), an agreement for the standardisation of service redesign across the UK government can be created.</p>
<p>Standardisation and communication</p>  <pre> graph TD     A[Standardisation] --&gt; B[Communication] </pre>	<p>1. Standardisation will facilitate and allow for a more rapid, easier, effective and better quality communication, flow and exchange of information and ideas across local authorities, and between central and local government.</p> <p>2. When standardisation is adopted, specifically common open data standards, government agencies involved in service redesign will speak the same language thus enabling systems to communicate and exchange data.</p>
<p>Silo-based systems associated with localism, and standardisation</p>  <pre> graph BT     A[Silo-based systems associated with localism] --&gt; B[Standardisation] </pre>	<p>1. Silo-based systems associated with localism where local authorities are performing service redesign with little joining up and without a common approach, and are procuring their own systems from a range of suppliers, will minimise standardisation.</p> <p>2. Organisations that focus on differences (localism or local autonomy) and not similarities with other local authorities and central government tend to think that standardisation is not achievable in the UK service redesign, and therefore will have a low level of standardisation.</p>

	<p>3. There is a lack of political influence, legislation or mandate that says that local authorities have to standardise (e.g., to adopt service redesign standards), because it is seen to contrast with localism, and it negatively influences standardisation.</p> <p>4. In order to successfully achieve standardisation, local authorities must understand that it will not necessarily reduce the control and ownership of local authorities' duties to serve local needs.</p>
<p>Standardisation, and Silo-based systems associated with localism</p>  <pre> graph TD     A[Standardisation] --&gt; B[Silo-based systems associated with localism] </pre>	<p>1. Local authorities knowledge and understanding that standardisation do not reduce the control and ownership of local authorities' duties to serve local needs (e.g., by the use of awareness campaigns), will minimise the barrier of standardisation, and reduce threats associated with localism.</p> <p>2. Standardisation can create more alignment, consistency, cohesion, by setting a common approach to service redesign across LAs, and between central and local government, and therefore can reduce barriers of localism (e.g., siloed approach to service redesign).</p> <p>3. Mandating and making standardisation statutory, and specifically the use of a common service redesign standards, either centrally developed (e.g., Digital by Default Service Standards), or by other bodies (e.g., LocalGov Digital, NHS</p>

	<p>Digital), and common open data standards across the UK government, will decrease the barriers of localism (by creating more cohesion and alignment).</p> <p>4. When a balance is maintained between standardisation and uniqueness (localism), by standardising while at the same time allowing for flexibility to tailor and personalise services depending on the different local needs, barriers of localism will be lower (e.g., the minimum partnerships, integration and cohesion in service redesign).</p>
<p>Communication and business-IT engagement</p>  <pre> graph TD     A[Communication] --&gt; B[Business-IT engagement]   </pre>	<p>1. When IT communicates its potential, capabilities, and the way it can help the business by the use of a common language, and with the right or appropriate people from the organisation, it will increase the level of engagement between business and IT.</p> <p>2. When IT communicates with the business, instead of only waiting for requests from the business or responding to its needs, they will come to be identified as a strategic partner with an ability to influence. This will therefore enhance their level of engagement with the business, and also reduce cost whilst improving quality.</p> <p>3. When there is a high level of communication, the nature of relationship of IT with business will change from transactional or service provider to be more identified as a strategic partners with equal decision making power, and to be more engaged and included in conversations and meetings with the business.</p>

	<p>4. There are certain aspects which are best understood by the IT, and there are new business opportunities that can be enabled by IT. When such ideas are communicated, IT will be seen more as an enabler rather than a supporter of the business, increasing the level of engagement.</p> <p>5. When IT communicates with the business (by the use of real life examples and story-telling methods), the level of engagement of the business with the IT will be enhanced.</p>
<p>Business-IT engagement and communication</p>  <pre> graph TD     A[Business-IT engagement] --&gt; B[Communication] </pre>	<p>1. The more engagement there is between the business and IT, the higher the likelihood of successful communication.</p> <p>2. IT presence and engagement in director meetings means that the IT will learn how to best communicate with the business thus improving communication between the two.</p> <p>3. The IT involvement and engagement in any discussion that affects both business and IT outcomes will result in a more effective communication.</p> <p>4. Engaging IT in conversations and discussions about new business ventures will allow IT to communicate and share their thoughts and advice, and to bring forward their ideas (e.g., for reuse of technology and data), and on how they can best support, enable, or even drive the business thus enhancing communication.</p>

	<p>5. Engaging a range of people from IT in meetings, and not only including senior managers and leaders, will enable the communication required for a better quality of decision making, and higher alignment.</p> <p>6. Creating more engagement by embedding IT staff in business will enhance communication as it will enable IT to learn how to effectively communicate in a way that non-IT or business people can understand (common language).</p> <p>7. Engagement between business and IT through regular meetings and better relationships between each of the directorate leadership teams, will improve the flow of information and communication between directorate teams.</p>
<p>Business-IT engagement and SDK</p>  <pre> graph TD     A[Business-IT engagement] --&gt; B[SDK]   </pre>	<p>1. Engagement between business and IT from central and local government will, over time, result in enhanced SDK in service redesign.</p> <p>2. Creating more engagement by embedding business staff in IT and vice versa will increase SDK, in terms of business having a deeper understanding of IT capabilities and potential, and the IT having a deep understanding of the business needs.</p>

	<p>3. Engaging and involving the right people from the organisation in conversations means that there will be a deeper understanding, and therefore higher SDK.</p>
<p>SDK and business-IT engagement</p>  <pre> graph TD     SDK[SDK] --&gt; Engagement[Business-IT engagement]   </pre>	<p>1. SDK between the business and IT from central and local government will increase the business-IT level of engagement in service redesign.</p> <p>2. Once a deep understanding of the IT importance, value, capabilities and potential (an element of SDK) is established, IT will be more embedded and engaged across the organisation.</p> <p>3. SDK (by having a deeper understanding of IT, and specifically, its capabilities, values and potential), will result in a higher level of IT engagement, in terms of IT being viewed as a strategic partner, driver, and being more involved in meetings and planning.</p>



## Chapter 7: Network for alignment

As mentioned previously in the findings analysis, section (4.2.3) - levels of horizontal and vertical alignment - there are a number of nodes (organisations, departments and divisions) involved in the redesign of UK public services, making alignment or coordination between those nodes complex. This supports the statement of Seufert et al. that, (1999, p. 1) “organizations are changing more and more from well-structured and manageable systems into interwoven network systems with blurred boundaries”.

The *number of nodes* involved in UK service redesign is not the only reason for such complexity. As discussed in the silo-based systems section (4.2.3), these nodes commonly operate in silos, which negatively influences alignment. Service redesign in most cases requires the involvement of both business and IT departments, or even may require a collaboration and coordination between business and IT from different public sector organisations, such as within local authorities or between local and central government. This is vital for increased standardisation, and for minimising the siloed approach to service redesign as explained in Findings, section (4.1.6). A further complexity found that can be addressed by the use of networks, is establishing the coordination necessary for alignment among a variety of actors (from local and central government, and private sector) with different interests, motives and ways of operating. The use of a network arrangement is advised in response to those complexities, as mentioned in the literature review Chapter (2).

As explained previously, the LDC can be seen as a network arrangement designed for increasing alignment across local government. A network for alignment was chosen to be the focus of this chapter. This is because after data collection, and particularly the analysis of the LDC case study, it was considered that exploring network theories and strategies in relation to alignment will afford new insights and provide different perspectives on alignment. This will also provide a holistic and effective combination of tools and solutions along with the theoretical model (Figure 15), and propositions (Table 5), presented previously, to minimise and resolve *alignment inhibitors* and enhance *alignment enablers* discussed in this research.

It is important to note that this research chapter and suggested network emerged from data and LDC case study analysis; they are not based on a previous preconception and were not formulated before data collection. Therefore, they are aligned with the inductive nature of grounded theory method utilised in this research.

### **Relationship between alignment factors and the suggested network**

This section demonstrates the relationship between the alignment factors represented previously in the theoretical model Figure (15), and in Chapters (4) and (5), with the suggested network. The relationship is demonstrated throughout this chapter and also below in Figure (16). After determining the alignment key enablers - communication, SDK, business-IT engagement, and standardisation as shown in Figure (15) - the network is seen to be a tool for enhancing these alignment enablers and other factors identified in Chapter (4) and (5). Additionally, it facilitates other factors that are also seen to be crucial for

alignment: social capital and integration, and knowledge exchange and transfer, as demonstrated below in figure (16).

The network for alignment is one of the main propositions of this research along with the propositions listed previously in Table (5), to increase alignment across UK service redesign. The perceived value and implications of the suggested network are discussed in more detail at the end of this chapter, section (7.8).

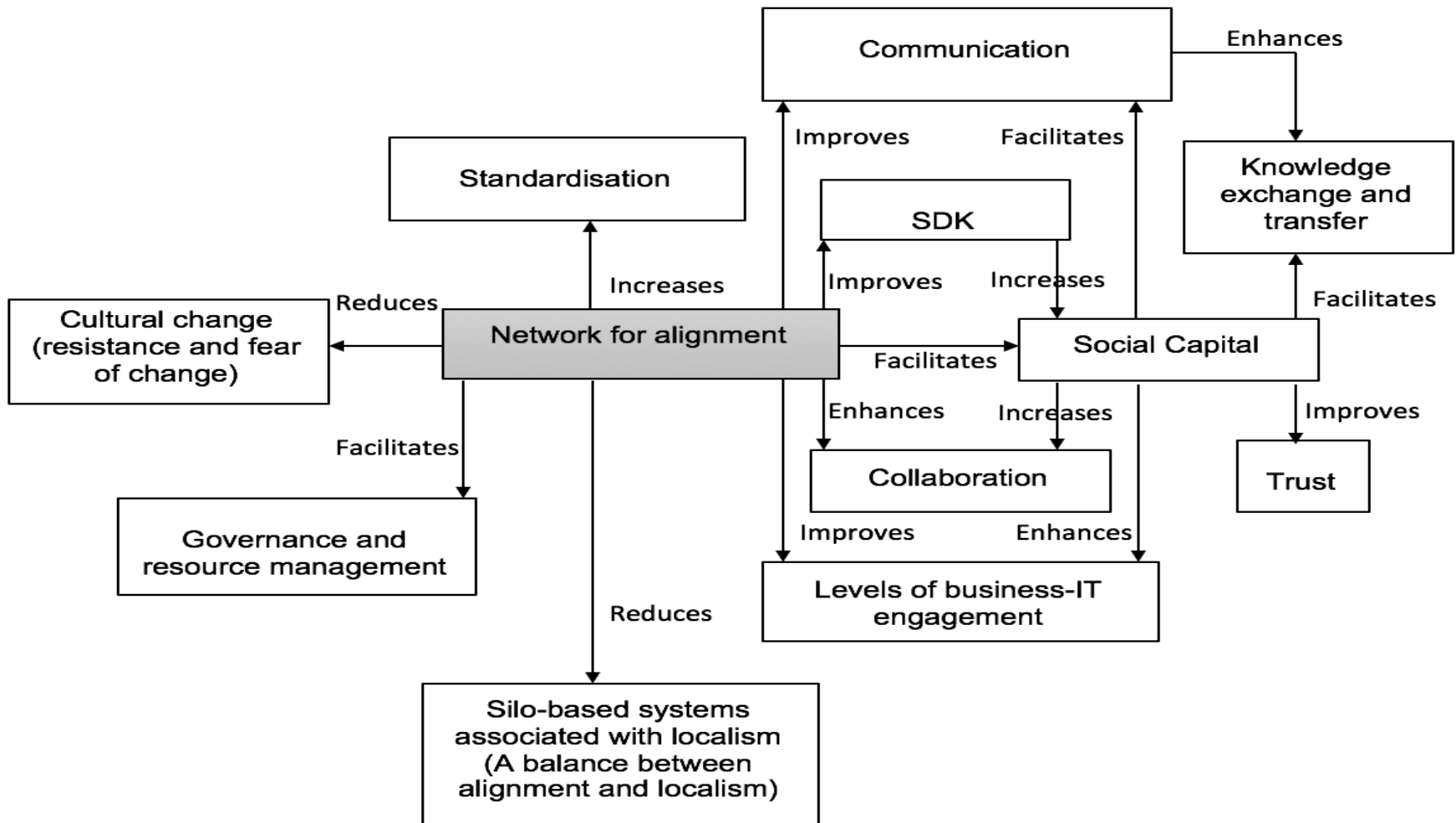


Figure 16: The relationship between alignment factors and the suggested network

## **A goal-directed network for alignment in service redesign**

This section specifies the type of network that is suggested, and the next section covers the purpose and motives for engaging in such a network.

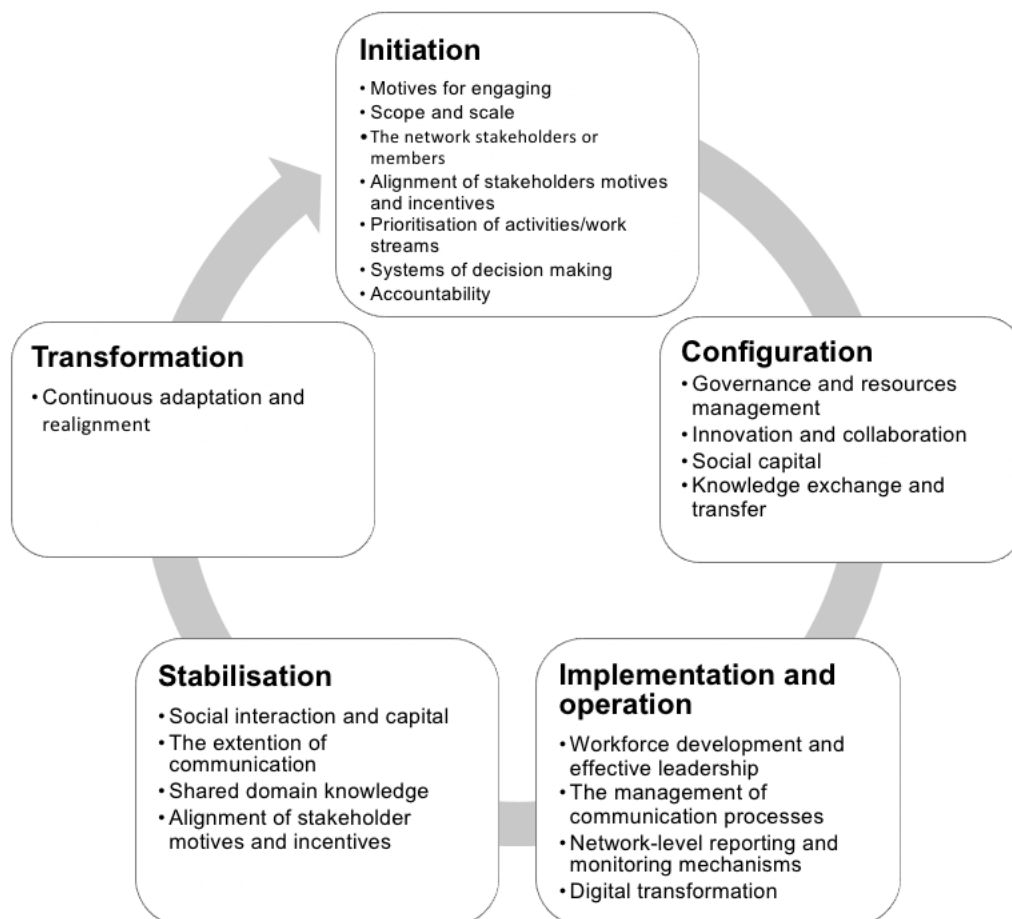
Based on findings analysis (Chapter 4) and case study analysis (Chapter 5), and as part of the 'theory for design' that this thesis offers (for practical usefulness), this research uses network theories, and argues that alignment issues might be best addressed by adopting a network arrangement across the government. Ideally, this would be a goal-directed arrangement aimed at alignment in service redesign, and mandated or contracted by the UK government, rather than adopting a siloed approach to service redesign, as explained in findings section (4.1.6). This chapter will also explain how the suggested network is different from the LDC coalition.

## **Network lifecycle model for alignment in service redesign**

This section suggests a network lifecycle for alignment across the UK government, differentiating it from the LDC, which is designed for local government.

The lifecycle is mostly in line with Riemer and Klein's (2006) lifecycle model (Appendix 21), and is modified to fit the research case study: UK digital service redesign. This research

used Riemer and Klein's (2006) lifecycle because it provides the network development stages and management functions that are essential for the creation of an effective network for alignment. The authors Framework has been applied in different contexts, for example, by Frößler et al. (2007) in a public-private collaboration research study, and Whelan (2011) in a public sector networks research study. Therefore, it is applicable in a number of contexts. Their model has been adapted to suit the research context (Figure 17), and discussed in relation to findings. The way the lifecycle was adapted will be highlighted later in each network stage.



**Figure 17: Network lifecycle model for alignment in service redesign.**

## 7.1 Stage 1: Initiation

It is essential at the initiation stage to ensure the alignment of members' motivations, define the scope and scale of the network, specify the systems of decision making and accountability (Figure 18), which are not covered in Riemer and Klein's (2006) initial stage.

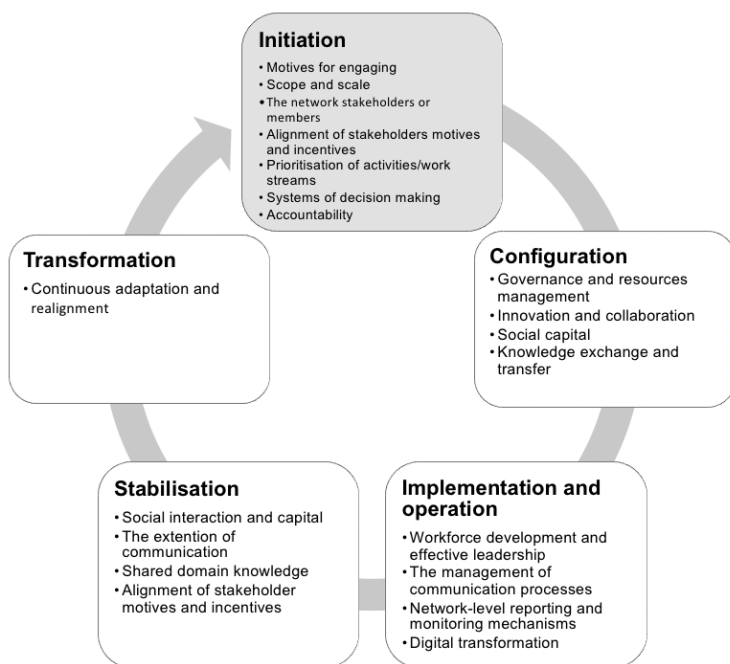


Figure 18: Initiation stage of the network.

### 7.1.1 The motives for engaging in a network for alignment in service redesign

Other than the benefits of networks covered in literature review, section (2.6), this section focuses more on the suggested network. It is seen that in the public sector there should be a great incentive for engaging in a network to establish alignment. This is to coordinate and

minimise the inherent complexities of alignment. Additionally, it allows public sector organisations to save cost, maximise the return on IT investments, ensure that their IT arrangements fit with their business strategy, goals, and needs of service redesign, and to increase the quality of services. This perhaps should be established through communicating, sharing best practice, collaborating, standardising, and managing and sharing resources and capabilities. The importance of these factors for alignment were discussed in Chapters (4) and (5).

This research finds that the motives that are essential for alignment and are most relevant to the network are reciprocity, efficiency and stability (Oliver, 1990 cited in, Ebers, 1997). Reciprocity refers to the value of having a shared goal, which is increasing alignment. Secondly, efficiency can be achieved through a strategic use of resources (e.g., by reducing duplications and cost), and efficient development of services (e.g., by increasing shared services). The network will also enable stability concerns of alignment between business and IT to be shared with other participating organisations, and therefore addressed in a cooperative manner.

Additionally, the ability to develop horizontal and vertical communication (a central category of alignment in this study) is an important motivation. Having a collective approach will enable government agencies to align and achieve outcomes they would not be able to achieve while operating in silos. It is also consistent with the view of Agranoff and McGuire (2001), that networks designate “multi-organisational arrangements for solving problems that cannot be achieved, or achieved easily, by a single organisations” (p. 296). This was



also evident in the Verify case study where, as illustrated previously, their initial step was creating what cannot be created by a single council to design a shared service.

### **7.1.2 The scope and scale**

In terms of the scope and scale of the network activities, it is service redesign throughout the UK government as a whole (central and local government agencies and authorities). Such a broad focus will ensure that various interests are addressed. However, such an approach also causes difficulties, as the number of stakeholders introduces a high level of complexity. The appropriate level of representation across UK government must therefore be carefully defined.

### **7.1.3 The network stakeholders or members**

Before contemplating the establishment of the network, a *stakeholders analysis* should be used as a tool to build and manage the network. The analysis comprises determining the stakeholders that may affect or be affected by the network, identifying the stakeholders who should participate, and the capacity in which they should be involved (Malena, 2004). This can be decided by a lead organisation e.g. GDS, or collectively by multiple organisations and authorities. GDS is identified as a lead organisation in the network by this research because it is a resourceful and powerful organisation, and is at the forefront of the UK digital service redesign. It is important to specify a lead organisation for the network, as Larson

(1992) shows that partnerships only work in networks where there is a member taking the lead role.

There is also a need to introduce a better *activation process*, as noted by Lipnack and Stamps (1994), and explained in the literature review, where only members who are willing to share their skills, knowledge, and resources with others in the network are included.

Another important aspect for consideration, is the balanced representation of various partnership groups. Therefore, the network should comprise of a cross-functional team or a multi-disciplinary group from across the UK public sector, with a common goal of creating more alignment in public service redesign. The benefits of having this range of stakeholders include: developing closer contact, shortening feedback cycles, and reducing the distance between decision makers and staff, and between business and IT.

#### **7.1.4 Alignment of stakeholders' motives and incentives**

In the UK service redesign, there are a number of stakeholders involved, as mentioned previously, which presents the possibility that there will be different and even possibly contrasting motives amongst them. Indeed, an aligned agenda, motives and incentives was one of the challenges faced by the coalition, as explained in section (5.1.9).

The motives that are seen by this study to be essential and suitable for the suggested network were covered in section (7.1.1). This study sees that it is crucial to establish an alignment of the participating members' motivations, as also highlighted by Fedorowicz et al. (2009). This study suggests that communication among participating members will enable the alignment of motives, and the agreement on a common purpose. Additionally, there is the matter of the management role of *synthesising* (Agranoff and McGuire, 2001), and creating harmony.

### **7.1.5 Prioritisation of activities or work streams for alignment**

At the initial stage of their collaboration, the network members will need to outline their priorities clearly.

- What are the priorities or key actions / joint sets of activities necessary in order to establish alignment?

This research has covered and discussed the priorities that should be considered for the process of increasing alignment. Those priorities are seen to be the factors influencing business-IT alignment explained in Chapter (4). Some examples of these include increasing standardisation, addressing the level of engagement between business and IT, and partnerships and collaborations, as well as reducing silo-based systems, and the disadvantages and barriers associated with localism.

- How will they achieve these priorities?

These priorities can be achieved, firstly, by communicating and jointly specifying a shared plan and strategy for alignment, (“what” and “how”), that enables the development of the priorities outlined in the question. This research has provided and listed a number of propositions to help establish more standardisation, as well as for the other priorities or key factors influencing business-IT alignment, see Chapter (6), Table (5).

- How will the priorities or tasks / roles be divided?

Participating organisations will have different levels of alignment. Therefore, once the priorities are defined, each public sector organisation should focus on the priorities which relate to them most. For example, if a local authority is undertaking service redesign without adopting any common open standards, and/or pursuing a siloed approach to service redesign, then these should be the priorities they address. However, help, guidance and support will be provided to them by other members, specifically the ones that have more knowledge, expertise and skills.

- How will their performance be monitored and measured?

This will be discussed in *network-level reporting and monitoring mechanisms*, section (7.3.3).

### **7.1.6 Systems of decision making**

In order to create an organised and structured network, theory suggests that it is essential

to understand and determine who should be responsible for decision making and how. For the context of this study, a non-hierarchical decentralised decision making structure is the most appropriate model because it fits with the UK's political power and decentralisation system.

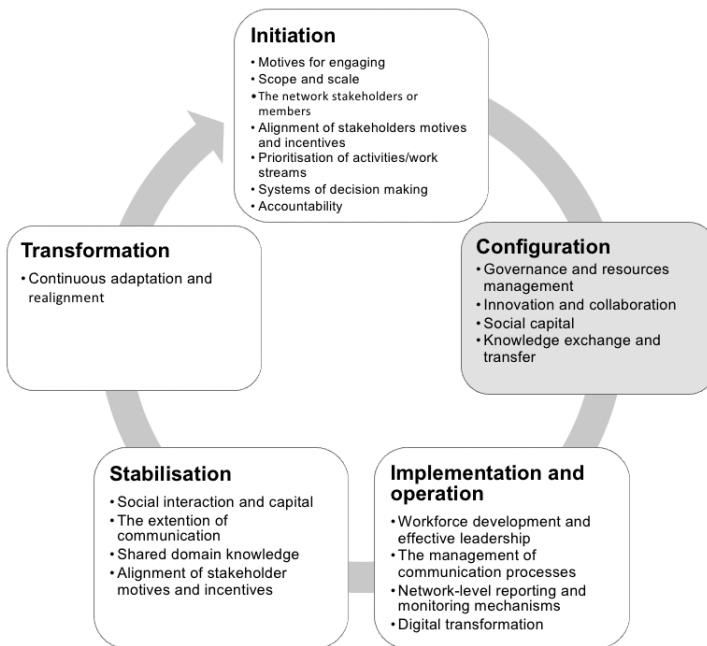
### **7.1.7 Accountability**

One aspect that is closely linked to decision making is accountability. In addition to the balanced representation of the stakeholders, accountability and transparency are also considered to be important components for the legitimacy of networks (Bäckstrand, 2006).

This research has found that since the activities and roles are divided among participating members, then it makes sense for them to hold equal accountability. Therefore, it is crucial to define clearly the activities, tasks and roles that are going to be conducted by each member.

## **7.2 Stage 2: Configuration**

This stage can be described as the structuring phase of the network formation as identified by Gray (1987). It therefore includes governance and resource management, innovation and collaboration (joint working), social capital, and knowledge exchange and transfer, as shown below in Figure (19).



**Figure 19: Configuration stage of the network.**

## 7.2.1 Governance and resources management

Governance is an important element of the configuration stage for a successful network, and also for alignment. It is one of the reasons that networks are seen by this research as important to explore in relation to alignment, as explained in the literature review, section (2.5).

As discussed earlier, one of the motives for proposing the creation of a network is to gain more access to resources, skills and capabilities. “Resources like money, information and expertise can be the integrating mechanisms of networks” (Agranoff and McGuire, 2001, p. 298). In addition, as mentioned in the LDC governance case study, governance is an important factor for a successful collaboration.

Governance will ensure that participants engage and collaborate effectively without central steering, which is seen to be an aspect that should be avoided. As stated also by a member of the LDC a “hierarchical approach I think turns off a lot of the collaborative working” (T25).

Provan and Kenis (2008) have, furthermore, suggested that there are three forms of network governance, consisting of *participant-governed networks*, *lead organisation-governed networks*, and lastly *network administrative organisation NAO*. These forms are explained in detail in the literature review. This section focuses on the form which is considered to be suitable for the suggested network.

Having considered the governance forms outlined by Provan and Kenis (2008), and which are covered in detail in the literature review. It has been decided that *lead organisation-governed networks*, or the *network administrative organisation (NAO)* governance form (which means that the network is governed externally), will more likely be the most effective governance forms for the suggested service redesign network. This is based on the view of Provan and Kenis (p.9) that “as trust becomes less densely distributed throughout the network, as the number of participants gets larger, as network goal consensus declines, and as the need for network-level competencies increases, lead organisation and *network administrative organisation NAO*, are likely to become more effective”.

The suitable candidate for the lead organisation in this network is the Government Digital Service (GDS). In order to be more precise, and to ensure that the governance structure or form is not being chosen on a purely theoretical basis, I looked at the governance decisions that have worked specifically in a collective approach or network setting. It was found that GDS has a history of running and coordinating networks, such as the cross-government approach to Assisted Digital for central government transactions in 2013, which is an example of a collective approach (Cabinet Office and GDS, 2013).

## **7.2.2 Innovation and collaboration**

At the configuration stage, the members will have to ensure that their collaboration enhances innovation. Innovation is an important aspect of service redesign and, as posited by Dyer, Kale and Singh (2001), *teaming up* - an alignment enabler described in this study as *partnership and collaboration* - is key for technological innovation. It is found from data collected that GDS, departmental agencies and local authorities will need to work in a collaborative mode and to break silos. In addition, they will need to possess a collaborative mindset and commitment to the transformation required for alignment, as highlighted in the LDC case study (6.1). However, it is found that collaborations cannot succeed without *knowledge exchange and transfer*, which will be examined in detail in (section 7.2.4).

Additionally, this research has illustrated that collaborations that facilitate alignment do not restrict innovation, as shown in the LDC case study Chapter (5). Another example is the central government approach to Assisted Digital provision, which is a collaboration and



collective approach where innovative ideas were collected from all contributors (Cabinet Office and GDS, 2013). Similarly, it is seen that the network members can collect innovative ideas that facilitate the transformation required for alignment.

### **7.2.3 Social capital**

At the configuration stage, *governance and resources management* and *innovation and collaboration*, have been identified as core elements. However, “governance models need to be complemented by social mechanisms of integration” (Riemer and Klein, 2006, p. 22). These social mechanisms include social capital, which is crucial in order to secure an environment that fosters innovation and learning (Ebers, 1997).

Social capital is mainly conceptualised in the literature as the “investment in social relations with expected returns” (Lin, 1999, p. 30). It is also an enabler of *social alignment*, as mentioned in the literature review. It can facilitate social ties in networks, which in turn enables knowledge exchange and information transfer (Lin, 1999, and Coleman, 1988). The link between the number of social ties and having a better flow of information was outlined in the literature review, section (2.6.4). In this respect, and as highlighted by one of the interviewees from local government who stated that “relationships are important in order to establish communication” (T10), it can be said that social ties and relationships will facilitate communication. Social capital is thus crucial for the suggested network for alignment because this research finds that it will also facilitate Shared Domain Knowledge (SDK), and increase the level of engagement and integration among participating members, trust

between business and IT, and the collaboration and partnerships considered as alignment enablers, see figure (16).

For the network to succeed, strong social ties have to be formed and maintained across and between government agencies, LAs and bodies engaged in service redesign. As also shown by Hansen (1998), cited in Adler and Kwon, (2002, p. 32), “strong ties facilitate the cost-effective transfer of complex information and tacit knowledge”, and cost-saving is an important aspect in the context of public service redesign.

#### **7.2.4 Knowledge exchange and transfer**

Social capital and communication are considered by this study to be key for knowledge exchange and transfer. This research suggests, based on findings, that in order to achieve a good level of knowledge exchange, senior managers and staff from both business and IT in service redesign, should be more involved by participating and networking with other managers and staff to share useful practices and information needed to resolve alignment issues (which could be operational or strategic). For example, this might be by ensuring the exchange of data and attributes, and also best practice, as illustrated in Chapter (4). By doing so, they will contribute to learning and knowledge development, which are essential for alignment.

Certainly, an exchange of technological capabilities and developments, will be required to build a joint digital service redesign approach across the whole government. This form of exchange or transfer will reduce the duplication of effort and waste, so it will save costs and recourses by allowing the reuse of technology. However, not all knowledge can be transferred simply or exchanged though communication. The exchange process is not that straightforward, especially for ‘technological’ exchange. This type of exchange demands extensive commitments of time, the involvement of experts, and intense coordination (Galbraith, 1990, cited in Kotabe, Martin, and Domoto, 2003). This shows how crucial *alignment* is, which Galbraith describes here as *coordination*, and supports what this research is proposing: the creation of a network composed of experts committed to the development of a joint UK public service redesign strategy.

To conclude the configuration stage, for networks to succeed, it is important to define the underlying governance form, to ensure innovation and collaboration, to establish an effective recruitment and management of resources, social capital, and lastly, to facilitate the exchange of both ‘informational’ and ‘technological’ knowledge.

There is also a considerable distinction between this stage, and Reimer and Klein’s (2006) model (Appendix 21). The authors only briefly mention the importance of defining a governance model, whereas in this research a suitable governance form is proposed. Collaboration is also seen by this research as key for technological innovation, where the importance of collecting innovative ideas is emphasised, an aspect which is not covered by Reimer and Klein’s lifecycle. Social capital is discussed in this chapter in relation to

alignment, and was only mentioned briefly by the authors at the configuration and stabilisation stages.

### 7.3 Stage 3: Implementation and operation

This stage is concerned with workforce development, and management and senior leadership team role in ensuring alignment, and specifically strategic-operational integrations. It highlights the importance of an effective management of the network communication processes, network-level reporting and monitoring mechanisms, and the creation of the digital transformation needed across the UK government to support and increase alignment, Figure (20).

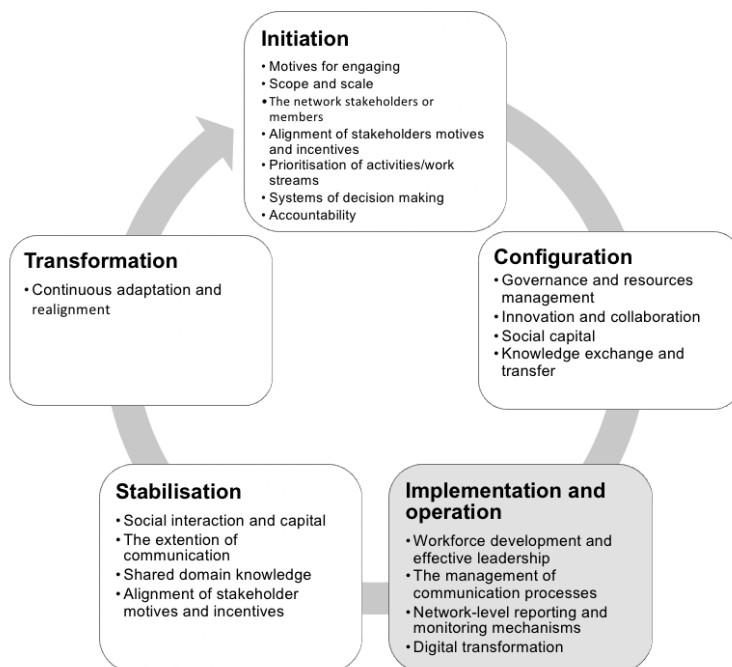


Figure 20: Implementation stage of the network.

### **7.3.1 Workforce development and effective leadership**

Integration between the strategic and operational level was one of the alignment enablers discussed in section (4.1.5). Additionally, Larson (1992) found that in the final stages of networks, participating organisations must be operationally and strategically integrated.

As illustrated at the initiation stage, a shared plan and strategy for alignment will be specified. At this stage it is essential to ensure that there is an alignment of the strategy with the daily business operations and practices of the network members. This is to ensure that there is strategic and operational integration, which according to Riemer and Klein (2006), is the most challenging part of this type of collaboration. To make this work, the management team or senior leadership team will have to ensure that their business and IT teams are working towards fulfilling the network's specified set of targets, priorities and guidelines, which are provided earlier in section (7.1.5). For example, in regard to standardisation, the management team will have to ensure that the business and IT teams in their organisation are pursuing service redesign by the use of standards or guidelines specified in the strategy.

In a network, it is to be expected that members might have conflicting goals, different values, and misunderstandings, which can be addressed by establishing effective communication among participating members, as explained earlier in section (7.1.4). However, managers should also work towards minimising those and any other inhibitors of collaboration. "Network managers need to induce individuals to make a commitment to the joint undertaken and to keep that commitment" (Agranoff and McGuire, 2001, p. 300).

Commitment to the transformative agenda, and having a collaborative mindset was one of the challenges faced by the LDC coalition, and was covered in Chapter (5).

Agranoff and McGuire (2001), listed the management behaviours found in the literature that managers should be equipped with in any collaboration, and they are illustrated in this section in the context of the suggested network. They include (1) encouraging interactions among members, which links to the research alignment enabler and core factor of communication. (2) Knowledge exchange to minimise complexity and uncertainty. It is seen that it is particularly 'informational' knowledge exchange that can be established by social capital and communication, as discussed earlier. This can increase shared domain knowledge SDK, one of the alignment enablers, and also minimise the complexity related issues of vertical and horizontal alignment. It can also reduce uncertainty, which is one of the main causes of *resistance and fear of change*, an alignment barrier covered in section (4.2.1). (3) Redefining motives. There are static motives covered in section (7.1.1), such as reciprocity, efficiency which should not be redefined, but there are also motives that need to be added or altered over time and based on alignment in service redesign priorities.

Additionally, management behaviours comprise (4) the rearrangement of rules and procedures of interaction. This is relevant specifically when there is a redefinition of motives which will more likely require changes in the rules and ways of communication and interaction among participating managers (e.g., more informal verbal communication). (5) Establishing effective communication. Communication has been identified in this research as the alignment core factor and propositions for improving vertical and horizontal

communication are included in Table (5). The management of communication processes will be covered next. (6) Creating a self-organising network. It has been found in this study that over time the management or senior level engagement can be lowered when the level of understanding among participating members increases.

### **7.3.2 The management of communication processes**

This section will cover the different types of communication within a network reported from findings. It illustrates the importance of standardising the ways, channels, and frequency of communication. It sees that communication within the network has to be consistent, and states the means for extending communication across all levels of government focusing on service redesign.

#### **Types of communication in a network**

It is found from the data gathered from the Local Digital Coalition LDC, that there are three types of communication crucial for the success of a network. (1) 'On-going' communication: to build and sustain social relations and ties within and across the coalition: this relates to the management behaviours mentioned in the previous section, i.e., encouraging interactions among members, and establishing effective communication. This study finds that social capital and relations, knowledge exchange and transfer (discussed previously), cannot be established and maintained without 'on-going' communication, as shown in Figure (16). (2) 'Outcomes' communication: this is linked to the outlined set of tasks, activities and

priorities. This will be discussed in detail later in *network-level reporting and monitoring mechanisms*, section (7.3.3).

The final essential communication type in a network is (3) 'best practice' communication: this is concerned with interactions between members for 'informational' and 'technological' knowledge exchange (e.g., standards, service redesign criteria, and/or technology development), and for enhanced learning and efficiency (e.g., by minimising duplications, and saving costs and resources). Social capital also facilitates knowledge exchange and transfer, as shown previously in *social capital*, section (7.2.3), and Figure (16). The importance of 'best practice' communication was continuously highlighted in the findings, and covered in *communicating best practice*, section (4.1.1).

### **Standardisation of communication**

An important aspect of communication that has to be considered for an effective network is the standardisation of: (1) modes (e.g., non-verbal, or story-telling); (2) channels (e.g., forums, or conference circuits); and (3) frequency of communication. Different modes and channels of communication were discussed in the findings, Chapter (4), and suggested in propositions, Table (5) to increase vertical and horizontal communication. These can be used in the context of the network, for example, it is important to establish a mix of informal and formal, and both verbal and non-verbal communication, between participating members.



Standardisation of communication will ensure that the body of knowledge and information is extended and made available to everyone involved in the network. Moreover, one of the propositions for communication included previously in Table (5), was the creation of a platform to communicate. In addition, and in order for the network to succeed, a common channel to facilitate communication, social integration, and knowledge exchange among participating members will be required and should be agreed upon. This can be accomplished by the use of Information Communication Technologies ICT, which support network-wide communication. There are a number of ready developed tools and applications to support team communications that can be employed. An example is 'Slack' which is used by the UK Local Digital Coalition.

This research study sees that also the modes and frequency of communication should be specified at the initiation stage, as communication is considered to be a prerequisite for decision making, and for generating aligned motives and incentives among members. The critical decisions are made at the first stage of the network lifecycle, such as, what are the priorities, and key activities or actions? Therefore, this study finds that communication is not limited to this stage, as Riemer and Klein (2006) suggested in their network lifecycle. For example, at the first stage, it will facilitate the process of decision making, whereas at the last stage it will help with the stabilisation of the social activities, covered later in *stabilisation stage*, section (7.4). This is similar to the perspective of Larson (1992), where he showed that the extent and nature of communication varies from one network phase to another.

## **Extending communication across all people and organisations involved in service redesign**

The network members will have to extend the communication required for increasing alignment in service redesign across all levels of UK government, by communicating with others who are not directly involved with the network. The network members, and especially senior managers will play a role in this by taking the knowledge and information, and what they have learnt at the network, and then communicating and transferring it to the people in their organisation or department. This should be in addition to using Information Communication Technologies ICT, as also mentioned earlier. For example, this might involve creating a website for the network, where non-verbal communication can be carried out, and to share (e.g., action plans and news). The LDC also uses their website to communicate with LAs ([www.localdigitalcoalition.uk](http://www.localdigitalcoalition.uk)).

To conclude, there are different types of communication within a network. Communication is essential from the network formulation to its dissolution, and it takes a different active role in each stage. It has to be consistent and to extend to others who are not directly involved with the network, but are part of service redesign.

### **7.3.3 Network-level reporting and monitoring mechanisms**

This research study finds that it is the responsibility of the senior-level management team to ensure that consistent reporting is established from their organisation to the network, and that there is transparency, clarity and sharing of the 'to do, doing, and done', as demonstrated in the GOV.UK Verify case study.

As mentioned previously, 'outcomes' communication is believed to be one of the essential types of communication in a network. There are a number of ways to report 'outcomes', one of them is through the network's website, as seen on the LDC website where they have listed their projects, and information on their status (e.g., beta, delivered), and the partners at work on them ([www.localdigitalcoalition.uk](http://www.localdigitalcoalition.uk)).

More precise reporting can be provided to the lead organisation or the organisation taking the administrative and coordinating role, which, as suggested before, could be GDS. Monitoring, efficiency and performance measurements are considered to be challenging and were discussed in more detail in the LDC case study.

### **7.3.4 Digital transformation**

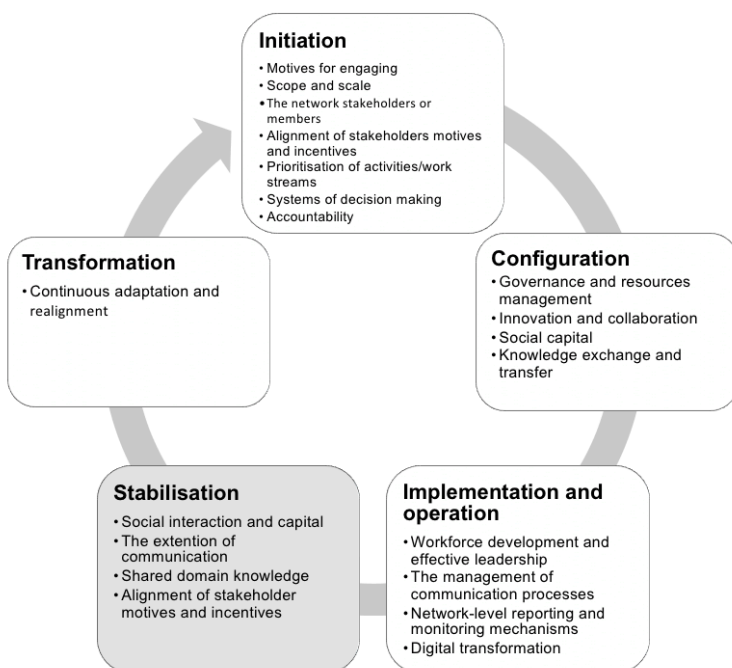
A network arrangement is seen by this study to enable the creation of the digital transformation needed across the UK government to increase alignment. Collaborations facilitate technological innovation, as mentioned earlier, and are essential for digital transformation, as demonstrated in the LDC case study. Additionally, it is illustrated by Ebers (1997, p. 6) statement that "advanced technological systems are not and cannot be created in splendid isolation, innovating organisations must form horizontal and vertical linkages to be successful". The network therefore can be used as a vehicle to organise the wide scope linkages and cooperation required for digital transformation.

One of the LDC case study principles is *transformation over incremental development*, and the projects chosen were based on what the coalition members believed to be the priorities of local government digital transformation, as covered in Chapter (5). In the context of the suggested network, a radical approach to digital transformation is not seen to be suitable because of its large-scale complex setting. The network members can focus on establishing the objectives of the UK digital and transformation strategies which are seen to facilitate alignment, and were discussed in section (4.1.8).

To conclude, the implementation and operation stage includes elements which are not part of Riemer and Klein's (2006) lifecycle. These are the types of communication in a network, standardisation of communication, and the importance of extending communication. The following section discusses the factors that are seen to be key for the network stabilisation.

## **7.4 Stage 4: Stabilisation**

This stage focuses on a number of aspects, as listed below in Figure (21). These aspects were covered previously, and will be further discussed in this section in relation to the stabilisation of the network.



**Figure 21: Stabilisation stage of the network.**

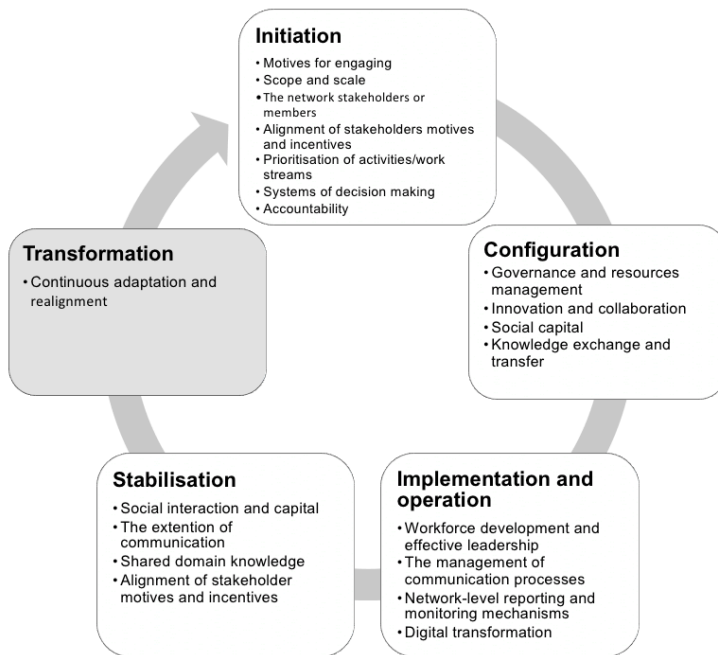
Social capital and integration, and alignment of stakeholders' motivations or motives, illustrated previously, are key for effective and also stable collaboration within the network (Riemer and Klein, 2006). Stability and sustainability are two of the LDC challenges, covered in section (5.1.9). This is the result of the coalition having a number of uncertainties where there was no clear shared vision and direction, nor an aligned agenda and motives. This research argues that consistent communication is a key factor for stabilising the network.

Additionally, the network senior-level management team plays a crucial role in the stabilisation and nurturing of the network (Agranoff and McGuire, 2001).

Social capital and integration, along with communication will facilitate the flow of information, and will develop trust, engagement, understanding and shared domain knowledge (SDK) among the participating members and organisations (Riemer and Klein, 2004), as also reflected in Figure (16). This plays a crucial role in stabilising the network. The reason for this is that, over time, the level of social integration and capital, interaction and communication can be reduced assuming that there is enough shared knowledge between the people involved, and that they know how to deal with the tasks at hand. In this respect, it can be said that stabilisation can be achieved when there is shared domain knowledge (SDK).

## **7.5 Stage 5: Transformation**

The transformation stage of the network lifecycle is concerned with the establishment of continuous adaptation and realignment, as depicted below in Figure (22), and as will be explained in this section.



**Figure 22: Transformation stage of the network.**

A network is considered to be a dynamic mechanism, and over time, a transformation of the network may possibly be required for adaption because of internal or external influences (Klein and Poulymenako, 2010). This is seen to be crucial because it supports and is in line with alignment which is also dynamic and requires continuous adaptation to changing business strategies and technological environment. This stage therefore can allow for the change required to maintain alignment.

## 7.6 Network termination / dissolution

The first stage is the initiation of the network, but is the goal-directed network permanent, or a temporary arrangement and solution?.

At the beginning, it was stated that the network is created with the purpose of increasing the level of business-IT alignment in service redesign in UK e-government. However, this study argues that this is not a short-term goal, rather it is a continuous iterative process. Alignment is conceptualised as a dynamic evolutionary process, as also borne out by this research. In this view, stabilisation and transformation are not the last stages of this network; when needed, and for adaptation with the dynamic nature of alignment, the members will have to go back to the first stage and redefine and re-adjust certain processes and structures, as illustrated in the previous section.

The network will be iterative to support the dynamic nature of alignment. This is different from the view of Riemer and Klein (2006) where according to the authors the network dissolution happens after the goal is achieved.

## **7.7 The network influence on the main barrier identified by this study: silo-based systems associated with localism**

### **The relationship between a network for alignment and localism**

*“The reason why there are not many shared services between councils is because of this sovereignty problem, that’s the biggest killer of any collaboration”*

*(Stated by a respondent from a local government business department, T3).*



The network for alignment is a collaboration aiming to increase alignment in UK service redesign. This research asks the question: 'is the goal-directed network for alignment going to reduce the level of local autonomy or localism in the UK?'. It has been found that neither extreme centralisation nor extreme localism are possible or desirable, because in each case there will not be alignment, and therefore as mentioned in the findings, Chapter (4), a balance between the two has to be maintained. The view of the relationship between (collaboration and alignment), and localism is illustrated below.

Goal-directed network —leads to—> Increased communication and collaboration across the UK government —leads to—> Increased alignment in the UK service redesign —leads to —> A balance between localism and alignment.

## **7.8 Implications and conclusions of the suggested network**

This research study does not see the process of alignment as straightforward, but equally it is not impossible to achieve. Since the network can activate members involved in digital service redesign and strengthen the weak links between those members, then it is valuable and its connection to alignment is clear. This section discusses the perceived value and implications of the suggested network, and also draws a number of conclusions relating to the relationship between alignment factors and the suggested network, presented earlier in

Figure (16). It presents the opinions of a number of participants who have been asked, as part of the fieldwork, for their perspectives on the suggested network, and for an operational point of view for validation purposes.

When asked about the suggested network, one of the respondents from the GDS IT department commented: “that’s one of the goals, in the vision of the Government Digital Service GDS ... we have a variety of different ways that we are looking at a particular opportunity” (T7). This suggests that the network is a solution that the UK government is considering and that it is practically useful, and relevant in terms of timing.

As mentioned in the findings, Chapter (4), one of the barriers to alignment is *cultural change (Resistance and fear of change)*, and the network suggested is seen as an important step to create the cultural change required for alignment, as illustrated in Figure (16). As stated by a participant from a local government business department: “it can only help, and I can’t see how that would be negative, people got to make changes in small steps, so a network for communication can be the first step for this type of change” (T4). In terms of the proposition that the network will enable a balance between localism and alignment, a participant from GDS involved with central-local government collaborations stated: “overall, it does feel like we’re missing a big opportunity to make sure that we devolve in a way that will ultimately enable us all to be speaking the same language” (T28).

As stated previously in this chapter, the network is seen to be a tool for enhancing a number of alignment enablers and reducing inhibitors, as demonstrated in Figure (16). This research has found that social capital will result in higher Shared Domain Knowledge (SDK), levels of business-IT engagement, trust between the business and IT, and collaborations and partnerships, which are alignment enablers, as covered in Chapter (4). These social ties and integration in the network will also enhance the core factor (i.e. communication).

In terms of communication, the network can enable 'best practice' communication, which, as demonstrated in the findings, is one of the types of communication fundamental for alignment. It is also found that communication and social capital will increase 'informational' and 'technological' knowledge exchange and transfer for enhanced learning and efficiency.

The suggested network will enable more efficient and smarter decision making about the use and management of resources, including establishing more effective recruitment and access to resources, skills and capabilities. This is one of the values of a network arrangement relating to governance and resource management.

For governance of the network, this study has suggested that GDS should be the lead organisation. An interviewee from the GDS IT team statement in regards to this said: "I would say that part of the GDS' remit is to drive the digital agenda, drive issues of service standards and standardisation where appropriate, and drive some of the other kind of linked goals like open data standards" (T7). The network is believed to enable the digital transformation required for more alignment, part of which involves increasing standardisation across the

UK service redesign. The participant added: “so relating to standardised ways of delivering digital services. The Government Digital Service has a responsibility and accountability for helping with standardisation across central government and local government. And we’ve created different networks and working groups to look at that” (T7).

To conclude, the network suggested as part of ‘theory for design’ is a mechanism which can enable more alignment in service redesign across the UK government, as also shown in Figure (16). It will increase the alignment enablers, and most importantly communication, which is the core alignment factor found in this study.

## Chapter 8: Conclusions and implications

This study aims to understand how alignment between business and IT strategies is being managed in the digital redesign of UK public services. This research has identified the factors that influence alignment in UK service redesign, and the interrelationship between them (Figure 6 and Figure 9). Nonetheless, this research contributes by providing a substantive theory of alignment in service redesign, which considers the interrelations found between key alignment factors, as shown earlier in (Figure 15) and also reinserted below.

In addition, it has been argued that by recognising the importance of these factors, the UK government will be in a better position to increase their level of business-IT alignment, which in turn benefits service redesign. This thesis has also captured the processes by which government departments and local authorities align their business and IT strategies, as well as supporting business processes and technological infrastructures. In addition, it provides an understanding of how alignment comes into practice in UK departmental and local government to support public service redesign.

This chapter answers the research questions and discusses how the research aim was realised. The aim and questions of this thesis were listed in the introduction Chapter (1).

This chapter begins with a summary of the research key findings, which are the results of addressing the research aim and questions. A summary of the research contributions and

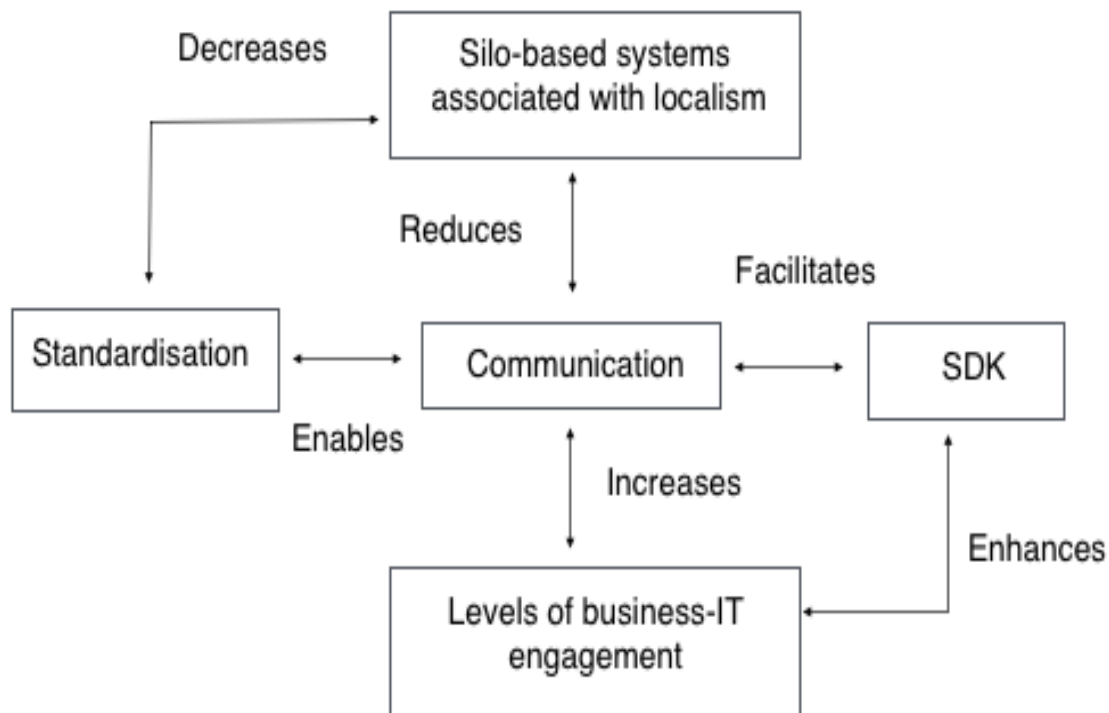
outcomes including both implications for theory and practice are presented next. This is then combined with a number of practical conclusions and recommendations for e-government practitioners and government agencies to enhance the level of business-IT alignment and overcome issues of misalignment. Lastly, this chapter explains the research limitations and lists a number of suggestions for future research opportunities.

## **8.1 Conclusions about the research key findings**

When investigating how alignment is being managed, and the 'process of aligning' to facilitate the digital redesign of UK public services, a number of factors that influence alignment were found and discussed in this research as 'enablers' or 'inhibitors' of alignment. The factors identified from interviews and the interrelationship between them are presented in Figures (5) and (6). Nonetheless, the factors identified from case studies and the interrelationship between them are shown in Figures (8) and (9). These findings were covered in the findings, Chapter (4), and the case studies, Chapter (5).

This section sets out the achievement of the research aim by providing key conclusions of the interrelations found between the alignment key factors presented in the research theoretical model, as provided below. These factors are: communication, standardisation, Shared Domain Knowledge (SDK), business-IT engagement, and silo-based systems associated with localism. Detailed findings of the relationships and the propositions provided for each alignment factor for increasing the level of business-IT alignment were presented

in Chapter (6). It also answers the research questions by including a number of conclusions relating to the practice of aligning that have been adopted by UK departmental and local government.



**The research theoretical model: Interrelation of key factors of alignment in UK service redesign**

### 8.1.1 Communication

Data gathered have indicated that traditional non-verbal and indirect methods of communication are found to be ineffective (e.g., ‘staff newsletters’ and communicating through external parties). The types of communication found to enable a higher level of alignment in UK service redesign involves both verbal and non-verbal methods of

communication. These include: (1) communicating best practice; (2) communicating business functions and requirements to IT without requesting a specific technology; (3) communicating to influence the IT market; and (4) communicating by the use of story-telling and real life examples.

Findings have also indicated that there is less communication between central and local government than between local authorities or between central government departments.

Localism, where LAs have a preference to operate autonomously without communicating with central government or receiving any central government steering, is one of the main reasons found for the lack of communication between local and central government. Other reasons are that central government sometimes may not consider communicating with local government a priority because it deals with an array of issues and communicating with all LAs can be a challenging task. It is seen that this lack of communication creates further problems in an already challenging environment (e.g., funding issues), and therefore makes alignment more difficult.

In addition, the reasons found for the lack of communication in local government are: (1) failure to communicate messages to the right people or individual team members, and a lack of deep understanding of IT by business, both of which are aspects of *Shared Domain Knowledge SDK*; and (2) the right people not being involved in conversations or meetings, which is discussed as part of *levels of business-IT engagement*. Therefore, this research concludes that communication in service redesign is influenced by SDK and levels of business-IT engagement. SDK and levels of business-IT engagement are also affected by communication, as explained in the next sections.



Communication was also found to be one of the Local Digital Coalition (LDC) main principles: *collate, communicate and connect*. The coalition facilitates the type of communication required for more horizontal and vertical alignment in the UK service redesign. For example, communicating best practices, and communication that allows for a closer contact and shorter distance between decision makers and staff, and also shorter feedback cycle.

### **8.1.2 Shared Domain Knowledge (SDK)**

Communication is a core alignment factor and it facilitates a number of alignment factors, SDK is one of them. For example, it was found that communication between business and IT from central and local government will, over time, enhance understanding, and therefore increase SDK between business and IT in service redesign.

Nonetheless, lack of SDK affects communication between business and IT negatively. The results of this study have shown that there is a lack of communication because engagement with IT is not considered to be a priority or of high importance by business. Another reason is a lack of understanding of IT capabilities, potential and value on the part of business. A further cause is a lack of communication, in that local government often operates differently from central government, and there is a lack of understanding and SDK between business and IT at central and local government levels. It was thus suggested that SDK can facilitate

communication, and not only the other way around as has been suggested in the literature (e.g., Reich and Benbasat, 2000).

### **8.1.3 Levels of Business-IT engagement**

There are a number of benefits of the Local Digital Coalition (LDC) collaborative effort, which are seen to be alignment enablers. One of these benefits is enhancing GDS engagement with local authorities (LAs) and their suppliers. Communication can enhance levels of business-IT engagement, as has been discussed in this research in terms of the role and value of IT in an organisation. The aspects of such a role and value covered in this research are: the way IT is viewed as a service provider; the lack of decision making power held by IT; and IT as a supporter and not a driver. For example, it is found that communication can change the nature of the relationship between IT and business from that of a service provider to a greater recognition that they are strategic partners with equal decision making power.

However, data have also shown that engagement influences communication. For example, communication between business and IT increases when there is a higher involvement of IT in meetings and planning.

#### 8.1.4 Standardisation

Standardisation is one of the technical / operational factors found to be crucial for alignment in service redesign. The forms of standardisation that the research results have indicated as facilitating more horizontal and vertical alignment in service redesign include: (1) adopting a common IT platform, system, and/or solution for the redesign of services; (2) overcoming the siloed approach to service redesign; (3) the use of data standards and protocols; and (4) service redesign standards, and common service design patterns.

When investigating 'alignment in practice' in UK service redesign, it was found that standardisation is one of the LDC principles (i.e. *be consistent, not uniform, and do things once*) and one benefit of the collaborative effort, which has allowed them to establish more vertical and horizontal alignment.

In addition, the findings suggested that IT acknowledges the importance of developing and adopting cross-organisational platform technologies that fulfil a whole set of requirements and to consolidate services, as opposed to having niche products and a single solution to a single problem. The lack of shared services and the siloed approach to service redesign in UK local government affects vertical, and also horizontal alignment (between local authorities) negatively. This research has shown that standardisation can increase by establishing communication. For example, levels of standardisation will be higher when IT communicates ideas for standardisation (e.g., by the use of story-telling and real life examples), and demonstrates its benefits to the business over and above the use and adoption of a niche product or a siloed solution.

A barrier to standardisation is the siloed-based systems associated with localism. Standardisation can restrict personalisation, depending on different local council needs, and also innovation and originality.

Nonetheless, the LDC collaboration with GDS to pilot the use of GOV.UK Verify for LAs to reuse, and to create an online authentication service that works across all LAs services is seen to facilitate standardisation in UK service redesign. The reuse of GOV.UK Verify by LAs and the process adopted for that collaboration, were found to facilitate horizontal alignment across LAs, and vertical alignment between central and local government. In addition, this alignment was established primarily because there was effective communication (e.g., by having co-planning events and workshops), which in turn increased and positively influenced a number of alignment enablers. These enablers are engagement, and shared Domain Knowledge (SDK) between business and IT from LAs and GDS (alignment factors have been discussed previously), and also integration between the strategic and operational level.

The results of this study have also shown that there are many benefits of standardisation which facilitate alignment. One of these benefits, specifically when adopting common open data standards, is establishing a common language and understanding of data, and maximising the ability of data to be exchanged without reformatting, and therefore allowing for rapid and effective communication between government agencies, and also optimising systems integration and communication. Therefore, standardisation enables

communication. Other benefits of standardisation include: (1) better management of government IT and investments; (2) increasing innovation in digital service redesign; (3) facilitating partnerships and collaborations; (4) consolidating and reducing applications; (5) saving cost and resources; (6) developing better quality citizen oriented services; and lastly (10) facilitating change and transformation.

### **8.1.5 Governance**

Governance is also an alignment enabler, and it facilitates a number of the alignment factors essential for both central and government organisations. These are collaborations and partnerships, communication, and standardisation.

Governance is particularly key for the success of the LDC. It addresses a number of the challenges that the coalition is facing and which are also considered to be crucial for alignment (Figure 11). These include: (1) funding and resources; (2) standardisation; (3) communication and knowledge and information exchange; (4) shorter feedback cycle and a closer contact; (5) GDS engagement with local authorities; (6) guidance and support; (7) aligned agenda, motives and incentives; (8) shared vision and strategic direction; (9) efficiency and performance monitoring and measurement; and (10) LDC stability and sustainability.

### **8.1.6 Alignment inhibitors**

This research study has identified three barriers to alignment. The first is a social/cultural factor, which is cultural change (resistance and fear of change). This is a barrier specifically to standardisation, the level of IT engagement with business, and communication between central and local government. Another obstacle that belongs to the alignment structural factors is silo-based systems associated with localism. These systems are associated with localism because they result from LAs having a preference to operate autonomously, to focus on serving local needs independently without any outside influence, and also to have control and ownership to serve local needs. Silo-based systems influence communication and standardisation in UK service redesign. Another structural barrier is silo-based systems in UK service redesign, and it is a result of when central or local government organisations, departments or divisions are only interested in their own area or division, and are operating in silo. This is a barrier to communication, standardisation, SDK, engagement, and partnerships and collaborations in service redesign.

## **8.2 Summary of research contributions and outcomes**

### **8.2.1 Implications and contribution to theory**

This study provides a holistic view of ‘alignment as a process’ rather than ‘alignment as a state’. It also provides ‘theory for explanation’, making it scientifically useful as it aims to increase our understanding of the ‘process of aligning’ - vertically (between central and local government), and horizontally (across government agencies) – as well as the challenges and difficulties faced in aligning, and their effect on alignment in public service redesign. This research study provides a substantive theory of alignment in service redesign, which

considers the interrelations found between key alignment factors, to produce a theoretical contribution (Figure 15, interrelation of key factors of alignment in UK service redesign). It includes original concepts, ideas and insight by progressing and building on existing knowledge and understanding of business-IT alignment in the context of UK government digital service redesign. It also contributes to the wider body of knowledge by linking alignment, e-government / service redesign and networks, a connection which has not previously been fully explored in the literature.

This research study mainly contributes and adds empirical knowledge to the following fields of research:

- **Business-IT alignment:**

(1) By providing a theoretical model to deepen understanding of the business-IT relationship phenomenon, and to demonstrate the interrelation between *communication* and other key factors identified from data collected that are also found to produce more alignment (i.e. standardisation, Shared Domain Knowledge (SDK), business-IT engagement, and silo-based systems associated with localism). This is shown in (Figure 15), which is reinserted earlier in this chapter. A new key finding was that SDK can facilitate communication, and not only the other way around as identified in the literature (e.g., Reich and Benbasat, 2000), and as shown in the conceptual model in (Figure 3).

(2) By identifying alignment factors and concepts and discussing them as 'enablers' or 'inhibitors' of alignment. Some of these factors have been referenced in previous

alignment studies (i.e. communication, SDK, IT engagement, trust, standardisation, and partnerships and collaborations). For example by Luftman (2003), and Charoensuk et al. (2014). However, these factors have not been discussed in the context of e-government and service redesign. This research study contributes to theory by also presenting a number of alignment 'enablers' that have not been identified in previous alignment literature (i.e. integration between the strategic and operational level, strategic thinking and planning, and strategy formulation and implementation). New findings are also put forward in relation to alignment 'inhibitors' (i.e. cultural change (resistance and fear of change), silo-based systems associated with localism, and silo-based systems in UK service redesign). For example, it has been illustrated how silo-based systems influence some of the alignment enablers negatively, such as communication and standardisation. Additional new factors were also found from the research case studies (e.g., aligned agenda, motives and incentives, and shorter feedback cycle and a closer contact), listed in Figure (8).

- (3) By explaining that there is a connection and a balance that has to be maintained between alignment and localism, which is not provided in previous alignment literature.
- (4) By illustrating that communication is a core and central factor in the 'process of aligning' in service redesign, and that the balance between standardisation and uniqueness can be maintained by establishing effective *communication*. This is mainly to standardise with some flexibility, and to allow for tailoring and personalisation, and to avoid restricting innovation in service redesign. For example, when there is no balance maintained, and while standardising to save cost and to establish more alignment, uniqueness and the ability to meet local needs can be lost.



- **E-government and public service redesign:**

(1) By exploring alignment in the context of e-government.

(2) By offering new insight into the management of government IT for enhancing innovation and quality in digital service redesign.

(3) By presenting 'the use of an agile approach to service development and redesign' and 'decision makers' understanding of public services', as factors that enable a higher integration between the strategic and operational level in e-government.

(4) By illustrating that communication is a key factor for establishing alignment in e-government and service redesign.

(5) By explaining that the lack of standardisation negatively impacts the development of citizen-oriented services, the quality of services, and also the transformation process in service redesign required for alignment.

- **Networks:**

(1) By exploring the connection between networks and business-IT alignment.

- (2) By explaining how a network arrangement can increase alignment.
- (3) By creating a network lifecycle model for increasing alignment.
- (4) By capturing the relationship found between 'network for alignment' and localism.

## **8.2.2 Implications and contribution to practice**

In addition, this research study moves beyond 'alignment in theory' and explores and explains 'alignment in practice'. The findings of this research reflect the practical reality and experiences of practitioners involved in the daily activities of UK public service redesign. It also offers 'theory for design', as it prescribes how e-government practitioners and government agencies can enhance the level of business-IT alignment and overcome issues of misalignment.

This research was formulated with the rationale that increasing business-IT alignment will enable the UK to reach the highest e-government maturity level which, according to the European Digital Capability EDC Framework, is to have a strong, agile, user-centred, innovative and responsive digital culture. This research thesis started with a number of objectives for contributing to 'practical usefulness' including: (1) contributing to the management of government IT to enhance innovation and quality in digital service redesign, generally and in the UK, and (2) contributing to the understanding of e-government practitioners and government organisations about the process of business-IT alignment to

facilitate and support the digital redesign of UK public services. These objectives were met and achieved by establishing the following key practical contributions:

- (1) By providing a theoretical model (presented in Chapter (6), and reinserted in this chapter) that shows the interrelationships found between the alignment key factors in service redesign. It has been demonstrated that for government agencies it is important to enhance communication in service redesign for increasing alignment.
- (2) By offering a number of propositions that indicate practical ways for increasing the level of alignment in UK service redesign, both vertically and horizontally, as covered in Chapter (6). For example, it suggests that increasing levels of business-IT engagement by embedding IT across an organisation, will enable better communication between business and IT, and therefore increase the level of alignment.
- (3) By increasing understanding of the 'process of aligning' adopted in UK service redesign and identifying the factors that influence this process, and illustrating and drawing on the importance of those factors, which were discussed as 'enablers' or 'inhibitors', to increase business-IT alignment, and more generally in UK government. For example, it suggests that central and local government organisations, departments or divisions should overcome silo-based systems, and enable cultural change (this is because they influence alignment negatively) by establishing effective communication.

- (4) By suggesting that government agencies when aligning have to communicate to ensure that a balance is maintained between localism and alignment, and also when standardising to ensure that a balance is maintained between standardisation and uniqueness. These balances are important so that standardisation and alignment do not restrict government organisations' ability to personalise, meet local needs, and also innovate in service redesign.
  
- (5) By analysing the LDC governance case study, which helped in further exploring and understanding the linkage between business-IT alignment and governance in practice. This contributes to e-government practitioners' understanding of how governance can enable a successful handling of collaborations, communication, standardisation, and the exchange of best practice, information and knowledge, which in turn will enable them to enhance their level of alignment. It offers 'theory for design' by designing and sharing a number of governance frameworks with the coalition members and suggested the adoption of an agile governance mechanism that mirrors the coalition's agile philosophy adopted for their project development.
  
- (6) By proposing a network arrangement for increasing the level of alignment in service redesign. The network will allow UK government organisations and local authorities to achieve outcomes they would not be able to achieve while operating in silos, and to minimise the inherent complexities of alignment in public service redesign. In addition, they will be able to increase a number of alignment enablers which are: communication, SDK, business-IT engagement, standardisation, social capital and integration, and knowledge exchange and transfer. There are many benefits for having a 'network for alignment' and coordination, as covered in Chapter (7), section (The motives for

engaging in a network for alignment in service redesign). In order for the UK government to reach these benefits and as part of the 'theory for design' that this research provides, a network lifecycle model to guide the implementation of the network was designed (Figure 14). The lifecycle model addresses the stages and network management functions that are seen to be essential for the creation of an effective network for alignment.

## **8.3 Limitations and further research**

### **8.3.1 Research limitations**

This section identifies and explains the limitations of this research. These relate to sensitivity to biases, maintaining an inductive nature for grounded theory, internal validity, generalisation, and finally data collection limitations.

- **Researcher's sensitivity to biases, and maintaining an inductive nature:**

(1) This research adopts an interpretive approach to develop an understanding of the business-IT alignment phenomenon. Interpretive research studies are often driven by the bias of the researcher and their limited ability to generalise its results, for example, to the same level as in positivist research (Orlikowski and Baroudi 1991). Generalisation is discussed later. As explained in the methodology Chapter (3), *constant comparison*, which is one of the grounded theory guidelines, was used to reduce biases among data by comparing the slices of data collected.

(2) In classic ground theory, it is known that conducting a literature review could lead to bias.

This is because the researcher may be influenced by the literature, and may formulate a hypothesis before data collection, and force ideas from literature on coding (Glaser and Strauss, 1967). This research does not adopt such a classic grounded theory approach, and therefore a literature review was conducted for theoretical sensitivity (Strauss and Corbin, 1998). It is argued that conducting a literature review does not affect the inductive nature of grounded theory or result in bias, however, creating a theoretical framework may affect the inductive nature. This research maintained the inductive nature of grounded theory by working towards the development of a conceptual framework as an outcome (Figure 15, interrelation of key factors of alignment in UK service redesign), unlike in deductive research which requires the development of a theoretical framework at the beginning (Imenda, 2014). This research also argues that concepts and ideas from literature were not forced on coding, and that the substantive theory emerged through open, axial and selective coding, as shown in the methodology Chapter (3).

- **Internal validity:**

(1) There are possible issues and threats to internal validity that may appear in qualitative research studies carried out by a single researcher. However, the grounded theory method minimises and reduces these internal validity issues. This is because grounded theory ensures that the theory produced is grounded in the data collected. Therefore, as argued by a number of grounded theory researchers (such as Martin and Turner, 1986; Fernandez, 2003; Eisenhardt, 1989; Orlikowski, 1993), having more researchers involved could make theory richer, however, having only a single researcher will not

invalidate it. Furthermore, although the research theory and constructs could be applied and be relevant in another environment and context, it can only be stated that they are valid in the subject area in which they were grounded (Glaser and Strauss, 1967). This links to generalisation and will be discussed next.

- **Generalisation (scaling) of the study's theories and propositions:**

(1) This research attempts to provide a holistic understanding and multi-level analysis of 'alignment as a process' and not 'alignment as a state'. As well as establishing an understanding of 'alignment in practice' and in the real-world (and not only 'alignment in theory'). This research is also contextual, as discussed in the *contextualisation* principle of interpretivism. This is because it captures both vertical alignment between central and local government, and horizontal alignment across government agencies in the UK. However, the substantive theory provided can be applied and is considered relevant in different contexts, other than the UK government. For example, the Republic of Ireland and Australia, since they have a similar local government structure to the UK. Nonetheless, there are some limitations related to generalisability. This is evident in the silo-based systems, which are associated with the localism agenda and are discussed in this research as a barrier to alignment. This factor is considered to be unique, as it relates to UK legislation and government structure, which is different from other countries' legislations and structures, and contrasts with the unitary structure of some governments.

- (2) This thesis only tests and states the degree of generality of the main propositions and theories, and shows the likelihood of different outcomes in a different context and time. An example can be found in section (4.3), which discusses '*other views on business-IT alignment*', and states that there are some interviewees that have suggested that the importance of alignment changes and varies (e.g. it can be seen irrelevant, or not desirable) depending on the context. In addition, in the *communication* section, it is concluded that, over time, senior level engagement can be lowered when there is a higher level of understanding established between business and IT.
- (3) Moreover, in order to establish greater generalisation, the *theoretical integration* guideline of grounded theory by Urquhart et al. (2010) was used where the research findings were linked and was discussed in connection with business-IT alignment theories and models, such as Henderson and Venkatraman's (1993) Strategic Alignment Model (SAM).
- (4) This research offers 'theory for design', where there are a number of propositions listed in Table (5), and also governance frameworks as shown in Figure (9). These have the potential to be adopted in different public sector organisations in the UK and also by other countries. However, more generalisation and advancement can be established by conducting additional research work, as suggested to researchers in the next section.

- **Data collection:**



- (1) Only one local authority in the UK was included in the data collection. But this was in addition to the interviews conducted with the LDC members, some of whom were from local government organisations. This was done in order to understand how alignment is being managed vertically from local to central government, and horizontally across local government. This research therefore mainly provides the views of actors from only one local authority in the UK, which was focused on because it is considered to be a local authority with a typical political management system. And thus it was found to be suitable and fits the criteria for a participating local government body.
  
- (2) Interviews were conducted with two groups of people: business and IT staff from central and local government. These participants included civil servants in the public sector, some of whom have also worked or still are working in the private sectors. Interviews were also conducted with participants from other bodies supporting service redesign (such as The Society of Information Technology Management (SOCITM) and LocalGov Digital). As mentioned previously in this research, there are a number of nodes (organisations, departments and divisions) involved in the redesign of UK public services. It is therefore seen that greater insight and a wider range of views can be provided by focusing on conducting additional interviews with the private sector and also bodies supporting service redesign, as both are part of UK service redesign.
  
- (3) The civil servants interviewed are mostly senior managers and top administrative leaders who have worked closely with politicians and are aware of policies. However, this study did not interview any politicians. Therefore, although this research attempts to provide a holistic understanding of business-IT alignment, it does not consider any

political point of view with respect to alignment in service redesign because to do so may have reduced the depth of the analysis of the existing subject matter. Other respondents though do possess a good understanding of the political implications of certain aspects of the redesign.

- (4) The National Health Service and also education are not within the scope of this research. Therefore, there were no interviews conducted with business and IT staff who are involved with healthcare services and education, for the same reason that their inclusion also would have reduced the depth of the analysis of the researched area. Additional research investigating alignment in healthcare services and education could bring new insights, diversify and expand the substantive theory provided in this research.

### **8.3.2 Further research**

This section provides a number of suggestions for future research opportunities and potential research topics. These will enable researchers to produce findings that are both theoretically and practically useful and to contribute to several fields of academic study: business-IT alignment, networks, service redesign, and e-government. There are a number of suggestions that relate to expanding the research breadth (e.g., by collecting data from more actors and bodies involved in service redesign), and also the depth of analysis (e.g., by exploring certain factors and constructs further).

- (1) This research states that procurement from a range of suppliers or vendors is a barrier to the standardisation required for alignment in service redesign. A suggestion for future research is to focus more on the private sector and suppliers involved with the redesign and delivery of public services. This is to provide more insight and investigate in depth the procurement affect on alignment.
  
- (2) Researchers could also choose to focus on establishing an understanding of the role of bodies supporting service redesign, who are not themselves suppliers of services (such as SOCITM, SOLACE, iStandUK, Local Government Association, and LocalGov Digital), and also their ways of working and collaborating with the public sector to increase alignment in service redesign.
  
- (3) Another suggestion is for researchers to focus on providing a political point of view with respect to alignment in public service redesign, and to establish an understanding of the roles of politicians and councillors and their involvement in the process of aligning. For example, this research mentions that having a forum which includes a group of councillors who are responsible for vetting proposals and ideas, such as for an IT solution, enables the type of communication that facilitates more alignment between IT and business, and this role in alignment would merit deeper investigation.
  
- (4) It is suggested that researchers explore and investigate the National Health Service and the Local Social Care services partnership in terms of their influence on alignment, and, in addition, to study how alignment is being managed in the context of the National

Health Service and Education. This is because this is an important partnership in UK service redesign, which has not been explored in previous alignment and e-government /service redesign literature.

- (5) This research has proposed the adoption of a network arrangement as an instrument to produce more alignment by coordinating, organising and resolving the complexity involved in vertical and horizontal alignment in UK digital public service redesign. Other researchers could usefully investigate and expand on the connection between networks, complexity and alignment theories, which has not yet been fully explored in the literature.
  
- (6) The 'network for alignment' suggested can be applied to the UK or in a different context and environment, and it can also operate on a smaller scale than has been suggested by this research (which is concerned with central and local government agencies and authorities). However, further research is required to investigate this suggestion and to test its generalisability. Additionally, researchers could focus on the implementation of the suggested network from an operational and practical point of view.
  
- (7) One of the alignment enablers is an 'agile approach to service development and redesign', and it was found that this allows for more strategic-operational alignment, and minimises the siloed approach to service redesign. This could be examined and investigated in depth by other researchers for theory-building in service redesign.

- (8) The substantive theory and concepts that this research provides could be used to conduct a comparative study with another country. This is to expand, diversify, advance and establish more generalisability. For example, researchers could engage in a comparative study that analyses the level and mechanisms of communication used for establishing alignment in another country, and then compare it to the findings of this research. More generally, researchers can seek to understand how alignment is being managed in another context and then compare it to the findings of this research. This would contribute to theory-building with regard to alignment in the context of service redesign and e-government.
- (9) Applying and testing the research propositions listed in (Table 5) will allow for more clarification, refinement, and for a practical perspective to be provided.

To summarise, Business-IT alignment in service redesign is found to be crucial and provides a number of benefits to government organisations and actors involved with alignment. It enables a better management of government IT, and also enhances innovation and quality in digital service redesign. It allows government agencies to increase their level of e-government maturity which, according to the European Digital Capability EDC Framework, includes having a strong, agile, user-centred, innovative and responsive digital culture.

This research study makes both a practical and a theoretical contribution by providing government organisations, e-government practitioners, and other researchers and academics with an understanding of how business-IT alignment is being managed, and also the 'process of aligning' in the context of digital service redesign. It increases existing

insights into the practice of alignment, particularly in UK departmental and local government, to support the service redesign of public services. This thesis presents and discusses findings, and provides a number of propositions that will enable actors and organisations involved with aligning to enhance their level of business-IT alignment and overcome issues of misalignment.

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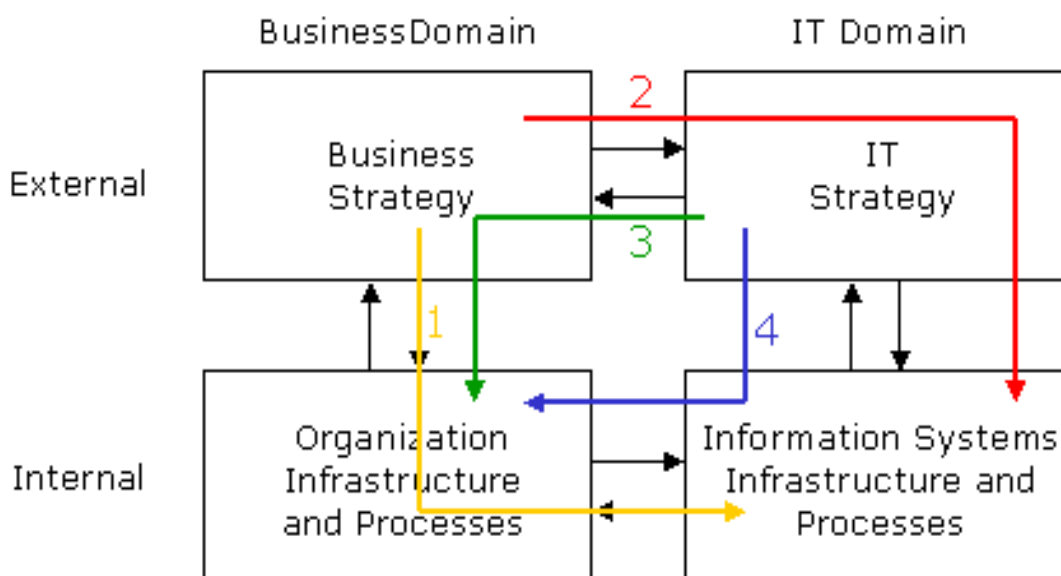
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# Appendices

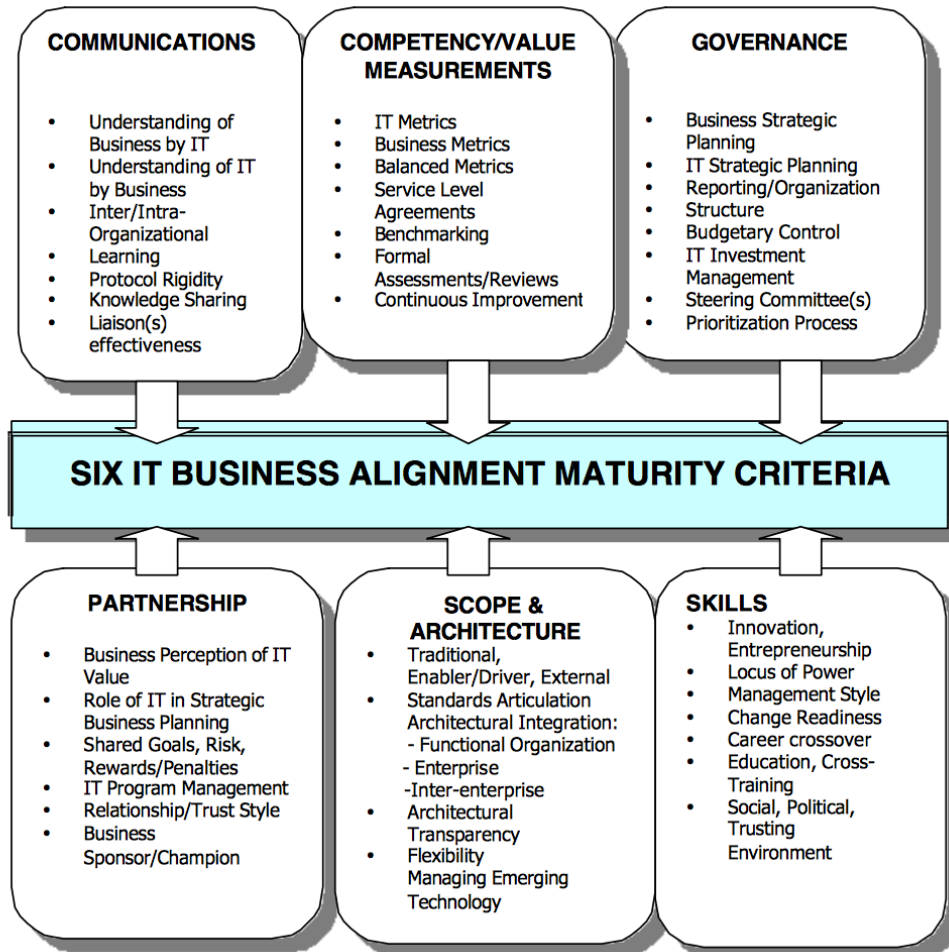
## Appendix 1: The European Digital Capability (EDC) Framework (Cabinet office, 2013)

- 
- 5 Digital is at the heart of policy and strategy. Services are digital by default. Digital culture is strong: agile, user-centred, innovative, responsive.
- 
- 4 Senior management have made significant progress in delivering the vision and plan, implementing new capability and trialling it successfully by re-engineering a range of services to be digital by default.
- 
- 3 Senior management in place with a remit to set targets, develop over-arching vision and plan, and develop necessary capability and culture. Digital is seen as a key transformation and advocacy is strong at key parts of the organisation.
- 
- 2 Some digital services, but often of limited quality. Digital teams in place but tend to be siloed in business units or service/programme teams and have limited budget and remit. Senior (board level) digital management not in place.
- 
- 1 No awareness of digital capability, no resources allocated, no digital strategy, plan or metrics, no understanding of best practice, no digital services.
- 

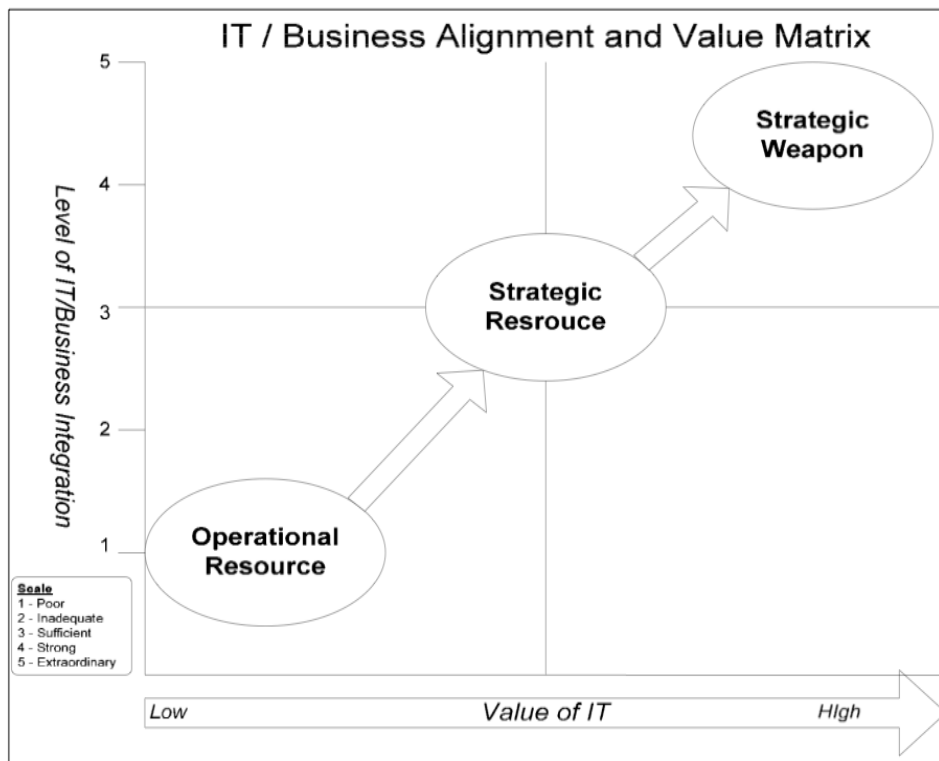
## Appendix 2: Henderson and Venkatraman's (1993) Strategic Alignment Model (SAM)



### Appendix 3: Luftman's (2000) Alignment Maturity Criteria



**Appendix 4: Weiss and Anderson's (2004) Alignment Value Matrix**



**Appendix 5: Karpovsky and Galliers's (2015) Aligning Analytical Framework**

		Focus	
		Tools	Actors
Purpose	Intended	<b>ALIGNING AS TRANSLATION</b> (developing; reconfiguring)	<b>ALIGNING AS INTEGRATION</b> (strengthening; signaling)
	Emergent	<b>ALIGNING AS ADAPTATION</b> (evaluating)	<b>ALIGNING AS EXPERIENCE</b> (negotiating; decision-making; learning)

**Appendix 6: A classification of the interviewees (participating members and organisations)**

<b>Interviewee sector</b>	<b>Interviewee department</b>	<b>Number of interviews</b>
Central government	Business	4
	IT	6
	Business/IT	2
Local government	Business	3
	IT	4
	Business/IT	3
Local government and private sector	Business	2
	IT	5
	Business/IT	2
<b>Total</b>		<b>31</b>



<b>Interviewee</b>	<b>Department (Business, IT)</b>	<b>Sector (Local, Central or private)</b>	<b>Transcript number</b>
ICT Business Services Manager	IT/Business	Local	T1
Head of HR, IT and Technical Services	IT	Local	T2
Strategic Director	Business	Local	T3
Head of ICT Business Delivery	IT/Business	Local	T4
Programme Manager	IT/Business	Local	T5
Broadband Programme Director ICT Business Delivery	IT	Local	T6
Head of standards	IT/Business	Central	T7
Director - National, International and Research	Business	Central	T8
Head of shared ICT service	IT	Local	T9

Executive Director Organisational Development and Corporate Services	Business	Local	T10
Chief Executive	IT/ Business	Central	T11
Deputy Director for Customer Services	Business	Local	T12
Chief Digital and Information Officer	IT	Central	T13
Head of Design	IT	Central	T14
Advisor - National, International, and Research	Business	Central	T15
Director of Policy and Research	IT/Business	Local and Private	T16
Head of ICT	IT	Local and Private	T17
Digital Advisor	IT	Local, Central and Private	T18
ICT Lead Officer	IT	Local	T19

Chief Executive	Business	Local and Private	T20
Associate Director	Business	Central	T21
Service Manager	IT	Central	T22
Head of Technology	IT	Central	T23
Engagement lead for programme's standards	IT	Central	T24
Chief Information Officer	Business	Local and Private	T25
Digital Services Manager	IT	Local and Private	T26
Digital Service Design Lead	IT	Local and Private	T27
Head of Local Digital Collaboration Unit	IT	Central	T28
CIO and Vice-chair	IT/Business	Local and Private	T29
Director of Government Innovation	IT	Local and Private	T30
Service manger	Business	Central	T31

## **Appendix 7: Participant information sheet and Consent form**

### **INFORMATION SHEET**

#### **Study title**

Achieving Business and IT Alignment in Digital Service Redesign: A Study of UK E-government

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

#### **What is the purpose of the study?**

The aim of the study is to understand how alignment between business and IT strategies is being managed in the digital redesign of UK public services. The UK is currently increasing its IT investments and re-shaping how it uses and buys technology. It is fundamental that those IT arrangements are congruent and are in harmony with their business strategy, goals, and needs of the digital service redesign.

The data collected from the participants will help in understanding how alignment between business and IT strategies is being managed in the digital redesign of UK public services. It will also contribute to the wider body of knowledge on both e-government and IT-business alignment.

### **Why have I been invited to participate?**

The interviews are targeted at two categories of people: business staff and IT staff. Respondents have worked at their organisation for not less than a year, and are in a senior or top management position. You have been chosen to participate in this study because you are engaged in either the business or IT strategic planning of digital service redesign. This research will only be concerned with the managerial and not the technical aspects of IT. You have been identified as a possible research participant either because of your public profile, such as through a council or departmental website, or because following a referral by a senior manager in your organisation.

### **Do I have to take part?**

It is up to you to decide whether or not to take part, so it is completely voluntary. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. Also, you will still be free to withdraw at any time and without giving a reason.

### **What will happen to me if I take part?**

You will be interviewed, and only with your permission, this will be audio recorded. The interview will last approximately 60 minutes and will take place in a mutually convenient and suitable location, most probably during your working day. You will be asked to answer open-ended questions related to the process by which government departments and local authorities align their business and IT strategies (and supporting business processes and technological infrastructures). The interview data will be supplemented by documentary data (government publications and reports) collected during interviews.

### **What are the possible disadvantages and risks of taking part?**

In being interviewed, you will only be required to answer questions and share information that your agency or department is open about and willing to share. No personal data will be requested. The only disadvantage or cost involved in taking part in this study is your time. The interview will proceed as a confidential and secure conversation geared toward the research topic. However, since it is an in-depth interview, it might take up to one hour.

### **What are the possible benefits of taking part?**

The findings of the research are likely to help your organisation indirectly, and other public sector bodies, by promoting an understanding of how IT investments can be made

congruent and in harmony with business strategy, goals, and needs of the digital service redesign.

### **Will what I say in this study be kept confidential?**

You will be de-identified in the research, subject to limits within the law for subpoena and FOI. The identifying information that will be collected for this study will include your name and email address. All the information collected and all identifying information will be kept strictly confidential, codes will be assigned to identifying information and the codes will be locked in a separate location with restricted access, only allowing investigators. Your responses will not be linked to your identity and quotes will only be used if you give permission. Data generated by the study will be retained in accordance with the University's policy on Academic Integrity. Confidentiality, privacy and anonymity will be ensured in the collection, storage and publication of research material. The data documents generated in the course of the research will be securely stored in locked locations and security codes will be assigned to electronic records. The data generated will be kept securely in paper or electronic form for a period of ten years after the completion of the research project.

### **What should I do if I want to take part?**

In order to opt in for this study, please fill the consent form and email it to the address on this information sheet, or hand it to me when we meet.

**What will happen to the results of the research study?**

The results will be used for a PhD dissertation, which will be submitted to Oxford Brookes University at the end of this research study in June 2017. An anonymised summary of the findings will be shared through emails with the participants and their government department or council at the end of the data analysis stage.

**Who is organising and funding the research?**

I'm conducting this research as a student at Oxford Brookes University, Faculty of Business.

**Who has reviewed the study?**

This research study has been approved by the University Research Ethics Committee, Oxford Brookes University.

Principal investigator

Lamya Alnassar

Other investigators

.....



If you have any concerns about the way in which the study has been conducted, you can contact the Chair of the University Research Ethics Committee on [ethics@brookes.ac.uk](mailto:ethics@brookes.ac.uk).

Thank you for taking time to read the information sheet and look forward to hearing from you.

## CONSENT FORM

Full title of Project:

Achieving Business and IT alignment in digital service redesign: a study of UK e-government

Name, position and contact address of Researcher:

Principal investigator

Lamya Alnassar

Other investigators

.....

Please initial box

Yes

No

- I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.
- I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.
- I understand that there could be an implication for privacy/anonymity, because the sample size is small.
- I understand that if I feel uncomfortable during a question, I will not be pressured to answer.
- I agree to take part in the above study.
- I agree to the interview being audio recorded.
- I agree to the use of anonymised quotes in publications.
- I agree that my data gathered in this study may be stored (after it has been anonymised) in a specialist data centre and may be used for future research.

---

Name of Participant

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Date

---

Signature

---

Name of Researcher

Date

Signature

## **Appendix 8: Interview questions**

Questions asked to IT or business managers in central government department and local authorities.

1. The notion of Business-IT alignment, what does that mean to you?
2. How would you describe the level of business-IT strategic alignment in your department/authority (for a Department of State I will ask about the department as a whole, for councils I will ask about the local authority)?
3. Given the answer to (2), What are the consequences of this (with the benefits or downside) to your department/authority?
4. What things would you say help to enable or inhibit Business-IT alignment in your department/authority?
5. What are the steps or process you follow to achieve a Business-IT alignment (if there is an alignment)?
6. How do you ensure that your organisation strategy is aligned with the central government strategy, operations and standards? and that it is aligned with other departmental agencies or authorities?
7. How does 'the business' achieve an understanding of IT – in the sense of how it can support or even drive business strategy?
8. How does IT (as a functional area) achieve an understanding of the business – in the sense of what it needs to support business strategy?
9. How would you describe the value of IT to business strategy and operations in your organisation? Has this changed over time?

10. How does the IT department address the challenge of keeping up with the business demands?
11. What difficulties are presented for IT/the business in trying to achieve alignment in a continuously changing policy/technological environment?
12. What services does your organisation deliver – and to whom?
13. How have these services be redesigned in recent years, particularly to make use of digital technology?
14. What process have you/do you follow in doing this? How is this aligned to your broader IT and business strategies?

## **Appendix 9: A sample interview transcript**

**Date:** 7th December 2015

**Duration:** 53 mins

**Transcript Number:** Part of T1 (See Appendix 6)

### **Key:**

I = Interviewer

R = Respondent

s.l. = sounds like

**I: Okay. So please can you please start by telling me about your job here, or your current role?**

R: Okay. So my current role is ICT Business Services Manager. And I manage a group of people who are predominantly concerned with taking the requirements of the business, so the various service directorates, so we have children, education and families, we have social and community services, environment and economy and we have corporate centre. And so we basically support the directorates in determining what they're ICT requirements are in relation to their business objectives. And translating that so that we can support them in their service change, service development.

**I: So, can you please tell me business and IT alignment, what does that mean to you?**

R: The business and IT alignment is an interesting one. Where does one begin? So, obviously we have an overarching ICT business strategy that really sets out the strategy for the organisation in terms of what we believe the organisation is trying to achieve and therefore how ICT might be an enabler to support that. So we have a business strategy. What we're also developing, because I think we've identified an absence in terms of it's required, is having a technology strategy which sets out for the business, in order to support you in delivering your outcomes and objectives, our infrastructure and our technology needs to look like this. We also are developing an information strategy that says okay, well if the business is trying to achieve these things then potentially we need to be able to manage our information and bring our information together in certain ways, in order to fulfil the requirements of the business.

**I: Aha.**

R: So, what we are trying to do and improve is aligning our business strategies, aligning our ICT strategy with our business strategies. It's often quite difficult because you will have situations where may be the business has a requirement to do something but doesn't necessarily see that there's an ICT implication, so it may take a set of actions that it suddenly decides okay I want that software over there but actually whatever that software is doesn't necessarily align with our technical strategy so it's not where we want to go in terms of strategically. But, so you often have a conflict in terms of the business thing, I want this because it's a silo solution that fulfils the requirement that I have over here. But from an ICT perspective we're trying to fulfil the requirements of the whole of the

organisation. And therefore increasingly what we're trying to do is develop platform technologies that fulfil a whole set of requirements as opposed to having silo based business specific applications that do one thing for one service area. So there can often be some tension in terms of what the business thinks they want and the business going and deciding I want that bit of technology as opposed to saying I need to be able to do this function, help me to get the technology that's gonna fulfil that function.

**I: Aha.**

R: So does that answer the question do you think?

**I: I think yes. So, that gives me an idea of the experience that you go through with the business and IT together. So maybe how would you say the level of Business and IT alignment is in your department here?**

R: I think it varies, it varies in directorates. I think because you have relationships that have been established possibly some time over many, many years, you may have very strong relationships in some parts of the business where there's always been quite an engagement in technology. You could have other parts of the business who traditionally haven't necessarily engaged in technology and therefore the alignment, the relationship in those areas possibly are weaker, or less mature. What we're trying to do is establish governance arrangements whereby we show the organisation where we think we're going from an ICT perspective and we have key business representatives who are involved in that who hopefully are able to take that away and communicate that to the rest of their colleagues and their part of the organisation.

**I: I see.**

R: The challenge you have is that with such a massive organisation, trying to achieve a lot of services and deliver a lot of services the requirements that exist may be in your Highways department and the IT required in your Highways department is very, very different from what's required in your Children's and social care department. Where they are very concerned with the safeguarding of a vulnerable child. And trying to bring all that together so that there is a cohesive and straightforward strategy that says well this is what

we're trying to do for ICT, it's sometimes quite challenging. Just in terms of trying to keep the engagement, the level of engagement from certain areas because all they're often interested in is their own area they're not necessarily interested in someone else's area.

**I: Aha.**

**R:** And that's where I think we've certainly made some improvements in ICT but we, it is a challenge in terms of trying to get the whole of the organisation think about what it's priorities are in relation to ICT and how ICT fulfils the business need. Because there'll be some priorities that are greater than others and may need additional ICT resource and therefore you may have another part of the organisation that loses out to that because the priority is over here and not over here. I mean we're trying to establish the governance arrangements so we have a strategic delivery group now which has all directorate representation on it, so that we can help them to understand the ICT of the future and they can see where their part of the business has a place in that. And they can see how technology potentially could underpin what they're trying to achieve in their part of the organisation.

**I: Aha. Can you tell me more what are the benefits and the downsides of that level of alignment that you have?**

**R:** Okay so the benefits I think are where you're able to work together to maximise the resources the council has to deliver fairly major ICT sort of programmes of work that actually fulfil business requirements. So where you can get a level of engagement from the business to work on pieces of work so that they shape how the ICT is developed, so they influence how the systems are developed, then there's every opportunity to be successful. So where you've got good engagement, where you've got those good relationships, those strong relationships, and an understanding within ICT of what the business processes are and what they're trying to achieve, that can work very, very well. Where you don't have that level of engagement coming from the business or the lack of understanding within ICT in terms of the outcomes that you're looking for and the objective you're looking for, then that can obviously cause difficulties and you're not likely to be successful because you've got the wrong balance there.

**I: Can you share with me some more examples?**

R: Any other examples? And I think where we often have a situation where as I said, colleagues in the business will have decided a supplier will have come in and sold them a product based on it, you know a sales job basically in terms of that product will fulfil that requirement and that will be a potentially a single solution to a single problem. What we would much prefer is for the business to come to us to tell us what their problem is, what is the issue they're trying to resolve, the outcome they're looking for so that we can then work with them to find and establish what the best technology is. Often you're in a slightly conflict situation where somebody's come with well I want that product, and actually I've already said to the supplier I'm gonna have it, and so you've almost got a set of expectations there that you then are challenging and can't necessarily meet. And so what we try to do is say actually from a business perspective you need to help us understand what your problem is, what you're trying to actually achieve and then we can help you, we can then try and look to match the technology to the business requirement.

**I: Aha.**

R: So increasingly what we're trying to do is to help the business to understand that we need to look and see if we can already fulfil their requirement with something that's already in house and then if we can't, actually is there that same need elsewhere in the organisation as well, so that we can take a strategic approach that says actually yes, we need to go and get something that will fulfil that set of requirements across a range of services as opposed to a niche requirement and a niche area with a niche product. So it's, yes, it has its challenges.

**I: I know you've told me about the challenges, but what would you say then that will help and also inhibit business and IT alignment or how to overcome some of these challenges with the business and IT alignment?**

R: What would help? I think having greater clarity from the directorates in terms of what their priorities are and indeed what the priorities of the organisation are in relation to ICT initiatives, projects. We can't fulfil, with the resources that we've got, we can't necessarily fulfil all the requirements of the organisations so we have to be very clear



about what our priorities are. And so I think we need to have more robust arrangements that enable us to do that. So that the council takes a view on where it sees its priorities and where it thinks its resources need to be spending their time. Remind me what the question was again?

**I: So it's about what would enable or inhibit business and IT alignment and the overcoming of challenges with business and IT alignment?**

R: Okay, so we've looked at priorities. I think better engagement in terms of the business having a better understanding, and this is as much about ICT helping them to understand, where we're going and the potential that the infrastructure in the future will provide. So we are going to be developing different sorts of technologies going forward, ensuring the business understands the capability of those product and so that they can begin to think about how those products, who we can maximise our investment to ensure that those products and those systems can be utilised across the organisation. And moving away from having silo based applications. So I mean at the moment we have just under 300 business applications that we have to support and manage and we need to reduce that so there are much fewer applications requiring investment and support and maintenance because that comes at a cost.

**I: Okay. I see. So what would you say is the process or the steps maybe that you follow to achieve business and IT alignment?**

R: The steps to follow, okay so what we try to do is we try to ensure that our business partners, so we have ICT business partners, who have relationships with each of the business areas and what we try to do is ensure that we channel any ICT requirements through those routes so that we understand what the requirements of the business are. So we have a process whereby we establish business cases so we're clear what the scope is, what the requirements are, you know we sort of specify these are the business needs, these are the efficiencies that we expect to gain from it, these are the benefits we expect to gain, these are the outcomes we're looking for. So we, we have tried to improve what it is the business is trying to do so that we are best placed to work with them to try and deliver it. We then have a more structured and governed process around managing the projects that are relating to service change. So that we are in a position to escalate areas

of concern, to manage risk, to manage any changes that occur to those projects and ensure that there is relevant engagement with the business areas. So we have a much more robust process there around governing the change requests that are coming through. We report that up through to the strategic delivery group, so we have a strategic group that includes business representatives which therefore means there is greater level of understanding about the work that ICT is doing. And more recently a corporate delivery group has been added which includes senior managers and councillors from across the council. Who then take a view on where, not just across ICT, but where project are being progressed. So they should have a better view on the priorities. So, that's a fairly recent development in terms of that was established in September, so...

**I: Okay.**

R: So we've got a structure now that means from the top of the organisation we ought to be able to challenge if we need to or be clear about, okay these are the areas of priority for the organisation and indeed this is where our resource is being prioritised.

**I: So you are saying that the structure is basically, so a change in structure like adding the strategic delivery group or the corporate delivery group would help?**

R: It helps but it is still very much reliant on people engaging and people thinking through what the implications are in their own business area and communicating that information back through the directorate and I don't think we've got that right yet. So we haven't necessarily got, just because of the pressures that there are elsewhere really, so obviously our business directorates are under enormous pressure to deliver the day job and sometimes engaging with the ICT is probably at the bottom of the pile. Because they won't necessarily see it as being their job to do that. So it's about helping them to understand how they can influence and helping them to understand what role they have in developing IT in the future to support their part of the business. But with such big directorates you know, you potentially have a representative who is a representative for one part of the directorate. Which is, you know so they won't necessarily know everything there is to know about the ICT implications across the whole of the directorate. So it can be quite difficult for some. You need to get that sort of senior level engagement so there is that higher level of understanding. What we also have is a process whereby we now have

better relationships with each of the directorate leadership teams. So each of the directorate leadership teams consists of the director and then a group of deputy directors and I and other colleagues have regular sessions with them so to help them understand what is coming through from their own directorate and what is coming through from elsewhere. So trying to improve the flow of information and communication from ICT out to the directorates and back in again.

## **Appendix 10: Sample of the LDC meeting notes**

LDC Meeting 27/01/17

## LDC governance

Some ideas:

① Board - Senior leaders & experts from the private sector with experience in managing a cooperation.

② projects - member will have a project that they will sponsor

- Have to provide support & challenge LAs.
- Create a plan for funding the projects.

③ Stakeholders criteria and membership

- who should be involved & who should be in the board?
- Specify the type of members the coalition needs
- Define roles & responsibilities for transforming local services.

Jan

27

Fri

### Placeholder - Local Digital Coalition...

[View on Google Calendar](#)

**When** Fri 27 Jan 2017 1pm – 4pm (GMT)

**Where** Evolution Suite, Evolution House, 34-36 Springwell Road, Leeds, LS12 1AW

**Who**

Yes

Maybe

No

### Agenda

Fri 27 Jan 2017

1pm [FW: Local Digital Coalition Meeting 2...](#)

1pm Placeholder - Local Digital Coalition...

*No later events*

Agenda added:

- 13:00 Intro and minutes from previous meeting [10 mins]
- 13:10 Omid update regarding GDS digital strategy [5 mins]
- 13:15 CRM/Case Management initiative [15 mins]
- 13:30 Ripple Open Integrated Digital Care Record Update and the Open Digital Platform Challenge Fund [45 minutes]
- 14:15 Governance model [35 mins]
- 14:50 Workstream updates [50 mins]
- 15:40 AOB and Close [20 mins]

## Appendix 12: Sample of the LDC meeting minutes

## Central/local digital leadership discussion - PM

- Question being asked in Department for Communities and Local Government (DCLG) at the moment: Where are we on the Local Government digital journey and what is the role of a central body like DCLG within that?
  - Conversation happening against a backdrop of scepticism, with DCLG getting rid of digital team a year and a bit ago.
  - New secretary of state sees digital as a normal thing that the world has, and wants to know why we're not just getting on with it.
  - What does Local Government digital need that DCLG can help provide?
- What is the Coalition sense of what "good" looks like in digital?
  - There are a number of things that could be useful if we try and pick this up again.
    - A clearer central mandate and direction for what Local Government digital is/can be/can achieve. Also of what digital is not.
      - Some people think of digital as a binary distinction - 'you are either a digital organisation, or you are not'.
      - Some talk about 'big old fashioned IT' vs 'smaller, design-led and user-focused'.
    - What is our roadmap for this? Are there blueprints, user research, patterns or design we could all be using/sharing that a central body can help with?
      - Taking inspiration from GDS, are there any particular digital components that could be centrally developed, managed and reused across Local Government? Digital marketplace? Registers?

# Corporate ICT Strategy 2014 – 2018

## Contents:

1. About this Strategy
2. The Role of ICT
3. ICT Governance
4. Key Strategic Objectives
  - a. Commissioning ICT Infrastructure Services
  - b. Platform Development and Consolidation
  - c. Self-service and Digital by Default Operations
  - d. Asset Provision and Management
  - e. Mobile and Flexible Access to ICT Services
  - f. ICT Service Organisation
  - g. Information and Data Management
5. Key Strategic Objectives – Summary Table

## 1. About this Strategy

The Corporate ICT strategy has been in place since 2010. It was refreshed in 2011/12 and is intended to be reviewed annually in future. It is proposed that this is submitted to CCMT for comment and approval.

The Strategy supports the Corporate Plan, which sets out the council's vision and priorities over the next four years. It also links closely with the council's HR Strategy, and sits alongside the Directorate Business Strategies, which outline how spending programmes are to be put into practice.

Many of the priorities in the Corporate Plan rely on effective ICT to be achieved. For example, the Corporate Plan prioritises the need for the council to:

- Continue to deliver savings while protecting frontline services;
- Play a leading role in enabling economic growth, including working on delivering fast broadband across the county;
- Focus on keeping young people and vulnerable adults safe through the promotion and coordination of seamless partnership between agencies
- Maximise the benefits of new technology, to help free up and reduce office space, streamline staff work practices, and improve citizen access to services by offering opportunities for online self-service
- Rationalise our property and encourage the co-location of public sector services across the county

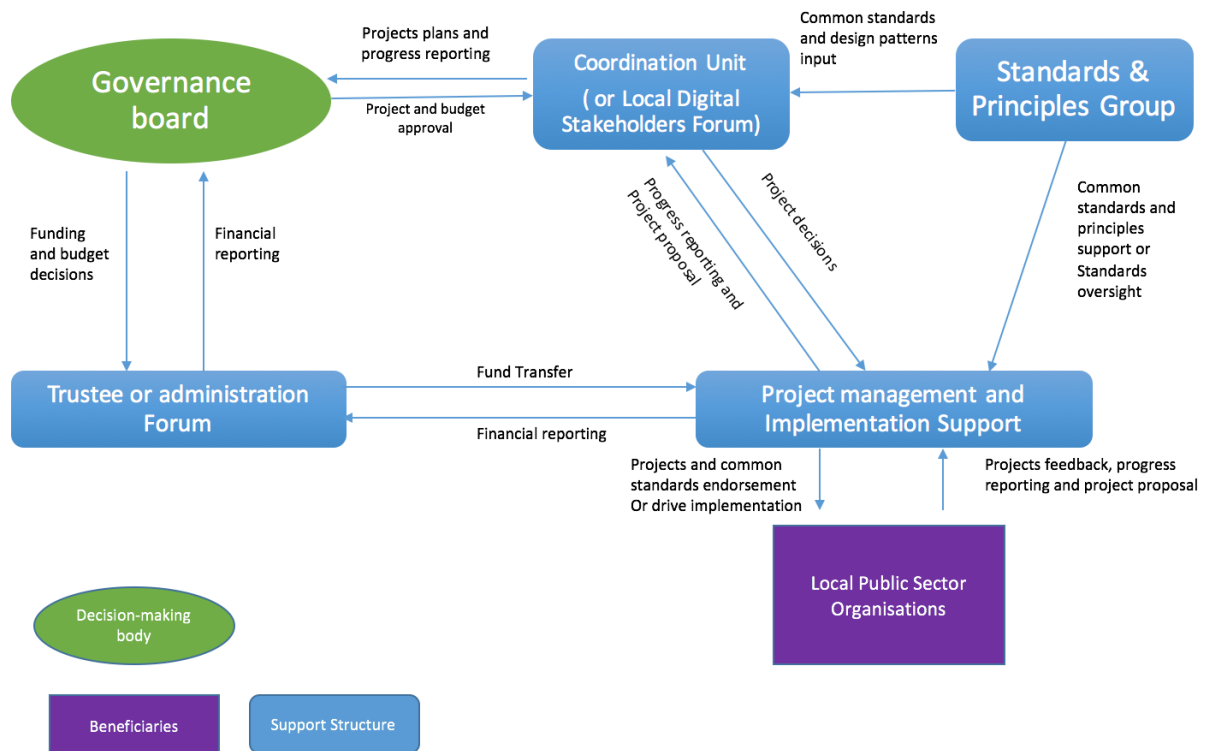
In addition to supporting the Corporate Plan, the ICT Strategy also reflects changes in the ICT industry – it is necessary for us to respond to these if we are to continue to reduce costs and increase the impact and direct benefits of ICT to deliver efficiency and flexibility.

## Appendix 14: The LCD key governance questions

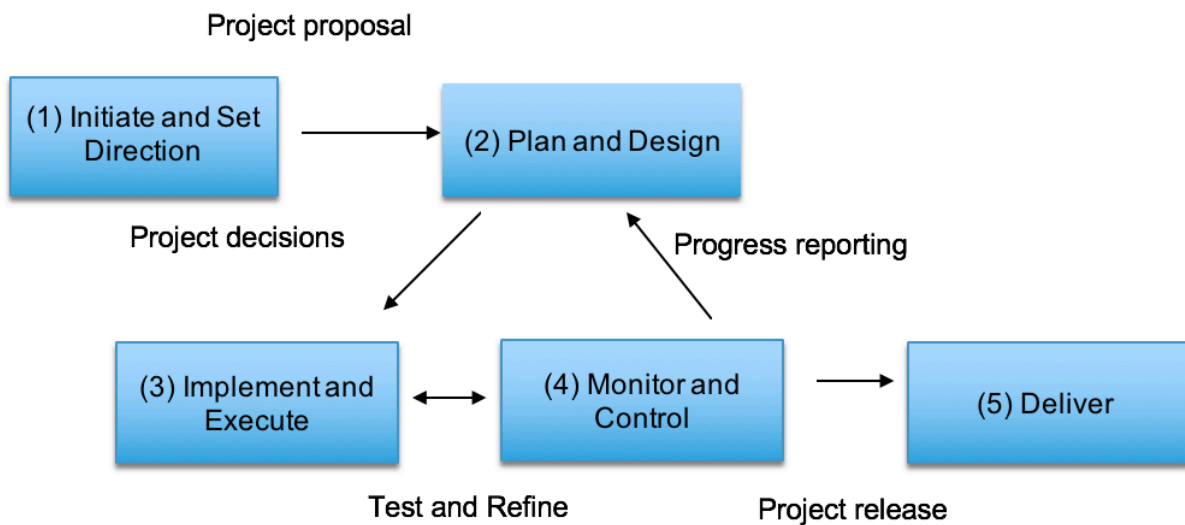
<b>The LDC key governance questions</b>	
<b>Relationship and communication management</b>	<ul style="list-style-type: none"> <li>•What are the LDC communication mechanisms?</li> <li>•What is the mechanism for generating and collecting ideas?</li> <li>•How do we manage interactions to enable shared vision and common intentions?</li> <li>•How should linkages between people involved be developed?</li> </ul>
<b>Participation and power sharing</b>	<ul style="list-style-type: none"> <li>•Who are the stakeholders affected?</li> <li>•In what capacity should stakeholders be involved, and how?</li> <li>•What should the level of inclusion and representativeness be of the coalition stakeholders?</li> <li>•How can we ensure members act in accordance with shared interest?</li> <li>•How do we realise equal participation and power sharing?</li> <li>•Who should be on the governance board? What is the extent of their power?</li> </ul>
<b>Work breakdown structure and joint processes</b>	<ul style="list-style-type: none"> <li>•Is there a clear direction setting and prioritisation mechanism?</li> <li>•What is the scope and scale of coalition activities?</li> <li>•Is there a clear division and understanding of roles and responsibilities?</li> <li>•How will barriers to public joint working be resolved?</li> <li>•How will we drive improvement?</li> <li>•How will we ensure alignment of our strategies/plans with their execution across local public services?</li> <li>•How will joint actions be coordinated and controlled?</li> <li>•How will projects and common standard be endorsed?</li> <li>•How will project delivery be managed?</li> </ul>
<b>Accountability and responsibility</b>	<ul style="list-style-type: none"> <li>•Who will be responsible and accountable, and for what?</li> <li>•How will project progress and success be monitored and assessed?</li> <li>•Who will be responsible for driving project implementation, and accountable for outcomes and delivery?</li> <li>•What compliance requirements and standards do we need to follow?</li> </ul>
<b>Funding and resources management</b>	<ul style="list-style-type: none"> <li>•What are the resources required for the collaboration?</li> <li>•How will funding be sought, contracted and managed?</li> <li>•How will expenditure be controlled?</li> <li>•How will resources and contributions be received, distributed and allocated?</li> </ul>
<b>Decision making authority</b>	<ul style="list-style-type: none"> <li>•Who will be responsible for decision-making?</li> <li>•How will key decisions be reached – and in what areas?</li> <li>•How will we ensure effective and transparent decision making?</li> <li>•How and by whom will conflicts and issues be resolved?</li> </ul>

**Appendix 15: LDC governance framework, proposal (1)**





## Appendix 16: LDC governance framework, proposal (2)



(1) What is the coalition trying to achieve?

- Define goals and purposes of the partnership
- Identify priorities
- Review operations
- Identify key projects and collect project proposals
- Identify and gather local requirements
- Conduct a stakeholders analysis - to address aspects of inclusion and representativeness of local sector.

(2) Does the coalition have an effective decision making, planning and design approach?

- Create project plan

- Approve projects and budgets
- Secure resources and funding
- Divide and achieve an understanding of roles and responsibilities
- Agree on a service development approach and common standards principles.

(3) How will the coalition meet its aims?

- Build projects and drive implementation
- Transform IT infrastructure - if required
- Endorse projects and common standards
- Link, communicate and connect with local sector
- Transfer and share knowledge

(4) How will progress be monitored, measured and controlled?

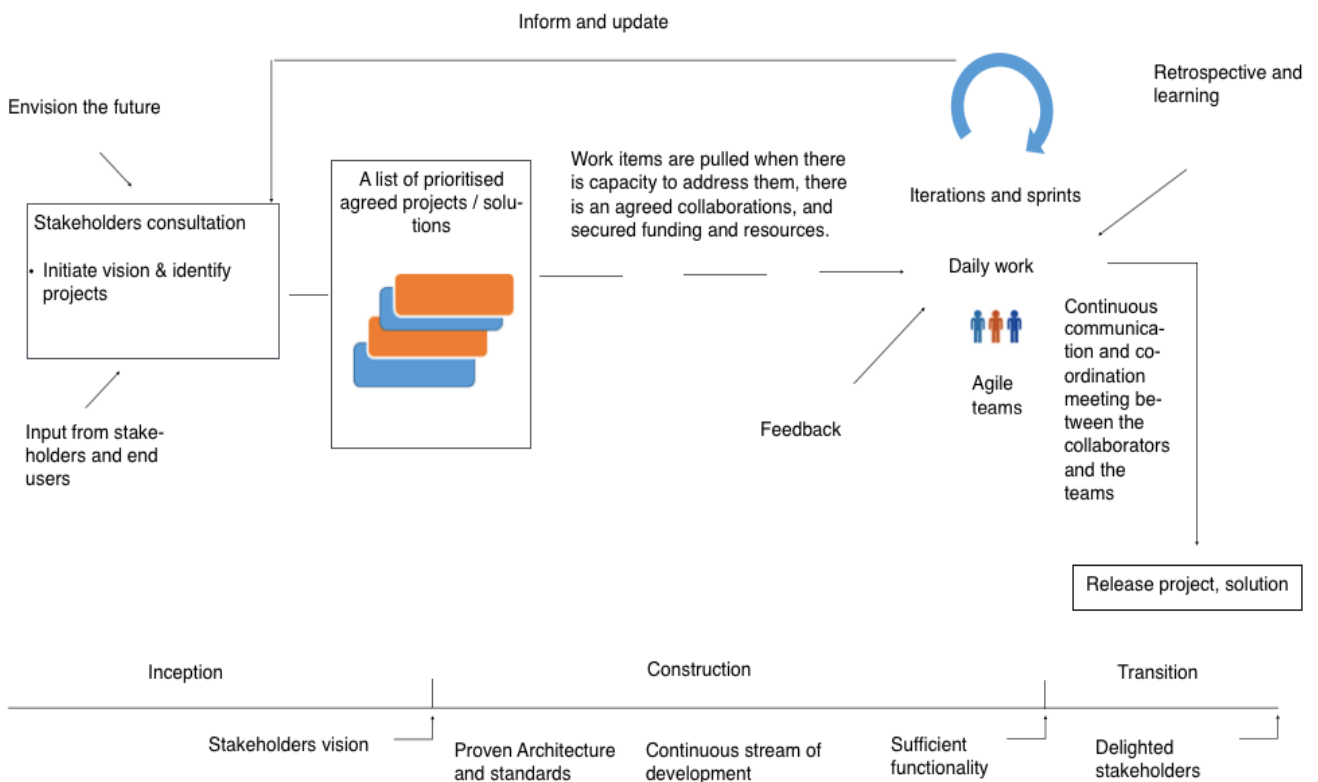
- Iterate with partners
- Collect progress and financial reports
- Test and refine based on feedback
- Monitor and control implementation
- Provide standards support and oversight

(5) How is the coalition is going to deliver and sustain transformation?

- Release projects

- Provide local training and guidance, e.g., local sector engagement workshops, skills development programmes - as needed
- Evaluate success
- Apply continuous improvement
- Provide ongoing support

### Appendix 17: The proposed LDC agile governance framework.



### Description of the framework

The agile governance framework suggested is inspired by the Disciplined Agile Delivery (DAD) lifecycle (Appendix 18), and is tailored to fit the LDC governance objectives and principles. The framework presented above includes three phases: 'inception', 'construction' and 'transition' (Cobb, 2015). The goals of each phase are described in (Appendix 19). Firstly, in terms of the coalition membership and participation, this research study sees that any local authority from across the UK, representatives from GDS, and also other bodies concerned with local service redesign can be part of the 'stakeholders consultation', at the 'inception' phase. The agile governance framework requires the coalition at the 'inception' phase to start with the identification of a shared vision and projects, by having a 'stakeholders consultation', where there will be an input from stakeholders and users from across the UK service redesign. At this phase, a list of prioritised agreed projects and solutions will be produced as an outcome (Ambler and Lines, 2016), and agreed collaborations among stakeholders to conduct those work streams will be created.

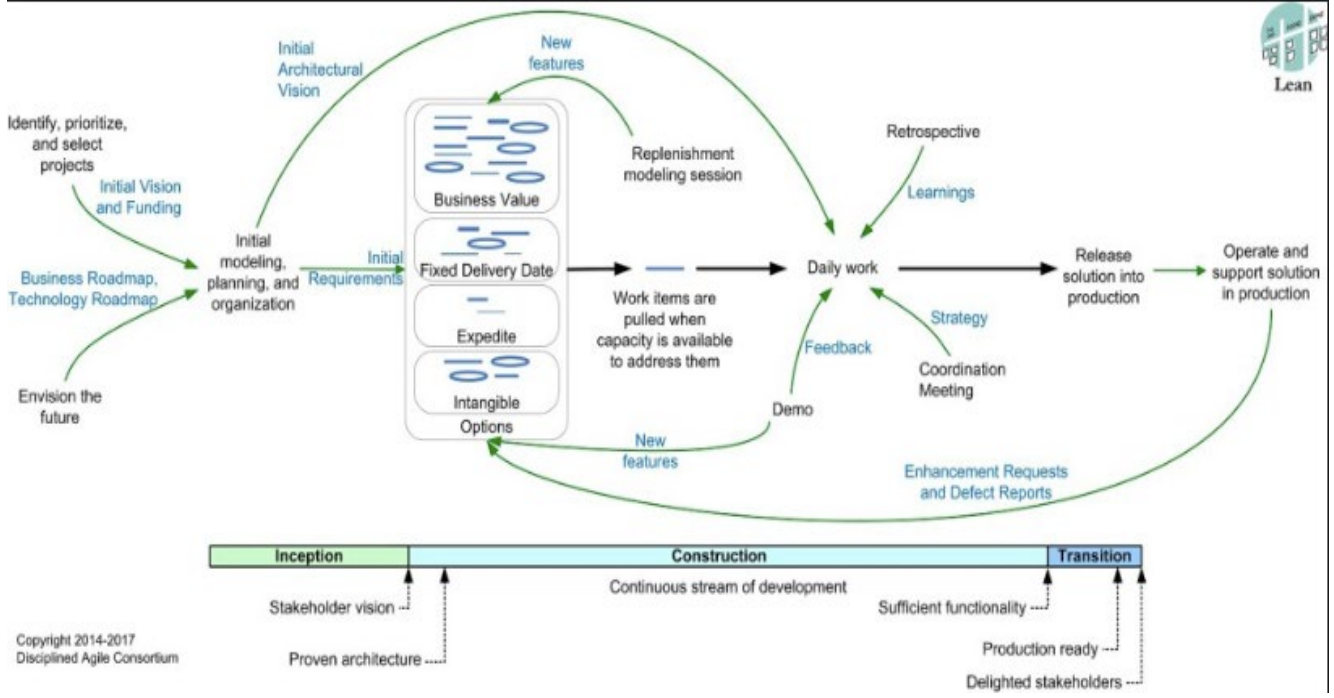
As mentioned previously in this thesis, the coalition lacks funding and resources, and therefore at this point, it will seek funding and resources and will work towards capacity building (Cobb, 2015), in order to conduct the projects selected. The stakeholders that will conduct any of the projects, will be the 'participating' members of the coalition. Once funding and resources are secured, and agreed collaborations are established, then the execution and implementation of projects will start at this point.

At the 'construction' phase, the coalition will have to ensure that a 'proven architecture' and standards are adopted, and that there is a 'continuous stream of development' and also 'sufficient functionality' (Ambler and Lines, 2016). An agile project development approach

will be adopted where there will be 'iterations' and 'sprints' (Cobb, 2015). The project's agile teams will be self-organised, and will be responsible for driving implementation, and accountable for outcomes and delivery. They will be capable of making decisions, but not decisions beyond their team. Feedback will be collected and inputted into the daily work of the agile teams responsible for project development.

Continuous communication and coordination meetings will be established among the agile teams and project collaborators to integrate with other teams and synchronise their work (Ambler and Lines, 2016). The last phase is 'transition', which comprises releasing the project or solution (ibid), and endorsing it through the coalition to be used across UK service redesign. Support and guidance will be provided by the coalition's 'participating' members who will be responsible for conducting the project to other LAs wanting to adopt the project or solution developed by them.

**Appendix 18: Disciplined Agile delivery framework by Scott W. Ambler 2011- 2014 (Cobb, 2015, p. 285)**

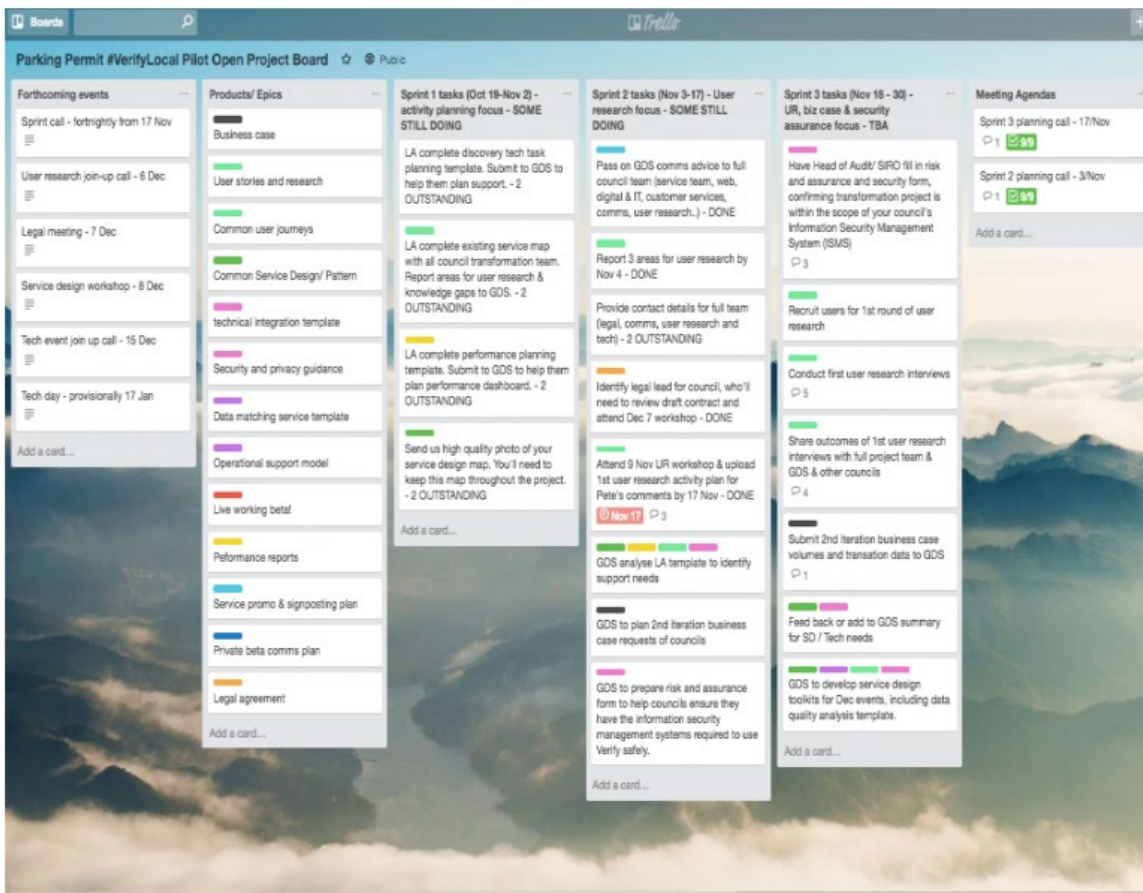


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## Appendix 19: Goals for DAD phases (Cobb, 2015, p. 280)

Inception Phase	Construction Phase	Transition Phase
<ul style="list-style-type: none"> <li>Form initial team.</li> <li>Identify the vision for the project.</li> <li>Bring stakeholders to agreement around the vision.</li> <li>Align with enterprise direction.</li> <li>Identify initial technical strategy, initial requirements, and initial release plan.</li> <li>Set up the work environment.</li> <li>Secure funding.</li> <li>Identify risks.</li> </ul>	<ul style="list-style-type: none"> <li>Produce a potentially consumable solution.</li> <li>Address changing stakeholder needs.</li> <li>Move closer to deployable release.</li> <li>Maintain or improve upon existing levels of quality.</li> <li>Prove architecture early.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the solution is production ready.</li> <li>Ensure the stakeholders are prepared to receive the solution.</li> <li>Deploy the solution into production.</li> </ul>

## Appendix 20: Verify Local Pilot Project Board





## Appendix 21: Riemer and Klein's (2006) network lifecycle model

