Chapter 19

# Integrating IT Infrastructures in the Public Domain:
## A Proposition of Influential Factors for Enterprise Application Integration Adoption

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## ABSTRACT

*Several private and public organisations have realised the significance of integration technologies e.g. database oriented middleware, message based technologies, transaction based technologies, distributed object technologies and interface based technologies (collectively known as Enterprise Application Integration [EAI]) for integrating their heterogeneous Information Technology (IT) infrastructures. Nevertheless, where these integration technologies have supplemented efficacy and strengthened the IT infrastructures in the private domain, public organisations e.g. Local Government Authorities (LGAs) have been slow in adopting cost-effective integration solutions to significantly expand the capabilities of their conventionally inflexible Information Systems (IS). Despite EAI represent an attractive proposition to LGAs and other public organisations and offer the opportunity to leverage the IS into a seamless chain of processes, these integration technologies have not been widely investigated in the public domain and specifically LGAs. Albeit there are several research studies focusing on a number of domain specific factors influencing EAI adoption, nonetheless, the applicability and validity of these research studies in the area of LGAs is arguable and under research. The reason is that these research studies were proposed to support the decision-making process in private or healthcare sectors and not in LGAs.*

*There are differences indicating that the factors that influence the decision-making process for EAI adoption differ from one type of organisation to the other depending among others on the nature and size. For instance, literature indicates that one set of factors is used to support EAI adoption in Small and Medium Enterprises (SMEs) and another in large organisations. In addition, there are differences among influential factors that are used in private sector and healthcare organisations. The authors takes into consideration and present Critical Success Factors (CFS) influencing the decision making process for EAI adoption in LGAs. To investigate this less acknowledged phenomenon, the author follows an interpretive, qualitative case study approach to conduct this research.*

## INTRODUCTION

During the last decades, several LGAs have widely focused on the use of information systems to overcome their organisational problems and automate their business processes and functions (Kamal *et al.,* 2009; Grimsley and Meehan, 2007; Irani *et al.,* 2006). LGAs focused on IS to provide direct support to meet citizens' needs including housing, social services, and the management of a complex service infrastructure that supports communities and businesses (Johnson and King, 2005). However, IS developments within LGAs have resulted in non-integrated IT infrastructures (Lam, 2005; Beaumaster, 2002). The reason is that each LGA autonomously made its own IT operation decisions based on its needs (Janssen and Cresswell, 2005; Di Natale *et al.,* 2003; Aldrich *et al.,* 2002). Additionally, there was rarely a single approach for developing IS, as organisations have developed their applications without a common architectural planning (Markus and Tanis, 1999). Moreover, each LGA displays differences in the way: (a) their business processes are implemented to provide citizen services, and (b) makes its decisions that differs a lot from other private organisations (Johnson and King, 2005; Ward and Mitchell, 2004). Such theorised evidences illustrate that LGAs operate and function independently and do not share information and functionality with other LGAs (Gortmaker and Janssen 2004; Ralphs and Wyatt, 1998).

Such aforesaid concerns have resulted in several problems that have influenced the decision-making process in LGAs. For example, Beynon-Davies and Williams (2003) report that within LGAs there is not enough emphasis on the re-engineering of legacy business processes and applications. The reason is that legacy business processes and applications have been developed over several years to serve their core processing needs and government officials are reluctant to change their operational procedures (Lam, 2005). Furthermore, McIvor *et al.,* (2002) report that the inherent design of many legacy applications was as standalone, typically mainframe-based applications, rather than as network-integrated applications. The reluctance in government officials to bring change in their operational practices and availability of non-integrated legacy applications has resulted in poor citizen service provisioning and making decision-making process more complex (Lam, 2005; McIvor *et al.,* 2002). Thus, the integration of legacy business processes and applications is required to support coordination within LGAs, enhance the decision-making process and provide better services to citizens (Janssen and Cresswell, 2005; McIvor *et al.,* 2002).

While adopting new IT solutions, a major concern for LGAs' management is the investment decision associated with the change in organisation and their IT infrastructure (Signore *et al.,* 2005; Beaumaster, 2002). The reason is that LGAs lack sufficient amount of money for their IT infrastructure (Ward and Mitchell, 2004). Wagnar and Antonucci (2004) support that LGAs' budgets are often reduced and sometimes allocated with appropriations. Lam (2005) and McIvor *et*

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