

A CONCEPTUAL MODEL FOR EAI ADOPTION IN AN E-GOVERNMENT ENVIRONMENT

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Abstract

The non-integrated nature of Local Government Authority (LGA) Information Systems (IS) is strongly associated with the inconsistency and duplication of data, reduction in data integrity and quality, and high operational and maintenance cost. The reason is that legacy IS within the LGAs are usually tailored to support particular business processes and functions and are as a consequence usually difficult to integrate. This gives rise to a strong need for an integrated architecture that facilitates reuse of existing applications and flexibly implementing business processes across the functional boundaries within the LGAs. This paper examines a potentially important area of IS integration in the United Kingdom (UK) LGAs through Enterprise Application Integration (EAI) technology. A review of the literature indicates that EAI has been a focal technology for several organisations in solving their integration problems. However, is new in the LGAs; thus research literature around it is limited. Yet the effect of IS integration using EAI technology remains under explored, as little research has been conducted to comprehend the LGAs perception of integration that influences their decisions and actions. The author demonstrates that it is of high importance to investigate this area within LGAs and result in research that contributes towards successful EAI adoption. Therefore, resulting in the development of a conceptual model that may be used to assist the government decision-making process for EAI adoption in an electronic Government (e-Government) environment.

Keywords: EAI Adoption, Local Government Authorities, IS Integration, E-Government

1. INTRODUCTION

During the last decades, several LGAs have widely focused on the use of IS to automate their business processes and functions. However, such widespread IS developments within the LGAs have resulted in ‘non-integrated’ Information Technology (IT) infrastructure (Erasala *et al.*, 2002; Beaumaster 2002). This is because in most LGAs, the departments autonomously made their own IT operation decisions, and considered technologies and IS solutions based on their requirements (Aldrich *et al.* 2002; Di Natale *et al.* 2003; Janssen and Cresswell, 2005). Moreover, the technologies and IS solutions adopted were based on different hardware configurations, functioning under different operating systems, and employing different database technologies and programming languages. Thus, LGAs did not implement applications in a synchronised way and consequently comprised an assortment of autonomous applications and heterogeneous IS (Aldrich *et al.* 2002; Di Natale *et al.* 2003). This situation rooted various departmental and technological problems, as applications could not co-operate and LGAs ended up with a set of incompatible systems that led to the ‘integration problem’ (Beaumaster, 2002). Most common problems highlighted among others are: (a) data redundancy and inconsistency, (b) sharing of services and

functionality, (c) applications interconnectivity, (d) non-interdepartmental coordination, (e) citizens data privacy and security, (f) data sharing standards, (g) high operational and maintenance cost of heterogeneous IS, (h) data integrity and quality, (i) non-interoperability among discrete IS and, (j) lack of uniform citizen-view.

In an attempt to overcome applications heterogeneity, the LGAs focused on adopting various technological solutions and standards such as Message Oriented Middleware (MOM), Government Mark-up Language (GovML) etc. These solutions were adopted with a view to overcome integration problems, as they were developed to offer an integrated IT infrastructure to support business processes. Yet, other solutions like Enterprise Resource Planning (ERP) partially solved the integration problems by applying their own sets of considerations and often replaced the existing applications rather than integrating (Vasconcelos *et al.*, 2004). The underlying problem was not just to replace the legacy systems with the new systems but to integrate all the existing legacy and packaged systems and newly developed applications in the LGAs. Thus, intensifying the need for integration.

In this context, EAI has emerged as integration technology and attempted to overcome the integration problems at all levels (e.g. data and process) and provided substantial benefits (e.g. support in collaborative decision-making). EAI has been a focal technology for several enterprises in solving their integration problems. Nonetheless, it appears through a critical review of the literature that the evaluation of EAI adoption has not been widely studied in LGAs, thus research literature around it remains limited. Therefore, LGA officials seek answers for the effect of EAI adoption, as it will assist them in understanding the factors such as benefits, barriers and cost that influence the adoption of EAI.

However, the reasons for limited research on EAI adoption in LGAs may also be because there is plethora of LGAs each differing in size, with distinct community serving requirements, distinct organisational structures and functions and, encompassing incoherent levels of IT capacity (human and IT infrastructure aspects) (Beaumaster, 2002). Each LGA undertakes different initiatives according to their requirements, thus making it difficult to comprehend their specific initiative as compared to other LGAs. This disparity may be attributed to the hierarchical bureaucratic nature and structure of the LGAs and their commitment to outmoded cultural values that influenced their decision-making process (differing significantly from private sector) in adopting and deploying versatile technological and incompatible IS solutions. Such LGA characteristics led to the development of silo based IT infrastructures (Gamper and Augsten, 2003). As a result of the disparity among and within LGAs in their organisational operations and functioning, illustrates that there are no specific guidelines available to LGAs regarding the importance of prioritising specific government related factors for EAI adoption. Thus, making the decision-making process for EAI adoption more complex.

Nevertheless, the aforesaid rationales also illustrate that it is not just the technical problem of connecting two discrete systems (e.g. IS integration), but among others there are: (a) strategic (e.g. lack of a collaborative strategy framework), (b) operational (e.g. lack of emphasis on legacy business process reengineering and IT/IS evaluation), (c) organisational (e.g. resistance to change), (d) policy (e.g. data privacy and security and lack of a central policy for interoperability among LGAs), (e) managerial (e.g. managerial capabilities and lack of EAI expertise) and, (f) economic (e.g. investment in IT) problems highlighted that have also effected the LGAs decision-making in adopting technological solutions. Such problems and hierarchical bureaucratic nature of LGAs have constrained in providing quality services and access to information to their citizens.

In addressing the aforesaid problems, the research presented in this paper focuses on evaluating EAI adoption in an e-Government environment. Thus, emphasizing the need for a framework of relevant factors that highlight the significance of EAI technology in attempting to overcome

integration problems in LGAs. This framework can be translated into a model that will assist the LGA officials in their decision-making process for EAI adoption. In the aforementioned literature, the author illustrated the research problem. Section 2 commences by briefly reviewing literature on several adoption models. The rationale is to base the author's conceptual model on firm theoretical backgrounds and further to identify and evaluate common factors that influence EAI adoption. Section 3 presents the conceptual EAI adoption model and provides description of the new factors. Section 4 presents the research methodology through which the author will test their conceptual model. Finally, summarising the conclusions in section 5.

2. LITERATURE REVIEW

Several innovation studies have discussed IT in the perspective of diffusion, adoption and acceptance of technology and their models have been proposed to enhance the understanding of the principles behind the adoption of IT innovations. These studies include among other core models such as Diffusion of Innovations (Rogers, 1983), IT Innovation Adoption Research Model (Agarwal and Prasad, 1998), Innovation Adoption and Implementation (Gallivan, 2001), Two Staged Innovation Adoption Model (Zaltman *et al.*, 1973), IT Adoption Model (Dixon, 1999) and others have received widespread validation for technological innovations. The author also reviewed literature on the adoption of integration technologies such as EDI (Bamfield 1994; Iacovou *et al.* 1995; Chwelos *et al.*, 2001), ERP (Bradford and Florin 2003), Web services (Chen, 2003) and EAI (Themistocleous 2002; Khoubati *et al.*, 2004). The purpose of this rigorous research was to identify and analyse common factors within all models studied that can support for EAI adoption in an e-Government environment. The author identified eight common factors within the models reviewed and categorised into common terminology used in different models such as: (a) perceived benefits, (b) barriers, (c) top management support, (d) IT infrastructure, (e) costs, (f) internal pressures, (g) external pressures, (h) IT sophistication.

Besides this, Singletary and Watson (2003) proposed a theory of IT integration infrastructure, in which the authors have presented the IT integration infrastructure model. This model has various factors such as integration constructs, perceived benefits, environment, motivation, integration decision, IT infrastructure, costs and outcomes. However, Singletary and Watson (2003) have not proposed the integration constructs as a factor for the model. Their explanation for this is that the relationships of this factor do not appear to bear directly on the primary purpose of integration theory. Therefore the factors such as perceived benefits, environment, IT infrastructure, costs provide further support for considering the eight common factors for the development of EAI adoption model in an e-Government environment. Themistocleous (2002) listed two other important factors such as evaluation framework for integration technologies and integration packages. These evaluation frameworks provide the support in the decision making process for the integration technologies, because there is market confusion regarding the adoption of EAI technologies and packages. Thus, the author also considers these frameworks as factor for EAI adoption in an e-Government environment.

3. CONCEPTUAL EAI ADOPTION MODEL

By studying much literature on adoption models in order to tailor the factors, it was identified that most of the adoption processes for the study of technology adoption in a complex environment such as the LGAs, require additional factors. As aforesaid, LGAs operate through a hierarchical bureaucratic nature and structure and have their commitments to outmoded cultural values that influence their decision-making process (*that is significantly differing significantly from private sector*) in adopting and deploying versatile technological and IS solutions. Thus, such characteristics make LGAs and other government organisations distinct from other sectors. Besides this, the author also reviewed literature on e-Government area, by which several other factors were identified like knowledge of technology risks, LGAs IT capabilities, market knowledge on new technologies, managerial capabilities, project championships, external

pressures, citizen's data privacy and security, and Return On Investments (ROI). Nevertheless, the intention of these new sub factors is explained and manipulated in the light EAI technology adoption in an e-Government environment. Therefore, each key factor is encapsulated with the sub factors that assist to clarify the intention of the key factors. The sub factors can also address the explicit needs of EAI adoption.

Although there exist few EAI adoption models theorised in the IS research literature such as (Themistocleous 2002; Khoubati *et al.*, 2004), however, their absolute validity and applicability within the LGAs is questionable. This is because Themistocleous (2002) evaluated EAI adoption in multinational organisations and Khoubati *et al.*, (2004) studied EAI adoption in healthcare organisations. Though, healthcare organisations are related to providing health services to a citizen or the whole community, nevertheless, healthcare organisations are restricted to healthcare related services, whereas LGAs may provide a number of services such as tax payments, service request and complaint tracking, housing facilities, benefits etc. Among others such attributes distinguish LGAs from other sector organisations. EAI is a new research area in e-Government discipline, hence there is less research literature analysing the sub factors that influence EAI adoption process. Therefore, the author critically reviewed other relevant areas that support IT and integration technology adoption. These new factors can be regarded for the development of EAI adoption model in an e-Government environment. These new key and sub factors are described in Tables 1, 2, 3, 4, and 5.

ORGANISATIONAL FACTORS	
Formalisation	Formalisation refers to the existence of clear procedures, norms and formal processes for carrying out organisational tasks (Reich and Benbasat 1996; Bretschneider and Wittmer, 1993). Highly formalised processes that create a structured environment would be useful for systems planning and information processing. In addition, written procedures and more formal environment will eliminate any ambiguities, and would facilitate EAI adoption. However, a common phenomenon, the distinctive bureaucratic structure of LGAs may influence EAI adoption.
Centralisation	Centralisation refers to the degree of power or decision-making authority in an organisation and it encompasses participation in decision-making and authority hierarchy (Reich and Benbasat 1996; Bretschneider and Wittmer, 1993). In centralised organisations, decision-making is typically concentrated at the top level of hierarchy while in decentralised structures decision-making is distributed across different hierarchical levels (Bretschneider and Wittmer, 1993). Since decision-making for IT solution adoption is typically concentrated at the top level of management, hence the degree of centralisation may influence the speed of EAI adoption.
Critical Mass	Research on ' <i>critical mass</i> ' has shown that the central government and LGAs are affected by the actions of other governmental organisations in IT adoption. Bingham (1976) reports that cities adopting innovations were located in close proximity to other innovation-adopting cities. This showed that organisations were affected by the actions of other organisations that were similar in terms of size and budgetary constraints. Bouchard (1993) reported these actions as ' <i>critical mass theory</i> '. However, the benefit of having a critical mass of organisations adopting the same technology is one aspect of inter-organisational relationships and thus, influencing EAI adoption.
Project Championship	Championship refers to the existence of a single person in the organisation who is committed to introduce IT initiatives to the organisation (Kamal, 2006). A very important antecedent to a successful adoption and implementation of critical information systems is a ' <i>champion</i> ' for the new system (Gopalakrishnan and Damanpour, 1997). Project champions are personnel who actively and vigorously promote their personal vision for using IT, pushing the project over or around approval and implementation hurdles. Beath (1991) reported that within governmental organisations, the existence of a champion was one of the most important facilitators in the adoption of technologies. Thus, project champions may influence EAI adoption because of their skills in bringing about

	organisational change.
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Table 1 continued

Return On Investment (ROI)	ROI is important in LGAs. This is because the IT budgets of the LGAs at times are much lower as compared to other private and public sector organisations. As a result, they do not want to invest more in technology, without significant ROI (such enhanced citizen services). Therefore, the author considered this as a factor for EAI adoption.
Benefits	Themistocleous (2002) extended the benefits to cover: (a) operational, (b) technical, (c) strategic and, (d) managerial, which refers to the degree to which EAI adoption is providing to the organisations. In the context of the LGAs, the author has extended these benefits to cover organisational, technical, financial, communication and collaboration, quality of services, performance and efficiency. Therefore, when LGAs decision makers understand these benefits, this tends to facilitate EAI adoption.
Managerial Capability	The availability of personnel who have ample competencies for producing new ideas is one of the significant factors for IT adoption (Mohr, 1969), and innovations are likely to be proposed by personnel who have expertise in a particular discipline (Daft, 1978). Especially, IT innovations tend to start from ingenious application devised by managers with a technical background (Kim and Bretschneider, 2004). Therefore, managerial capability of manager, which can be defined as the ability to identify problems of the current systems, and to develop and evaluate alternatives to improve the IT capacity of the organisation appears to be a decisive factor influencing EAI adoption.
Barriers	The introduction of EAI presents few barriers and LGAs need to consider these barriers before proceeding to EAI adoption. Themistocleous (2002) presented some barriers at the operational, managerial, strategic, technical and organisational levels such as cultural issues, political issues, resistance to change etc. LGAs have similar barriers such as operational, tactical and strategic. Thus, EAI barriers consist for an influential factor for EAI adoption.

Table 1: Organisational Factors

TECHNOLOGICAL FACTORS	
IT Capability	IT capabilities refer to the level of IT resources, personnel IT knowledge and IT sophistication of an organisation (Akbulut, 2002). The ease of use and access of adequate equipment in the organisation is a major determinant of adoption of new technologies (Kamal, 2006). Besides this, the available skill set of the personnel is an important factor that constraints the introduction of new technologies. Perry and Danziger (1980) reports that one of the most important factors in the adoption of computer applications by the governmental organisations was staff competence. Norris (1999) reports that the governmental organisations argued that their employees were not very well trained in using information technologies and this inadequate training resulted in resistance to change, resistance to use, and under utilisation of computers. Lastly, IT sophistication (Chwelos <i>et al.</i> , 2001) assesses the level of management understanding and support for using IT to achieve organisational objectives. Therefore, higher levels of IT capabilities may influence EAI adoption.
Evaluation Framework	The integration marketplace is extremely complex with a diversity of EAI products and technologies solving different types of problems. Themistocleous (2002) presented a framework that contributes to the selection of integration technologies and tools. This framework highlights a combination of integration technologies that can be used to integrate an IT infrastructure. Such a framework can be considered as a tool to support decision-making for EAI adoption.
Technology Risk	Risks related to new technologies are becoming a focus of concern. This is because the risk and uncertainty associated with new technologies can make risk-averse managers require higher, not lower, rates of return before they will invest. This makes technology risk an important factor for consideration for the LGAs decision-makers before they take their decisions for EAI adoption.

Citizens Data Privacy / Security	Security and privacy of citizens' data has always been important. In an open and distributed processing environment, access control and authentication mechanism have very important role in LGAs. As citizens' data may contain some of the most important information such as the home addresses, council tax credits history, debts (if any) details, funding and benefits. Access to such information must be controlled because disclosure to irrelevant users may cause problems for citizens' privacy. Thus, there is a need for a technology that provides the best security approaches to LGAs.
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Table 2: Technological Factors

FINANCIAL FACTORS	
Cost	Cost is considered as a significant factor and many organisations perform a cost benefit analysis before taking any important decision regarding the investment in the adoption of innovation. The basic concept of EAI is mainly in it externality of enterprise integration with lower cost and less programming using existing applications, whereas a significant benefit of application integration is the reduction of overall integration cost (Puschmann and Alt, 2001).
Financial Capability	Financial capability refers to LGAs capital available for adoption technology. Akbulut (2002) states that organisations that have slack resources can afford costly innovations, can absorb failure, and can explore new ideas in advance of the actual need. However, in this case higher levels of financial capability may influence EAI adoption.

Table 3: Financial Factors

ENVIRONMENTAL FACTORS	
External Pressure	Increased competition often pushes organisations to search for new ways to increase their efficiency and seek a viable advantage (Themistocleous, 2002). LGAs interact with several stakeholders such as citizens, other governmental organisational (such as metropolitan authorities, boroughs, unitary or shire authorities, county council, district council, parish and town councils). They always expect better collaboration with organisations. Besides this citizens always demand for better services such as instant query response, availability of data where ever is required and data security. Therefore, this factor can be considered for the development of EAI model.
Market Knowledge	A majority of successful innovations are referred to the recognition of demands in the market. Lee and Tracey (1988) report that an unstable environment generates increased potential for IT innovation. This requires an organisations intent on being up-dated and well informed about the changes in the market environment. Johannessen (1994) reports that contact with environment through development of external information systems, for example, can reduce the insecurity for the individual organisation. Therefore, the need for IT innovation or major changes in organisations infrastructure generates a demand for IT in order to ease the innovation processes. Therefore, higher levels of knowledge of different integration solutions and market environment may positively influence EAI adoption.
Citizen Satisfaction	Citizen satisfaction stands to play an increasingly important role in the growing push towards accountability between the LGAs. Thus, citizen satisfaction has become a significant issue for citizen service providers. It is not just a matter of citizens feeling good about the efficient services they have received. It is the non-integrated IT infrastructure in LGAs that has caused the problems and not providing quality services.
Community Size	Akbulut (2002) measure size in terms of the size of the community served and the number of the services provided. In central and local governments, size was found to positively influence IT innovation adoption (Bingham, 1976). Larger cities would adopt more sophisticated and advanced information technologies compared to smaller cities (Norris, 1999) because larger cities: (a) have greater financial resources, (b) are in more need of these technologies and, (c) have

	superior institutional ability such as IT departments to support these technologies. Therefore, in this case community size may influence EAI adoption.
Internal Pressure	The author considers this factor as an essential in initiating the adoption of EAI in LGAs. This factor represents the several pressures such as technical and managerial. Besides this, LGAs have various drivers such as huge cost pressures, quality of citizen services, communication errors, data security and privacy, data redundancy integrity that motivate the adoption of new technologies These issues initiate the adoption of EAI in the organisation.

Table 4: Environmental Factors

SUPPORT FACTORS	
Financial Support	The availability of financial resources (investment) to enhance or build organisational IT infrastructure is one of the strongest predictors of innovation (Mohr, 1969). For organisational innovation, especially for adopting advanced technologies, financial support is indispensable for procuring and developing adequate levels of hardware and software, and training end-users as needed. Thus, higher levels of financial support may influence EAI adoption.
Top Management Support	One of the most frequently mentioned factors in the literature for successful adoption and implementation of integration solutions is top management support (Ngai and Gunasekaran 2004; Bradford and Florin, 2003). This is because the support from top management can be effective and influential in introducing new technology. In a study of large innovative organisations, Quinn (1986) reports that innovation would emerge continuously, because top management would appreciate innovation and contribute actively to keep up the value system and atmosphere of the organisation in a manner that supports innovation adoption. Thus, the author considers top management support as an influential factor for EAI adoption.
Vendor Support	Themistocleous (2002) among others reported that security, manageability, vendor support and vendor's global presence should be considered as additional integration requirements when evaluating integration technologies, since there are both practical and literature evidences. The requirements that deal with vendor support and vendor's global presence are related to support factors. It appears that vendor's support influences the adoption of an integrated solution. Since, LGAs have insufficient knowledge regarding EAI packages, and seeks for vendors that can support them (e.g. technical support). Therefore, in the context of local e-Government, the author considers vendor support an influential factor for EAI adoption.
Administrative Authority	Tolbert and Zucker (1983) report that IT innovation would be more likely when the political environment to which an organisation belongs has norms favouring the change. Thus, improving IT facilities of LGAs depends on whether support from administrative authorities elected or appointed top administrators, LGAs and also the central government is available for IT managers who are in charge of implementing IT adoption process and its utilisation. Kim and Bretschneider (2004) report that even in the case that IT managers initiate the adoption of new technology, support from administrative authorities may play a significant role in whether the innovation efforts are frustrated or completed. Support from administrative authorities can be expressed in several ways. <i>First</i> , top administrators' innovativeness is important for mobilising the resources. Adopting new IT requires large amount of investments, and its effects are not realised in a short term. To implement IT innovation, top administrators are expected to take the risk of failure or delay of IT adoption. Therefore, the top administrator has to have risk-taking tendency to support IT managers to design and implement IT adoption plan without worrying about the consequence (Kim and Bretschneider, 2004). <i>Second</i> , administrators' knowledge of IT should be considered. Administrators knowledgeable of the potentials of IT are more likely to have more positive attitude to IT innovation adoption and to endorse the innovation initiatives raised by IT managers. <i>Third</i> , legislative body i.e. LGA is as important as top administrators are, because budget allocation and other legislative supports are finally authorised by LGAs. Like top administrators,

	<p>LGA's IT innovativeness and knowledge form a crucial part of support from administrative authorities. <i>Fourth</i>, the central governments' influence also needs to be considered. The central government makes efforts for statewide technology diffusion, such as providing information about innovations, financial support during development, and procedural facilitation (Moon and Bretschneider, 1997). However, all such evidences endorse the significance of "administrative authority" and moreover may assist in EAI adoption in a local e-Government environment.</p>
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Table 5: Support Factors

General results from literature indicate that several factors influence the organisational adoption of an IS innovation. Besides this, there exist few EAI adoption models such as (Themistocleous 2002 and Khoubati *et al.*, 2004). These research models highlight several factors influencing EAI in their respective domains. These two models have several factors in common such as: (a) benefits, (b) barriers, (c) IT infrastructure, (d) costs, (e) internal pressures, (f) external pressures, (g) IT sophistication. Similar common factors were extracted from the other integration technology adoption models reviewed. Nevertheless, the author also identified and analysed new factors as described earlier. To provide a better understanding, these factors have been categorised into five categories: (a) organisational factors, (b) technical factors, (c) environmental factors, (d) financial factors and (e) support factors. Figure 1 illustrates the conceptual model for the EAI adoption in an e-Government environment.

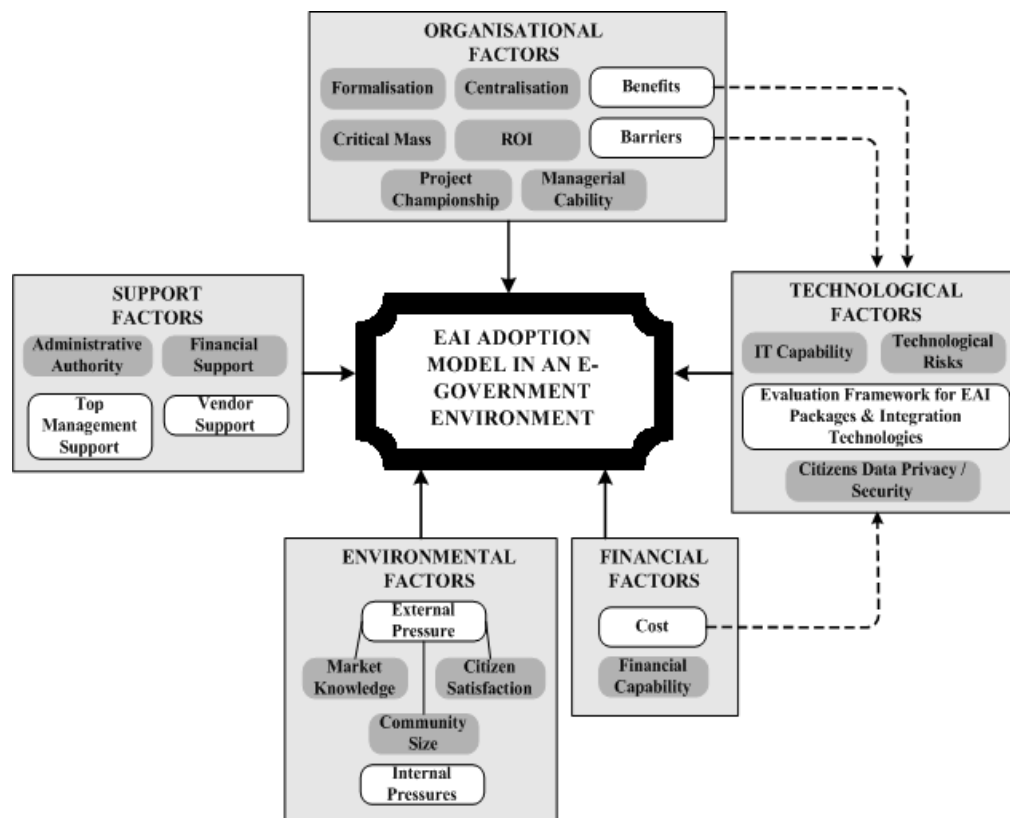


Figure 1: A Novel Conceptual Model for EAI Adoption in an e-Government Environment

4. PROPOSED RESEARCH METHODOLOGY

Myers and Avison (2002) state that all researches are based on some underlying assumptions about what constitutes valid research and which research methods are appropriate. Furthermore,

they stated that the most pertinent philosophical assumptions are those that relate to the underlying epistemology, which guides the research. There are several philosophical approaches available for IS research such as positivist, interpretive and critical. Nonetheless, since IS is multi-disciplinary with many of its aspects related to natural sciences, mathematics, engineering, linguistics and behavioural sciences, the identification of an appropriate research approach is not a simple task. Galliers (1994) state that selecting an appropriate research approach is a major task of the research design process. This is because there are multiple methodologies to choose from. Orlikowski and Baroudi (1991) report that information systems are not rooted in a single theoretical perspective, but there is a wide range of philosophical assumptions regarding the underlying nature of phenomena under investigation. Therefore, there is a range of research approaches and strategies that are available to IS researchers, not simply the more traditional ones. However, this section outlines the proposed research methodology used in this study. It briefly covers the appropriate research approach i.e. justifying the philosophical research stance, justifying the use of qualitative research, selecting and justifying an appropriate research strategy.

4.1 Justifying The Philosophical Research Stance

The author considers interpretivism as more appropriate research for studying the adoption of EAI in an e-Government environment. The reasons for this is because, interpretivism stance allows concepts (constructs) to emerge from field data rather than entering the field with pre-conceived theories (Miles and Huberman, 1994). The factors such as technological, organisational and financial discussed earlier that influence the EAI adoption in e-Government could not be separated. Thus, the author needs to understand the process of adoption and the factors that influences the adoption.

4.2 Justifying The Use Of Qualitative Research.

In information systems research, there has been a general shift away from technological to managerial and organisational issues. The research presented in this paper focuses on the factors that influence the decisions of human beings (e.g. Managers and Government Officials) when adopting and evaluating EAI solution in government domain. Thus, the qualitative research methods are designed to help researchers understand people and the social and cultural context within which they live (Benbast *et al.*, 1987). Therefore, the authors believe that the qualitative methods will be the appropriate method for studying EAI phenomenon in an e-Government environment.

4.3 Justifying The Use Of Case Study Research

A case study examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (e.g. people, groups, or organisations) (Benbast *et al.*, 1987). Yen (1994) define that case study relies on multiple sources of evidences, with data needing to converge in a triangulation fashion. The case study can be a single-case or multiple cases. Multiple case designs allow for cross-case analysis and the extension of theory. Multiple cases yield more general research results (Benbast *et al.*, 1987). In addition to that Yen (1994) suggests that there are different types of case study such as exploratory, descriptive and explanatory depending on whether they are used to answer what, how and why research questions respectively. This discussion provides the justification for using the case study classified as exploratory.

5. CONCLUSION

EAI software addresses the organisational integration problems from both technical and business perspective. It combines a variety of integration technologies to build a centralised integration infrastructure. EAI addresses the need to integrate both intra and inter-organisational systems

through incorporating functionality from different applications. There is an increasing demand to integrate the IT infrastructures in the LGAs. But as EAI is a new area within the government domain, there remains absence of theoretical models, which means there is still a case for the identification of factors that influence the decision making process for EAI adoption. The government structure is highly distributed and consists of various autonomous information systems, thus there is an increasing demand to integrate the IT infrastructures in the government sector. Therefore, in this paper the author proposed a conceptual model for EAI adoption in an e-Government environment. The author conjecture that the proposed EAI adoption model will support in developing an understanding for EAI and assist the decision makers within the LGAs while making decisions to adopt EAI. In future research the conceptual model will be tested imperially to explore the impact of EAI adoption in an e-Government environment. However, prior to that by analysing the literature, the author also intent to map the identified factors influencing EAI adoption at each stage of the adoption process (Kamal, 2006) and further identifying the causal relationship between the factors of the model at each stage of the adoption process that influence the overall performance and EAI adoption decision of the LGAs.

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