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Investigating factors influencing local government decision makers while adopting integration technologies (IntTech)

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ABSTRACT

The emergence of innovative and revolutionary Integration Technologies (IntTech) has highly influenced the local government authorities (LGAs) in their decision-making process. LGAs that plan to adopt such IntTech may consider this as a serious investment. Advocates, however, claim that such IntTech have emerged to overcome the integration problems at all levels (e.g. data, object and process). With the emergence of electronic government (e-Government), LGAs have turned to IntTech to fully automate and offer their services on-line and integrate their IT infrastructures. While earlier research on the adoption of IntTech has considered several factors (e.g. pressure, technological, support, and financial), inadequate attention and resources have been applied in systematically investigating the individual, decision and organisational context factors, influencing top management's decisions for adopting IntTech in LGAs. It is a highly considered phenomenon that the success of an organisation's operations relies heavily on understanding an individual's attitudes and behaviours, the surrounding context and the type of decisions taken. Based on empirical evidence gathered through two intensive case studies, this paper attempts to investigate the factors that influence decision makers while adopting IntTech. The findings illustrate two different doctrines—one inclined and receptive towards taking risky decisions, the other disinclined. Several underlying rationales can be attributed to such mind-sets in LGAs. The authors aim to contribute to the body of knowledge by exploring the factors influencing top management's decision-making process while adopting IntTech vital for facilitating LGAs' operational reforms.

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1. Introduction

While the 1990s saw the internet-enabled electronic commerce (e-Commerce) revolution within the private and multinational organisations, in the new millennium we have witnessed public sector embracing the same principles of electronic business (e-Business) operations by e-Enabling central and LGA services through e-Government initiatives [26,28,68]. Advocates claim that e-Government is a means to help drive the local policy objectives of mainstream services and operations, realise efficiency gains and achieve tangible improvements in terms of shared priorities agreed between central government and LGAs [28,57,104]. e-Government is seen as an agent for organisational change having become a political imperative at local, national and international level [86,92]. In particular, e-Government and corresponding Information and Communication Technologies (ICTs) possess the catalytic constituent to enable and transform the capability of governments by offering more efficient, transparent and accessible public services to citizens and businesses [103]. Some of the transformative improvements that have been publicised to be a result of e-Government ICT applications include: increasing citizen focus, enhancing efficiency, and reducing bureaucracy [26,27]. In view of this, it is unsurprising that the many governments from the European region including the United Kingdom (UK) government have invested billions towards various e-Government initiatives [62,63]. Moreover, since the government has been successful in meeting its spending cuts target throughout

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2011 to 2013, additional resources of £330 million has been considered to support the transformation and re-engineering of local services [50].

The prime drivers for such increase in investments are: operational efficiency gains, innovation in service delivery, and seamless IT operations [102]. Moreover, the increasing pace of back office transformation resulting in the implementation of new IT systems to rejuvenate many legacy systems [67,92]. In the latter case, the harmonisation in information technology (IT) infrastructure operations, and integration of cross-departmental processes and the underlying information systems (IS) has been significantly achieved by adopting different types of IntTech e.g. enterprise application integration (EAI) technology is a sophisticated middleware which allows combining the various systems for integrated business operations (e.g. [66,67,96]), service oriented architecture (SOA) is the fundamental structure supporting communications between services i.e. defining the communication between two computing entities such as programs, interact in such a way as to enable one entity to perform a unit of work on behalf of another entity (e.g. [75,98]) and emerging cloud computing represents an archetypal for facilitating ubiquitous, expedient, on-demand network access to a collective pool of configurable computing resources e.g. networks, servers, storage, applications, and services (e.g. [105]). In contrast, Enterprise Resource Planning (ERP) systems are intricate software packages which implement the business functions for the enterprise by integrating internal business data along with essential external data ([17]; Maditinos et al., 2012).

Earlier research on the adoption of IntTech has considered several factors e.g.: pressure (i.e. critical mass; internal and external pressures), technological (i.e. data security and privacy, IT sophistication; IT agility and business alignment), support (i.e. IT support from vendors and support from top management), financial (i.e. reduced costs and return on investments) and organisational (i.e. benefits, barriers, agility, efficiency and flexibility of processes). There is plethora of research illustrating the significance of these factors in the public and private sector [66,67,75,80,104]. The authors note that while these factors have primarily offered better understanding on different types of IntTech from several perspectives (primarily focusing on technological), governments globally have realised that these are merely some of the important factors needed to accomplish successful LGA transformation. One should not disregard that the diversity of internal and external stakeholders [94] and the bureaucratic and rigid hierarchical nature of LGAs and its top management [54] make it difficult to manage organisation-wide, transformational change in the public sector [104]. This further adds high degree of complexity to the decision-making process in a local e-Government context [92]. This directly calls for more work at the nexus of understanding stakeholders' (primarily the decision makers) attitudes and behaviours, the decisions they take in their surrounding context while adopting IntTech and other technologies [100].

Thus, it is evident from the extant literature that:

> inadequate attention and resources have been applied in explicitly investigating and understanding the individual (e.g. focusing on behaviours, attitudes and aptitudes), decision (e.g. focusing on nature of decisions taken) and organisational (e.g. focusing on culture and politics) context factors influencing top management's decision-making process for adopting IntTech in LGAs.

The latter *void* (i.e. based on the authors' understanding and observation of the literature) illustrates the rationale and motivation for conducting this research. The conceptual and empirical findings presented henceforth are evidence to the efforts of the latter claim. It is a highly contemplated phenomenon that the success of an organisation's operations relies not merely on understanding the technological, pressure, support, and financial factors but more importantly, profoundly understanding an individual's attitudes and behaviours and the way individuals make decisions (the nature and type of decisions) in an organisational context ([77]; [11,33]). Decision-making process is a significant area of research in cognitive psychology and comprehending the process by which individuals make decisions is imperative to understanding the decisions they make [48]. Empirical research in organisational operations management discipline has often unconditionally acknowledged many elements of human behaviour (e.g. attitude, behavioural intention) towards decision-making [77]. More lately, the noticeable research studies of decision-making and behaviours in operational contexts have emerged as an important focus of research (e.g. [29,69]). Ref. [89] argues, in the real world it is vital to recognise that the nature of decision-making is highly influenced by the surrounding context and, in return, the resulting decisions have an effect on this context—i.e. referring to the following factors:

- *Individual* context related to attitude and behaviour (i.e. personality, perceptions, attitudes to risk, ethics and values);
- *Decision* context (i.e. nature of decision, and uncertainty); and
- *Organisational* context (i.e. culture and climate, and politics).

In the local government context, however, there are other factors (from individual, decision and organisational perspective) that are seen as imperative and influencing the decision-making process (e.g. [64,67,70]). The authors assert that based on their importance these factors can also be considered while adopting IntTech in a local government context. These factors are:

- *Individual* context (i.e. knowledge of integration technologies and managerial capabilities and authority);
- *Decision* context (i.e. centralised and decentralised decision-making—also termed locus of decision-making); and
- *Organisational* context (i.e. management style, and organisational compatibility).

Given the increasing importance of the abovementioned factors, this paper attempts to contribute by further exploring these factors in-depth in the context of LGAs and identifying whether these factors influence (i.e. positive or negative) top management's decision-making process while adopting IntTech, using two case studies. This research particularly focuses on LGAs who are lagging behind in the wider national context regarding meeting the deadlines as well as achieving the benefits of e-Government implementation in the UK. A number of benefits have been claimed to arise from e-Government implementation (e.g. as supported by [14,22,24,25]). Nevertheless, Ref. [41] argues that such studies have shown contradictory, indecisive and generally non-generalisable outcomes. Limited studies have vigorously assessed whether benefits have been attained from e-Government implementation and many organisations, on the other hand, have acknowledged the need for further development in this area [55]. In the UK, several central and local government policy-makers, challenged to introduce ICT and offer digital services, are now being stimulated to take a further actions, through the publication, *Transformational Government* [23] and more recently, *Government Digital Strategy* [21]. This encompasses using state-of-the-art technologies not just to change the ways LGAs and other government departments operate but to also transform them individually. Using this reasoning, this paper will examine two UK LGAs with a view of exploring the abovementioned factors. The basis for selecting LGAs from two different

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