

e-Voting in the UK: A Work in Progress

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Abstract: The research project on which this paper is based is investigating the reasons that some English local authorities engaged in pilot projects of e-voting and some did not. This paper offers a brief summary of the initial findings of the literature review as it identifies factors, which impact upon the decision-making process of English local authorities. The factors identified include the local authorities' attitude to e-voting, their consideration of the citizens' attitude to voting, the risks to the integrity of the ballot and the changing political environment instigated by central government. The analysis is based on Rogers' diffusion of innovations theory. Early results of this on-going research suggest that in a voluntary situation where there is an over arching organisation (central government) trying to introduce an innovation to an agency organisation, Rogers' diffusion of innovations framework requires modification.

Keywords: pilot projects, e-voting, local government, central government, diffusion of innovations.

1. Introduction

This paper outlines the initial analysis of the reasons that some English local authorities have taken part in the pilot schemes of e-voting and others have not, as e-voting will only be feasible once the factors which inhibit its adoption are identified and addressed. If these issues are not resolved e-voting may be permanently rejected by the citizens and their representatives. The research investigates the factors, which influenced the decision-making processes of the local authorities during the introduction of e-voting prior to the 2003 pilot schemes of the new voting methods. This qualitative research based on a realist philosophy of social science is deemed appropriate as there is very little information regarding those deciding factors. Sections of Rogers' diffusion of innovation theory framework are used to examine whether the innovation will diffuse in accordance with that theory as this research investigates the acceptability of an innovation as it is trialed and is in the pre-diffusion stages, an approach recognised by Rogers as "acceptability research" (Rogers, 2003:253). The work will test the diffusion theory in a setting in which it has not previously been applied. This paper comprises five sections, the first being the introduction, followed by an outline of the UK rationale for the introduction of e-voting. Section three outlines the research framework and section four describes the major variables, which affect the decision-making processes of the English local authorities as they contemplate e-voting. The final section, the conclusion, pinpoints issues that need to be addressed by central and local government and demonstrates the amalgamation of the Rogers' model of diffusion of innovations for the individual and for organisations.

2. The UK context

The UK government wishes to introduce e-voting as part of their strategy to modernise government processes and to increase voter turnout at elections, it is hoped to hold an e-enabled general election sometime after 2006 (Electoral Commission, 2002). Voter turnouts at elections have been falling for the last fifty years from a high of 83.6% at the general election of 1950 to 59.4% in the general election of 2001. This last figure brought fears that future elections could see the turnout decline to less than 50% and could mean that the authorities have no mandate (ICAVM, 2002). There was no significant improvement in 2005 with a turnout of 61.3%, only 1.9% higher than 2001 (Electoral Commission, 2005). Figure 1 below illustrates the decline in general election turnouts. Falling turnouts at elections are of concern as voting is a basic act of democratic participation and citizens who do not vote tend not to participate in other civic activities. Voting is associated with higher levels of affluence and education and as the population has become more affluent and educated the voting levels have declined. The government research expresses the hope that innovations in voting procedures may offer a partial solution to this crisis at least to the younger section of the community who are less likely to vote using the existing procedures (Fairweather and Rogerson, 2002: ICAVM, 2002).

Following the General election of 1997 the government established a working party which recommended a programme of pilot schemes of innovative electoral procedures to evaluate their effectiveness (Electoral Commission, 2003a). The Representation of the People Act 2000 gave effect to those recommendations and to date there has been a series of electoral pilots in May 2000, 2002 and 2003, each of which has been evaluated by the Electoral Commission. Almost all of the recommendations made by the Electoral

Commission following the 2002 pilot schemes were accepted by the government and many were used to shape the 2003 pilot programme. (For example, applications from the local authorities should be sought based on clear requirements targeted on aspects and issues of voting that need to be tested not just local preferences, that pilots should be conducted across the whole authority and a lack of cross party support should not automatically prevent the pilot, and the pilots should be staged in areas which reflect diversity and across diverse local authorities) Participation in the pilot schemes is voluntary and 2003 saw the largest scheme to test innovative voting practices. Across England almost 6.4 million

people were eligible to vote in these pilot areas, 14% of the English electorate, of the fifty nine local authorities taking part, fourteen included the Internet (Electoral Commission, 2003b). Once the local authorities have agreed to take part in the pilot schemes they cede authority to central government. The local authority then becomes the agent for the government and has no discretion in the conduct of the pilot schemes. However the UK government is not piloting the new voting methods in 2006 due to security concerns but is determined to pursue e-voting once those matters have been addressed (Richardson, 2005).

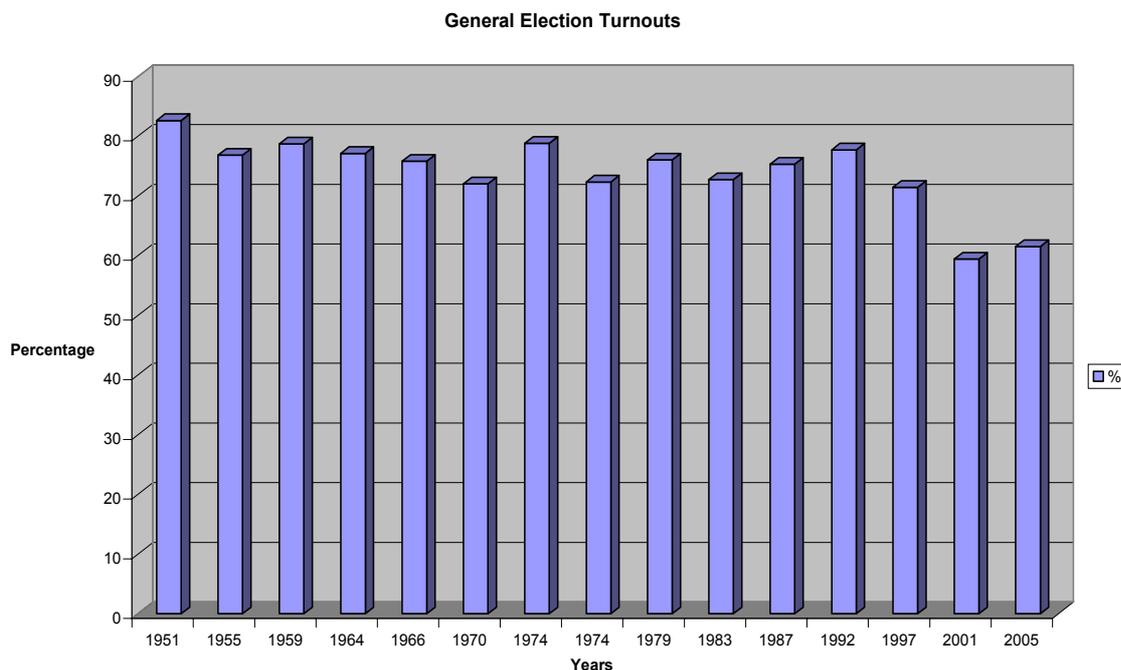


Figure 1: General election turnouts from 1951 to 2005

3. Research framework

This study adopts a qualitative research strategy where the emphasis is on description and explanation and the data is in the form of words or descriptions of the subject of study (Sapsford and Jupp, 1998; Hakim, 2000). The positioning of the research in the realist paradigm affords the opportunity to look behind appearances to discover mechanisms, which explain human behaviour, and is “the most popular position informing enquiry in the human sciences” (Travers, 2001:11). A key element of this research is the relationship between central and local government as central government seeks to introduce e-voting, this work adopts the agency model of local government. In this respect once local government has applied to conduct a pilot scheme, there is little discretion regarding the type of pilot, what they ask for is not necessarily what

they receive. Central government maintains control over the range of e-voting processes and the available finances. Coleman (1994) summarises the purpose of this control as “resources to provide an extension of self” in that central government are pursuing their own interests. Consequently, the alternative power dependence model is unsuitable for this work as there is no bargaining and exchange of resources, the power regarding decisions on electronic voting lies with central government (Wilson and Game, 2002). However, Coleman (1994) believes that it is only rational to transfer control to another party if there is some benefit, as the agent’s actions benefit the principle. He holds that the local authorities may believe that they will benefit by following central government leads or there may be some exchange or compensation for their efforts. Nevertheless he includes a note of caution in that some principles may cede greater rights of

control than is in their best interests. Dobson (2002) agrees with the non-altruistic sentiments for adopting electronic voting, as he suggests that some local authorities seek to gain status by seeming to be modern and fashionable and that this drive to appear trendy may even over-ride internal rational decision-making. Rogers' theory of diffusion of innovations for organisations, the individual (or other decision-making unit) innovation-decision process theory and the perceived attributes theory, are used to test whether the new voting practices will be adopted by the local authorities. "An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption" (Rogers, 2003). E-voting is a new practice and therefore satisfies this definition. In essence Rogers' model for the individual is a linear sequence of stages with the individual passing from first knowledge of an innovation through persuasion to the decision to make use of it, to implementation and confirmation. His model for organisations consists of similar sequential stages from agenda setting, matching the innovation, to re-defining and restructuring once the innovation has been used, to clarifying and routinisation as the innovation becomes part of everyday life. The final part of the diffusion of innovations framework to be used is the perceived attributes theory which identifies five attributes (relative advantage, compatibility, complexity, trialability and observability) the individuals' perceptions of which affect the rate of adoption (Rogers, 2003). "The adoption of an innovation is a complex messy business" (Kautz and Henrikson, 2002).

Realism affords the opportunity for explanation. As Robson (2002:39) succinctly describes the purpose of realism is to ask "What works best, for whom and under what circumstances?" Events are explained by assuming and identifying mechanisms, which produce them, as realism can explain the ways of acting of an object by reference to its structure and composition. It also holds that reasons can cause or inhibit events (Sayer, 1994). In this study the principles of a realist explanation hold that the outcome, (diffusion of e-voting), of the action, (the introduction of e-voting) depends on the mechanism (mass adoption) which in turn depends on the independent variables of the individuals' attitudes to the perceived attributes of the innovation and the culture of the social system. This takes place within a given context, the social structure within which local authorities

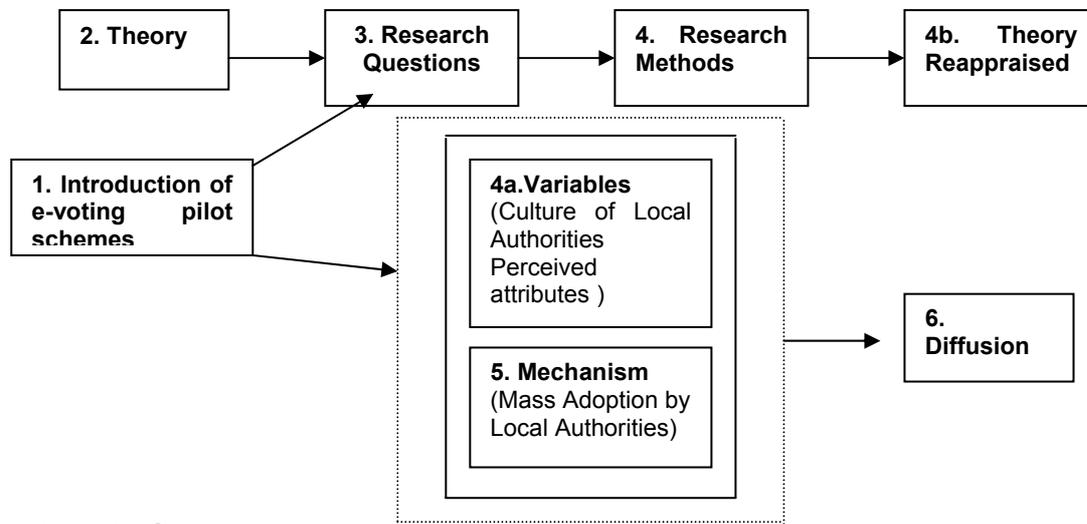
and central government operate, thus allowing for the interplay of content, process and context.

The initial research fulfilled two functions, it acted as a research facilitator identifying issues requiring further investigation and it identified reasons that encourage or inhibit the local authorities' participation in the pilot schemes of electronic voting. The thematic literature review critically evaluated, identified and inter-related the themes to satisfy the objectives. Different aspects of electronic voting were detailed as was the change in voter behaviour leading to falling turnouts at elections. The impact of Pluralism on democracy was discussed. Rogers' diffusion of innovations theory framework for the individual and for organisations was outlined with suggested alternatives. Following a description of the meaning of adoption, the perceived attributes theory was then analysed to evaluate the different characteristics of an innovation, (in general terms and of electronic voting), which influence adoption. The final section analysed the changes, which have impacted on the English local authorities following the Local Government Act 2000. That information allowed an initial analysis of the fluctuating political climate, which has affected the norms of local government.

The empirical phase of this applied qualitative research will be based on the case study technique which can apply to individuals, communities, relationships, organisations or social groups, indeed Robson (2002:185) maintains that "all enquires are case studies." Since there is no ideal size of sample through random stratified sampling three local authorities which have taken part in the pilot schemes and three local authorities which have not taken part, have been identified and semi-structured interviews will be held with the election officers and the executive members (Patton, 1990). Interviews are commonly used in case studies to provide deep insights into a situation (Yin, 2003). The committee reports which outline their decision regarding their participation in the 2003 pilot schemes will also be analysed contributing to data triangulation. There will also be an interview with the officer in the Department of Constitutional Affairs who is responsible for the implementation of the new practices to obtain the central government perspective on the implementation strategy. The conceptual framework below demonstrates the realist philosophy in demonstrating the variables, which will be analysed in the context relevant to their operation.

Conceptual Framework

Research



Local Authority Context

4. Variables affecting the local authorities' decision-making

Much of the literature, which describes the development of central and local government relations during the last thirty years, concentrates on the growth of central control and the loss of control of functions by elected local authorities. "Increased efforts to co-ordinate economic policy have resulted in a decline in autonomy, activity and enthusiasm in local government" (Dahl and Lindblom, 1992). During the last six years local authorities have operated in a climate of enforced change at local and regional levels. Significant restructuring took place in 1999 with introduction of 9 Regional Development Agencies (RDA's). The government is giving ever more powers to these unelected assemblies and is committed to holding referendums as it deems that new forms of governance such as introducing new elections should be decided by local people (ODPM, 2005). These assemblies present a real threat to the local democracy as it is envisaged that they will take over selected local functions (Leach and Percy-Smith, 2001).

Not content with imposing radical regional modernisation, central government have imposed radical local internal changes. Following Local Government Act 2000 the local authorities in England and Wales were required to choose one of three forms of executive government as policy decisions were to be made by a mayor or by a small cabinet of leading councillors. The remaining councillors now scrutinise the executive members. Unlike the previous superficial role of

the scrutineers this new arrangement is now far more intense; it is pro-active, critical and can apportion blame. Any member of the local authority can be scrutinised and held to account. "For a country once used to stability in its governmental institutions, this breadth, scale and speed of change are at least remarkable and, to many, constitutionally and democratically threatening" (Wilson and Game, 2002:94). The restructuring has resulted in a distancing of the councils from the electorate, as an essential element of the local authorities' modernisation process is the growth of governance which brings together governmental and non-governmental organisations in a flexible partnership to deal with the provision of specialist services (Leach and Percy-Smith, 2002). There is a shift from bureaucracies to market conditions as the local authorities no longer operate in their traditional role of service providers but facilitate, support and regulate so enable other agencies to act on their behalf (Sorgaard,2004). Consequently there is resentment by the local authorities at their loss of services, policy influence and resources (Wilson and Game, 2002).

Central government policy to gradually introduce e-voting has resulted in the pilot programme which is a recognised idea in diffusion research but is no guarantee of diffusion (Kautz and Henriksen, 2002). However, "almost every local authority in the country has developed or piloted some new service" (Wilson and Game 2002:40). It is into this atmosphere of imposed change and experimentation that e-voting has been introduced. Coaffee and Johnston (2005) note

with some disquiet “all to often local governments are forced to implement change out of political allegiance, the lack of an alternative route to follow or simply as a result of pressures on time or resources.” Even the Labour MP Dianne Abbot (2005) speaking on the BBC commented that there are too many initiatives for local authorities. The consensus in the literature bears out the assumption in the contingency theory, that there is no one best way of implementing change. It is accepted that the way in which e-voting is introduced is critical and it is acknowledged that a pro-active strategy led by the Chief Executive to which there is political commitment will enhance the likelihood of a successful adoption. This strategic management needs to be accompanied by the formation of a dedicated unit and a receptive culture (Leach and Collinge, 1998; Frambach, 1993; Zmud, 1984). Management support is often manifested through the role of the champion, described by Rogers (2003:414) as “a charismatic figure who throws his or her weight behind an innovation, thus overcoming indifference or resistance that the new idea may provoke in an organisation.” They need not be a particularly powerful person within the organisation but they will be adept at handling people and skilful in persuasion and negotiation. The introduction of any new methods of operation will result in changes within any organisation in terms of policy, procedures and structures and many local authority officers may reject those changes when they realise the radical effect on the traditional organisational culture (Serour and Henderson-Sellers, 2002). Any paid officers who have little experience of planned change or who do not understand the new voting procedures may tend to ignore the issue or abdicate their responsibility with negative effects upon the implementation of e-voting (Sorgaard, 2004).

As the concept of electronic voting is communicated to the local authorities the information from the government is biased towards implementation of the new voting methods. This new learning environment, designed to raise awareness of the innovation, is recognised in Rogers’ model as the knowledge stage and he holds that the most effective communication channel at this stage is the mass media. In this closed inter-organisational environment there is only limited information in the media, and central government is not undertaking a professionally designed information campaign even though their researchers Fairweather and Rogerson (2002) and Candy (2002) recommend that there should be appropriate strategies to engender enthusiasm for the pilot projects. However, the most important influences are the direct contacts between individuals (Schudsen,

1993). The social learning theory is directly applicable to diffusion of innovations as one individual learns from another by observation and then does something similar and both theories seek to explain how individuals change their behaviour because of communication with others. “Diffusion is a process of communication and influence whereby potential users become informed about the availability of the new technology and are persuaded to adopt through communication with prior users” (Rogers, 2003). Individuals connected together in a group are more likely to share information and reach common understandings regarding a new idea, they are likely to rely on “immediate others” rather than on some perception of the social norm (Valente, 1995). Rogers (2003) describes this decision-making stage of acquiring information from peers as the persuasion stage where the individual decides how to interpret that information. Unfortunately, in this situation, there is obviously a dearth of that type of information. O’Callaghan (1998) further develops Rogers’ theme that interpersonal communications with near peers about an innovation drives the diffusion process, as he recognises the technological life cycle, in that as technology and its effects become better known the perceived risks appear lower thus adoption becomes more likely.

Local politicians are aware of the changing attitudes of the citizens as exemplified by the falling turnouts at elections. If the local authorities consider that e-voting will not be well received by their electorate they will not be willing to promote its use as Downs (1957) argues that politicians wish to win elections and so will act in their own best interests. Candy (2002:6) considers public support to be “pivotal” and as the ICAVM (2002:6) notes “confidence in democratic elections takes decades to develop and far less time to destroy.” The voters’ attitude to e-voting will depend on their perceived attributes of the new system. Rogers holds that the first perceived attribute is relative advantage and in this case the literature presented convenience as the main advantage and a panacea for the problem of falling turnouts. However it is not possible to assess whether those who cite inconvenience for not voting are telling the truth, as it maybe easier to blame voting procedures than to admit apathy (ICAVM, 2002). The consensus seems to be that fewer citizens from the lower social classes will use the new voting methods than the older middle class citizens who already vote thus the turnout will probably mirror conventional voting patterns (Fairweather and Rogerson, 2002). Electronic democracy is seen as a challenge to improve representative democracy as it offers an

opportunity to strengthen the power of the citizen but the degree to which an innovation, in this case e-voting, is perceived as difficult to use (complexity) will affect the rate of adoption (Rogers, 2003). At present, there is an emphasis on a divided society, in that many individuals, including members of the local authorities, are not able to understand or use the new technology (Gritalis, 2002; Candy, 2002).

Compatibility is Rogers' third perceived attribute which is "the degree to which an innovation is perceived as consistent with existing values, past experiences and the needs of the potential adopters" (Rogers, 2003). E-voting is vulnerable to a range of new threats to those principles which the current system had been designed to guard against and the members of the local authorities will be aware of at least some threats to the integrity of the ballot presented by e-voting largely centring upon security/secrecy issues (ICAVM, 2002). The main security issues are well documented and consist of concerns regarding hacking, viruses, spoof sites, denial of service, disruption by strikes and system failure (Fairweather and Rogerson, 2002; Rubin, 2001; Gritalis, 2002). However there is equal concern that in an unsupervised voting environment vulnerable voters, the old, women, dependent children could come under pressure to alter their vote. "The public act of voting is incompatible with private life in the family" (Fairweather and Rogerson, 2002). The local authorities will need reassurance that the new voting methods will ensure the integrity of the electoral system before they will be willing to promote their use. The government has not outlined a target date for the nationwide implementation of electronic voting, even though it targeted the end of 2005 for the implementation of e-government (Fairweather and Rogerson, 2002). This lack of guidance may effect the way in which local authorities view the status of e-voting as there does not seem very much impetus to establish the new forms of voting. The Electoral Commission recommends "as a priority" a detailed road map towards its stated goal (Electoral Commission 2003b). Schein (2004) reinforces that advice as he notes that any organisation needs direction in order to achieve its aims. However the government researchers, recommend proceeding slowly with "a long lead in time" to allow individuals to become "comfortable with the idea of electronic voting" (Candy, 2002:36).

5. Conclusion

This paper has offered a brief resume of some of the significant influences faced by the members of the UK local authorities. A key element appears to

be the central government drive for modernisation by removing powers from local authorities. Indeed criticism has come from the Chairman of the Local Government Association, launching the 2005 manifesto, Sir Sandy Bruce-Lockhart claims the "UK now has a uniquely centralised system of controlling public services from Whitehall" (LGA, 2005). It is not surprising that in this atmosphere of enforced change when the local authorities are given the option to instigate even more change by introducing e-voting, they refuse. Interestingly Hedstrom (2004) maintains that a refusal to act, or in this case adopt, is a strong way to influence a process and McMaster and Kautz (2002) regard user resistance as positive if a new system is not as good as the old one. Both local and central government have issues to address. The essence of diffusion is communication through which the participants create and share information to achieve a certain end (Rogers, 2003). There appears to be a lack of meaningful dialogue between central and local government regarding the modernisation strategy. Hogwood and Gunn (1988) argue that when implementation involves innovation and the management of major change from previous practices or policies there is a high probability of suspicion or resistance from those involved in the implementation process. The requirement for communication and co-operation at all levels appears to be increasingly significant as once the local authorities have agreed to take part in the pilot schemes they cede authority to central government. The government dilemma is the need to maintain pressure and organise the introduction of electronic voting while allowing the local authorities some freedom and flexibility.

It is becoming clear that in the pilot schemes of e-voting, Rogers' individual (or other decision-making unit) innovation-decision process and the organisational innovation-decision process amalgamate. The local authorities are decision-making units and they are organisations. Rogers' theories argue that there are two separate theories, one for each structure. However since the local authorities possess both the criteria for an organisation and an individual decision making unit they cannot completely follow either of the two separate sequential stages. Central government acting as an organisation has completed stages one and two of the innovation process for organisations, in that they have recognised that there is a problem and have devised a strategy to address it. They then ask for volunteers for the e-voting pilots, at this stage even though there will eventually be a collective decision from each local authority, each appropriate local authority officer, the executive member responsible for this particular policy and the individual members of the full council who

have to ratify the decision, consider the innovation on an individual basis. The local councillors do not undergo the first stage of Rogers' individual decision-making process theory, knowledge, as in this situation there is no formal mass media campaign to distribute knowledge. However, the councillors are subjected to the second stage of Rogers' individual decision-making process, persuasion. The members of the local authorities may be persuaded to trial the new voting methods as a result of peer pressure from internal or external sources "People can induce each other to a variety of activities as a result of their interpersonal relations and thus their influence goes far beyond the content of their communications" (Katz and Larsfeld, 1955).

The local authorities either decline to take part in the trial or if they agree, the results of the pilot are passed back to central government for re-defining and clarifying prior to the next pilot. In this situation the agency organisation does not clarify or redesign the innovation that is the responsibility

of the overarching organisation. These findings demonstrate that where an innovation is offered for a voluntary trial by an over-arching organisation to a sub-ordinate organisation, the Rogers' individual innovation-decision process model and his organisational decision-making model appear to amalgamate. Figure 2, below, demonstrates the amalgamated model of Rogers' diffusion of an innovation. This circular testing will continue until central government decides to compulsorily implement e-voting. The results of the initial research have raised issues which need to be addressed during the next stage of this on-going project. The empirical phase will investigate the reasons behind the local authorities' decisions to either embrace or reject e-voting. The research will concentrate on the culture and social norms of the local authorities and local authorities' perceptions of the attributes of electronic voting. The completion of the second part of this research will allow recommendations in the way in which innovations from central government should be introduced to local government.

Individual Process

Organisational Process

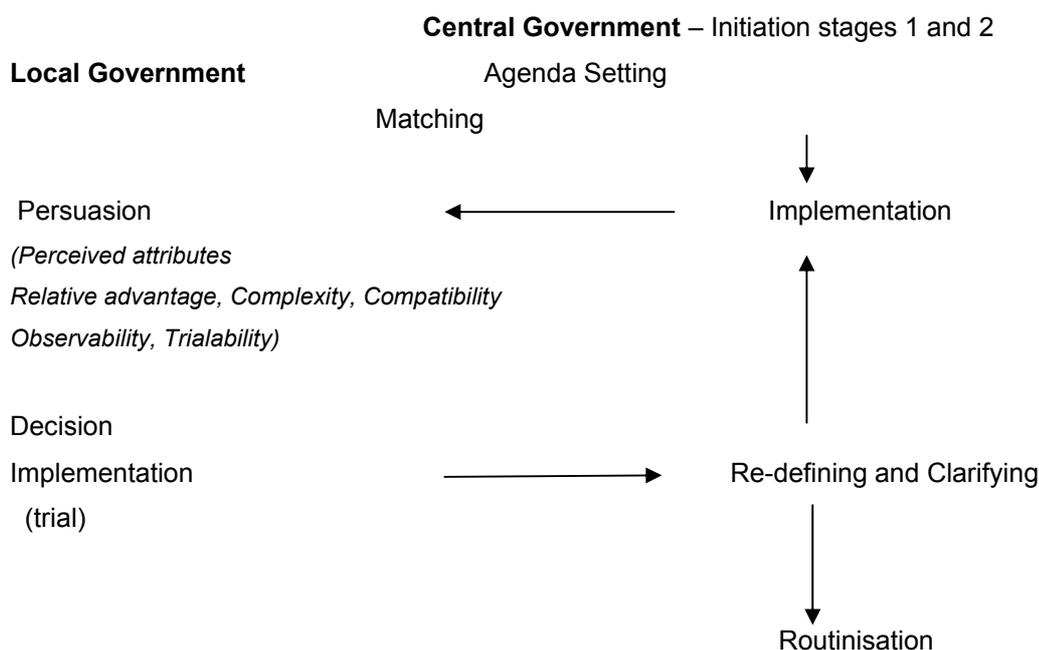


Figure 2: The amalgamated model of Rogers' individual innovation decision process and the decision-making process for organisations.

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