

A Multi-Disciplinary Analysis of e-Governance: A Review

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ABSTRACT

The gradual emergence of an Internet-connected global society has added an entirely new dimension to meaning to the letter "e". Information and communication technologies have reconfigured different sectors of society, and their permeation of the public sector has yielded concepts such as Electronic governance (e-Governance) and Electronic Government (e-Government). Understanding and managing e-Governance, which draws from multiple and diverse disciplines, is a challenging and sometimes unwieldy task. Yet it must be managed, and its potentials harnessed, if government is to fulfil its mission and remain responsive within the context of a rapidly changing society. Deliberate efforts must be made to stabilize and clarify its operational definitions; to ensure that the field develops in a holistic, systematic manner; and to manage the accumulation and furtherance of e-Governance knowledge so that lessons and best practices can be disseminated and adapted in relevant, context-specific ways. This paper proposes a starting point for the deliberate, systematic, and holistic development of e-Governance. It analyzes the multidisciplinary nature of e-Governance from six perspectives, provides a framework that facilitates the systematizing of current and future materials into an organized body of knowledge, and proposes a methodology for identifying knowledge gaps and framing research issues.

Keyword - *e-Governance, e-Government, Public Administration, Technology, Transformation, knowledge Management, Sociological, Legal-Political-Economic Dimensions*

1. Introduction

The transforming power of Information and Communication Technologies (ICTs), particularly the Internet, continues to permeate and remake various sectors of society. The field of government is not exempt from this wave of change. Already much discussion has been triggered about the benefits and issues surrounding technology in government, accompanied by debates on more fundamental issues such as the difference between "e-Government" and "e-Governance."

There is a need to explore these two concepts, which have been used loosely and interchangeably to refer to just about all forms of technology in government, ranging from the mere computerization of elementary tasks, to the outright transformation of communities into e-Societies. There is also a need to clarify the operational definition of e-Governance, to ensure that it develops in a deliberate, holistic, and systematic way, and to manage the accumulation and furtherance of knowledge about the field. This allows lessons to be shared and best practices to be replicated or adapted in relevant, context-specific ways.

This paper seeks to facilitate the holistic, systematic development of e-Governance as a field, by fulfilling three objectives. First, it analyzes the multidisciplinary nature of e-Governance by breaking it into six perspectives, therefore providing alternative approaches to understanding e-Governance and undertaking e-Government initiatives. Second, it provides a framework that facilitates the systematizing of current and future materials into an organized body of knowledge. Third, it identifies a method for identifying research issues, gaps in knowledge, and future research directions.

1.1 Fundamentals and Perspectives of E-Governance

E-Governance versus E-Government

The terms "e-Governance" and "e-Government" are not used interchangeably in this study. Of the two, e-Government is the narrower term, referring to a transformation of the business of government (processes, operations, and transactions) driven primarily by ICT [1]. Transformation is both external (through simplified, enhanced government-client interactions via online services, no longer limited by the traditional confines of fixed office hours and physical office space) and internal (through streamlined government administration processes for greater efficiency and effectiveness) [2].

E-governance, however, is a broader term that includes transformation on at least four levels. First, it involves the transformation of the business of government (e-Government, discussed above). Second, it involves a transformation in the operational definitions of the principles upon which governance is founded, shifting towards increased participation, openness, transparency, and communication (adapted from Schiavo-Ocampo&Sundaram, 2001). Third, it involves a transformation in the interactions between government and its (internal and external) clients, classified as government-to-citizen (G2C), government-to-business (G2B), government to its internal employee clients (G2E), government to other government institutional clients (G2G), and citizen-to-citizen (C2C) (Stiglitz, et. al., 2002; Csetenyi, 2000; Heeks, 2001). Finally, it involves a transformation of society itself, through the emergence of so-called "e-Societies", made up of networks of relationships like citizen-to-citizen connections, as well as relations among non-government organizations (NGOs), built and sustained using electronic means (IADB, 2001). Unless otherwise stipulated, the broader term "e-Governance" is discussed in this paper.

The potential of e-Governance appears, at least in theory, to be tremendous. Benefits would include increased operational efficiency in terms of utilization of less time, effort, and material resources while generating the same output (due to automation, informatization, or transformation of processes), as well as increased operational effectiveness (new and better services, enhanced client convenience and satisfaction, re-engineered processes including those for leadership and decision-making). These operational gains would translate into financial returns (the monetary equivalent of time, and efforts, and other resources saved); political gains (greater participation, a wider base for democracy, and increased empowerment); relational gains in terms of new and better connections between groups as well as new forms of cooperation, collaboration, linkages, and partnerships; and even intangible gains (such as a better image for government) (Heeks, 2001; Csetenyi, 2000; Backus, 2001; Stiglitz, et. al., 2000; Von Hoffman, 1999; Lenk&Traunmuller, 2000; Aichhlozer&Schmutz, 2000; Allen, et. al., 2001).

There are, however, multiple issues also associated with the e-Governance phenomenon. For one, the practice of giving citizens direct access to government transactions via electronic means may denote the removal of human intermediaries, which may shift additional transactional burdens (such as interpretation and searching for additional information) to citizen-clients. A second issue is the danger of a transformation of front-end delivery services without a corresponding transformation of back-end support. Third, a shift to e-Governance requires an adaptation of more agile structures and processes, co-ordinated change efforts, and an increased need for co-operation between government units. It also appears that technology has ambiguous effects on productivity as well as on the phenomenon of corruption (Aichhlozer&Schmutz, 2000; Csetenyi, 2000; Wescott, 2002).

1.2 Approaches to E-Governance

A review of current literature reveals that e-Governance can be explored from six perspectives: (1) the public administration perspective; (2) the technology perspective; (3) the transformation perspective; (4) the knowledge management perspective; (5) the sociological perspective; and (6) the legal-political-economic perspective¹. A perspective in this case refers to a potential starting point and/ or the discipline emphasized within the context of a specific study, but does not imply nor advocate a purist, single-discipline approach to e-Governance.

This study proposes that while there are six perspectives to e-Governance, only two of them are fundamental: public administration and technology, which, when combined even in their simplest forms, will already yield what can be called an e-Governance intervention (for example, automating a simple government transaction via computerization). However, this study also proposes that all six perspectives are necessary if (a) e-Governance is to develop systematically and comprehensively as an area for study and research; and (b) a holistic and replicable methodology is to be formulated in the development, analysis, and evaluation of context-specific e-Governance systems and solutions. Each of the perspectives can be exploded into greater detail; though not shown in the diagram, these potential subtopics are elaborated upon e-Governance in the discussion below.

2. The Public Administration Perspective

The public administration perspective analyzes the phenomenon of e-Governance primarily as conventional governance that has been automated, improved, or recreated outright by technology (more specifically, by ICTs).

The more “traditional” public administration literature discusses how governance, particularly within democratic societies, is founded on the universally accepted principles of accountability, transparency, predictability, and participation (Schiavo-Ocampo&Sundaram, 2001). The structure of government, as well as its services, processes, operations, and culture are indelibly shaped by these principles. These facets of government are aligned towards the overall mission of good governance, which has been defined as “the exercise of economic, political, and administrative authority to better manage the affairs of a country” (Backus, 2001). Authors have also debated over the last few centuries on what the role of government is (including, for example, creating the supply and demand for necessary public goods when the market does not, as well as terminating self-destructive cycles like hyperinflation, imperfect competition, or unemployment) (Stiglitz, et. al., 2000). In addition, economists have debated on the extent to which government should intervene (*laissez-faire* or active intervention) (Erber, 1996; Friedman & Friedman, 1996).

2.1 Role and principles of governance applied within the context of e-Governance

The literature reviewed indicates that the overall mission and principles of traditional government remain the same, even in the wake of the transition into e-Governance. Government, whether in its traditional form or transformed by ICT, is therefore expected to be based on the same principles and mission. Current literature, for example, does not indicate that e-Governance seeks to shift away from existing principles (e.g. the principle of participation), but shows instead how e-Governance interventions seek to improve the degree and quality of participation, citizen communication, and empowerment (Csetenyi, 2000; Backus, 2001; Heeks, 2001; Von Hoffman, 1999). What appears to have evolved is the operational definition of the role of government in a digital society. Traditional theory on the role of government did not consider, for example, the dominant role of information as a public good, or the dynamics of externalities brought about by technology. E-governance from a public administration perspective delves into the changing role of government in an increasingly technology-based society. An example would be the study that classifies online public sector activities and services as “red light”, “yellow light”, or “green light” (that is, services that should be supplied, not supplied, or only be ventured into with great caution by the public sector) (Stiglitz, et. al., 2000).

2.2 The nature of government applied within the context of e-Governance

Public administration literature discusses the dominant characteristics of public sector organization operations, and many of the studies juxtapose government organizations with private sector organizations to highlight the differences. In these studies, it is described how public sector organizations are driven by objectives that are less clear, less economic, and more complex and multifaceted (Stiglitz, et. al., 2000; Aichhlozer&Schmutzter, 2000; Csetenyi, 2000; Wimmer&Traunmuller, 2000). In addition, the so-called customers of the public sector are much more diverse and numerous (Hendrick, 1994). As previously discussed, the public sector is bound by the principles of transparency and accountability, as well as the commitment to protect citizens. In order to adhere to these principles, certain sacrifices or trade-offs must be made (consciously or unconsciously) made. For example, processes must be fragmented (often at the expense of efficiency) into multiple jurisdictions in order to delimit power and authority (Lenk&Traunmuller, 2000), and the flow of these processes is often impeded by the need for checks and balances. In extreme cases, the results are procedural delays, red tape, and the need for structures (sometimes, redundant) for checks and balances as well as for the function of oversight (Bretschneider, 1990). Public sector organizations are also bound by the principle of participation, which means that the decision-making process becomes more complex due to the need for negotiation, consultation, cooperation, and collaboration (Lenk&Traunmuller, 2000).

E-governance literature draws heavily on studies discussing the unique nature of public sector organizations discussed above. For example, discussions on government’s cumbersome organizational structure have led to studies which touch on the issue of using ICTs to create a more streamlined and agile bureaucracy consisting of fewer departments and delivery agencies, supported by ICT-based interfaces (Aichhlozer&Schmutzter, 2000). On the other hand, discussions on government’s fragmented and circuitous processes have led to studies on how e-Governance initiatives can involve process re-engineering (Csetenyi, 2000; Lenk&Traunmuller, 2000), how ICTs can be used for automation, informatization, or outright transformation of operations (Heeks, 2001), or how ICT-based business solutions (such as the value chain, inventory management, or electronic procurement) can be applied to the public sector to achieve greater efficiency and effectiveness. Discussions on how public and private sectors differ have also led to studies that seek to explain why specific business models are applicable in varying degrees in the public sector (Thai & Grimm, 2000; Wassenaar, 2000; Csetenyi, 2000).

To a limited extent, discussions on government-specific phenomena (such as productivity in the public sector, distribution of organizational power, and corruption) have been drawn into the realm of e-Governance, in the form of studies that have looked into the impact of ICTs on such elements (Aichhlozer&Schmutzter, 2000; Northrop, et

al., 1990; Wescott, 2002). Finally, discussions on the varying levels of complexity and interactivity of government transactions have been used in e-Governance literature that tackles the different types of technology solutions that are appropriate for each level (Backus, 2001; Wimmer&Traunmuller, 2000; Lenk&Traunmuller, 2000).

3. Relationships of government applied within the context of e-Governance

Traditional public administration assumes that government interacts with individuals, communities and groups, businesses, and other government units, but does not dissect the dynamics that govern each. E-governance literature, on the other hand, gives considerable attention to the subject of government's relationships with different kinds of clients. E-governance literature captures these relationships using new terminologies and discusses how these are transformed given the ICT-driven recreation of government. The Government maintains at least five types of relationships with both internal and external parties: G2C (government-to-citizen); G2B (government-to-business); G2G (government-to-government); G2E (government –to-employee); and C2C (citizen-to-citizen) (Stiglitz, et. al., 2002; Csetenyi, 2000; Heeks, 2001). Among these five, the most extensively discussed is the relationship between government and citizens (G2C). The relationship between government and citizens can be split into two dimensions: the relationship with citizens as participating members of a democracy, and the relationship with citizens as consumers of government goods and services (Aichholzer&Schmutzter, 2000; Heeks, 2001) On the issue of citizens as participating members of a democracy, studies have been concerned mostly with how ICTs can be used to improve two-way government-citizen communication and participation (Heeks, 2001; Csetenyi, 2000), therefore leading to the concept of more highly empowered e-Citizens (von Hoffman, 1999) and building up to e-Democracy (Backus, 2001). Other studies show how ICTs may increase participation in terms of volume of participants, but how the quality of communication may actually be adversely affected due to the ease with which exchange can take place (what the author terms "a decline in the deliberative value of communication") (Bimber, 1999). With respect to citizens as customers, studies have been concerned mostly with how ICT-enabled interfaces can break through traditional geographic and time barriers to government service (physical offices and office hours), introducing the possibility of 24x7 access to electronic information and transactions within a single, integrated window (Lenk&Traunmuller, 2000). The Studies suggest that ICT-driven reforms lead not just to improvements in service (Wescott, 2002) but also to innovations in products and services delivered (Heeks, 2001). Other studies surface specific issues like the dangers of shifting burdens onto the citizen (mentioned previously) (Aichholzer&Schmutzter, 2000)

3.1 The Technology Perspective

The technology perspective analyzes the phenomenon of e-Governance as hardware, software, and systems solutions applied specifically within the domain of the public sector. Studies that take a technological perspective begin with or emphasize technology concepts and solutions, and then describe or recommend how these can be utilized within the context of the public sector. Related literature on technology upon which e-Governance studies have been built include:

Theories and concepts on various types of technologies

E-governance draws on theories and concepts that discuss the fundamentals of hardware, software, and systems, and present solutions that are appropriate for the support of various organizational goals. For example, the three basic types of information systems (transaction processing systems, management information systems, and decision support systems), can be applied within an e-Governance context by discussing what aspects of public sector operations each one is appropriate for (TPS for structured tasks of an operational nature, MIS for semi structured tasks for monitoring and control, and DSS for unstructured tasks of a strategic nature) (Hendrick, 1994).The bulk of the technology-oriented e-Governance literature reviewed for this study presents specific cases of ICT solutions to e-Governance needs. Often these studies involve cases wherein a technology solution is required for a specific purpose in a specific domain. Examples of cases range from interventions in the areas of e-Administration, e-Citizenship, and e-Societies for developing countries (Heeks, 2001); federal- and local-level interventions in large and developed countries like the United States (Dean, 2000; Cats-Baril& Thompson, et. al., 1995); a comprehensive tax-filing system for a city-state like Singapore (World Bank Group, 1992); and context-specific IS solutions for one country (South Africa) (Kahn &Swanborough, 1999). These cases discuss the specific contexts and requirements as well as the ICT solution proposed (either partly or fully implemented).

Other studies present hierarchical or stage-based models for technological solutions, instead of the technological solutions per se. Government websites, for example can have four levels of interactivity, ranging from mere information to integrated services (Backus 2001). Public sector firms can be in any one of four categories with respect to the state of its information systems, ranging from initiation to integration (Caudle, 1992). Electronic information dissemination in the public sector can take any one of six patterns (such as point to point, point to server narrowcast, narrowcast, or broadcast) (DeConti, 1998). The depth of change effected by ICT can be at any one of

three levels in a given domain: automation, informatization, or transformation (Heeks, 2001). Finally, there is the proposition that e-Governance transactions of varying levels of complexity must be addressed using different technological solutions (Lenk&Traunmuller, 2000).

Management of technology dimensions :

One of the themes and decisions with respect to the management of technology solutions in e-Governance is the question of centralizing or decentralizing the authority for technology (specifically, information technology) within an organization (Sambamurthy, 1999; Heeks, 1999). A “spin-off” issue to this is whether to centralize or decentralize functions and activities that are heavily IT-enabled (such as e-procurement) (Thai & Grimm, 2000). Second, there is also the question of whether to contract out, or retain in-house, the development of ICT solutions (Globerman& Vining, 1996; Gordon & Walsh, 1997; Heeks, 2001). Third, there is also the issue of whether to take an incremental or holistic approach towards implementing (information) technology solutions in the public sector, and whether solutions should be designed for specialized or comprehensive functions (Hendrick, 1994). In terms of critical success factors, e-Governance studies draw on the literature and findings of technology as a discipline, in order to identify which factors are critical to the success of e-Governance. Infrastructure, the presence or absence of IT standards, and the degree of homogeneity of existing data have been identified as some of the determinants of success (Backus 2001; DeConti, 1998).

The Transformation Perspective:

The transformation perspective focuses on e-Governance as the end product of a process of planned and managed change. E-governance intervention processes considered in this study often resemble a strategic management cycle, or a change management cycle. Studies that take the transformation perspective focus on one or a combination of stages of these processes (environmental scanning; setting of goals, plans, and objectives; formulating strategies; implementing plans and strategies; evaluating actual progress and outputs vis-à-vis plans) Compared to the volume of literature available under the two previous perspectives, a smaller number of studies have taken a process orientation towards e-Governance (this is true for the other three non-fundamental perspectives as well). Most studies that did take a transformation perspective took a descriptive rather than a prescriptive approach.

Internal and external environmental scanning :

The strategic management concept of conducting a SWOT analysis (strengths-weaknesses s opportunities-threats) has been applied to the area of e-Governance. Two clusters of studies are presented: those that propose frameworks, and those that describe actual applications. An example of a proposed framework is the identification of four groups of critical factors (political, social, economic, and technological) that affect the success of e-Governance initiatives (Backus 2001). A second is the identification of six critical areas that must be evaluated in order to gauge a domain's readiness for transformation into e-Governance (Heeks, 2001; see also footnote 1). Kotler et al., (1997) formulate a framework (also embodying a SWOT approach) that assesses a nation's capabilities in order to identify a nation's positioning for competitive advantage, its supporting strategies, and its policies. Kotler's approach, however, has not been applied specifically to national-level e-governance strategy formulation. Other studies have applied variations of the SWOT approach to specific contexts. A study of e-Governance in New Zealand proposes that the key issues in the transformation were “not technological or legislative, but cultural and social” (Boyle, 2000). Singaporean e-Governance missions, goals, and strategies have been contextualized amidst cultural, political, and economic conditions (Gurbaxani, et. al., 1990). The slower progress of Asia-Pacific governments in adapting e-Governance has been attributed to a variety of cultural, political, and institutional factors (Wescott, 2002).

National and local e-governance plans and models; alternative approaches to e-Governance

A number of national-level e-Governance plans have been documented or summarized. These plans generally take the form of targets, agendas, or guiding principles documented in government reports and articles. The United States, for instance, has four main points in its e-Governance agenda: creating one-stop access points for government information, putting forms online, using e-Commerce for government procurement, and leading in protecting online privacy (Stiglitz, et. al., 2002). The United Kingdom's e-Governance objectives include, among other things, universal Internet access and all government services online by 2005 (Hudson, 2001). In the Philippines, plans for putting government online are documented in a formal report, the Philippines' Government Information Systems Plan (ITECC, 2001). Apart from the actual targets, there have been occasions wherein the process of selecting among alternative strategies to e-Governance has explicitly discussed, or can at least be inferred from documentation of actual experience. Selecting an approach is needed because sometimes multiple courses of action are possible at decision points of the process. In terms of focus, for example, one proposed approach is the customer-centered approach to e-Governance, advocated for its favourable financial implications due to its ability to

reduce complaints, provide better information on operations, increasing service volume, and reducing time spent on non-customer activities (Deloitte, 2001). In terms of depth of utilization of technology, an approach would be the six-stage approach to e-Government, beginning with the establishment of e-mail systems and ending with what is termed as “joined-up government” (Wescott, 2002). In terms of driving force, a possible approach would be a government-driven top-down method, as seems to be the case in Singapore. Finally, in terms of magnitude of change advocated over a given period, there have been three possible paths identified in Canada that can be taken with response to the digital agenda: resistance, status quo incrementalism, and radical adaptation (Allen, et al., 2001).

Business concepts and solutions in e-Governance; Evaluation in e-governance:

E-Governance literature draws from business concepts and applications and applies them to public sector contexts as well. For example, the concepts of performance reviews and quality can be applied for the purpose of transforming government (Aichhlozer&Schmutzer, 2000). Some facets of business process reengineering (such as customer responsiveness, goal orientation, and the empowerment of lower levels for decision-making) can be applied as well (Csetenyi, 2000). Innovative management approaches such as Total Quality Management in government can be used to improve government operations (Hendrick, 1994), and the notion of a modified value chain is applicable for public sector processes (Wassenaar, 2000). Although these concepts are non-technological in nature, they are nevertheless aspects of organizational transformation which must take place hand-in-hand with technological transformation if e-Governance interventions are to be successful (Aichhlozer&Schmutzer, 2000). Apart from evaluation mechanisms for project-level ICT interventions in government and the difficulty of quantifying such, at least one study has proposed a metric for e-Governance success: service relevance, citizen and business satisfaction, and the preservation of public trust (Momentum, 2000).

The Knowledge Management Perspective :

The knowledge management perspective posits that the transformation to e-Government is driven primarily by taking the perspective that knowledge (along with knowledge in its lower level forms, data and information) is not just an abstract notion, but a vital resource of individuals, organizations and society. This paradigm shift leads to major transformations in the way knowledge is embodied (in the digital economy, it usually takes an electronic form) and in the processes involved in its management, resulting in far-reaching human, organizational, and societal impacts.

Knowledge: paradigms, processes, and systems :

For purposes of this study, the term knowledge is assumed to be inclusive of its lower forms, including characters, data and information. In terms of its operational definition, knowledge can be seen from at least five perspectives: a state of mind, an object, a process, a condition of having access to information, or a capability (Alavi&Leidner, 2001).

In terms of its role in public organizations and in society, knowledge is “a non-consumable resource which can be given away while still being retained by the owner”, which can take various forms in the public sector: knowledge about the policy field, previous actions, rules and constraints, as well as an employee’s own capabilities (Lenk&Traunmuller, 2000). Knowledge is managed through a cycle that can be divided into four phases: creation, storageand retrieval, transfer, and application, with information technology being applied in various ways under each phase (Alavi&Leidner, 2001). Alternatively, the cycle can be dissected more minutely, with sub-processes such as creating, acquiring, accumulating, representing, sharing, improving, protecting, evaluating the value of, and measuring the impact of knowledge (Csetenyi, 2000). These stages have been useful in surfacing knowledge-related organizational issues applicable to e-Governance. One issue on storage, for example, is the fact that knowledge can be retained not only in physical or digital repositories, but also in human ones. On the other hand, one issue related to identification is the difficulty of pinpointing when important knowledge actually begins to exist, given its nebulous form and the fact that even the people possessing such knowledge may not be aware of it (Lenk&Traunmuller, 2000). A third issue is that of combining and recombining knowledge within the context of an “information ecology” (instead of treating it like flows in an information superhighway) to make it most useful (Laskowski, 2000).

The knowledge management process in general has become increasingly important in the public sector due to a number of factors (among them the increasing number of knowledge intensive services, and the increase in networked organizations) (Csetenyi, 2000). A few studies have gone so far as to say that knowledge management fulfils a primary role in e-Governance. Information management, for example, has been identified as “the central theme of government transformation” in a study discussing innovations in South Africa (Kahn &Swanborough, 1999), while knowledge management itself has been identified as one of four perspectives from which e-Governance can be analyzed (Lenk&Traunmuller, 2000).

Benefits and issues of knowledge management :

Computerization (and, implicitly, computer-based knowledge and information) has diverse benefits, two of which are technical payoffs (increasing operational efficiency by supporting storage, manipulation, and analysis of data) and power payoffs (redistribution of power) (Northrop et. al., 1990). The former has been widely discussed, though at times refuted by certain phenomena such as the productivity paradox (Aichhlozer&Schmutzter, 2000). Less explored is the notion of the impact of knowledge access on power distribution. One belief is that providing citizens with knowledge and information about political processes, services, and choices will transform a passive citizenry into an active one (Backus 2001). It has also been asserted that “people with the best information often fulfil their objectives, and that those who control information (as well as computing) resources have affective power” (Kraemer & King, 1993). E-government therefore “implies a fundamental change in the knowledge distribution for an activity, especially in what concerns processes beyond internal structures...with e-government, domain knowledge, which has formerly been possessed nearly exclusively by authority’s internal members and infrastructure, is distributed over network and telecommunication facilities to the citizens and to the business partners” (Wimmer&Traunmuller, 2000).

There are, however, a number of issues associated with knowledge management in the public sector. The expected redistribution of power has not occurred, contrary to proposed theory (Northrop, et al., 1990). Also, there are multiple changes that must take place in government practices (redesigning work so that loss of knowledge is minimized, taking deliberate efforts to build up institutional memory) if knowledge management is to thrive within a public sector domain (Lenk&Traunmuller, 2000).

The Sociological Perspective:

The sociological perspective analyzes the phenomenon of e-Governance in light of how it influences and is influenced by the needs, wants, and behaviours of social entities (individuals, groups, communities, and nations). E-governance has drawn from the sociological dimension in terms of: (a) human behaviour (for example, one study has looked into the life of the ordinary citizen, identified the most significant “life events”, and structured websites accordingly) (Hudson; 2001); (b) citizen behaviour (one study has sought to understand if and how citizens' contacting patterns change when a new communication medium, specifically the Internet, is introduced) (Bimber, 1999); and (c) human behaviour vis-à-vis technology (now a field called “social informatics”, defined as the field that “examines the development, use, and consequences of information technologies in cultural and institutional contexts”) (Kling 1999).

Also, various sociological factors affecting the success of e-Governance interventions have been identified, including education, income levels, IT literacy, and diversity of culture and language (Backus, 2001). The link between e-Governance and sociological variables may be explained in part by the phenomenon of Internet access (that is, demographic factors impact on Internet access, which in turn influence access to web-based government services). The phenomenon of the digital divide can be traced to a variety of demographic factors such as gender, age, marital status, and ethnicity. However, it must also be noted that the digital divide is a multifaceted phenomenon which may also be attributable to factors such as educational attainment and income levels (Turban, 2000), which are more economic in nature, and would more appropriately fall under the next perspective.

The Legal-Political-Economic Perspective:

The legal-political-economic perspective analyzes the phenomenon of e-Governance as both a product and determinant of external forces such as laws, the distribution of power across sectors of society, economic activity, as well as the complex interplay among such. E-Governance has been drawn into the realm of the external environment in the following ways:

Economic dimensions:

Factors such as economic structure and prevailing business models are deemed to have impact on e-Governance in society (Backus 2001). On the other hand, attempts have also been made to study how e-Governance can also influence economic targets and indicators, and how it can be harnessed for the purpose of meeting objectives of development (Heeks 2001). Other studies have also sought to examine the effect (albeit ambiguous) of technology on productivity (Aichhlozer&Schmutzter, 2001); the competition issues that arise for private vendors because of government's provision of online information (McMullen, 2000); and the impact of computerization in the public sector on levels of net employment (Kraemer & King, 1986).

Legal-political dimensions :

Political conditions (political stability, the philosophy and relative influence of existing leadership and stakeholders) also influence the probability of success, as well as the form of and approach to e-Governance (Backus, 2001). Alternatively, e-Governance can also be the means to achieve political objectives such as redistributing power or increasing citizen empowerment (Wimmer&Traunmuller, 2000), perpetuating prevailing policy and existing attitudes (Kraemer, 1986), or achieving a greater level of democracy via electronic means (Backus, 2001). The shape of the legal landscape can also influence e-Governance, at least indirectly: patterns of

public policy appear to have influenced the development of the Internet(Suarez & Guillen, 2000), which in turn would have repercussions on access to web-based government services.

4. CONCLUSIONS

The framework has at least three possible applications that contribute to the systematic understanding and development of the field of e-Governance:

First, it identifies e-Governance's core elements; facilitating analysis for complex e-Governance issues and presents components that make up the e-governance dynamic, and presents six different starting points for understanding e-Governance, allowing a choice in terms of "entry point" into the field. The multi-perspective approach helps debunk the notion that a single discipline (like technology) has monopoly over e-Governance, and is the panacea for all governance, as well as all e-Governance, problems. At the same time, the analysis disaggregates e-Governance into its basic elements, therefore keeping the complexity of the e-Governance phenomenon at more manageable levels by allowing the isolation of dynamics and causal relationships within, between or among selected disciplines. This will, in complex situations, facilitate identification of root causes of problems, delimit potential target areas for intervention, and allow generic e-Governance solutions to be analyzed and subsequently customized based on variations in one or more of the six elements. Note also that the six-perspective approach, when methodically incorporated into each stage of the strategic planning process, also helps ensure a holistic approach to the planning, development, implementation, and monitoring of an intervention.

Second, it provides taxonomy for systematizing current and future literature on e-Governance. The framework allows studies of a similar nature to be clustered together, which in turn juxtaposes similarities and contradictions among similar studies. It can easily be used as a diagrammatic representation of how current research is quantitatively distributed across the different disciplines, and helps in the identification of gaps in knowledge. Third, it can be used (in current and modified forms) for identifying future intra- and interdisciplinary research areas. The public administration box, for example, can be split into at least three sub-topics discussed: "Goals", "Nature", and "Primary Relationships". "Primary Relationships" can be exploded into G2C, G2B, G2G, G2E, and C2C.

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