

Using Social Exchange Theory to Identify the Main Factor Affected By Interaction among Local Agencies in Developing Countries

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Abstract— *Government agencies usually rely on information services provided by other government agencies. This condition makes electronic (e-) interactions critical to business management conducted between active organizations. Government-to-government interaction provides governments the opportunity to offer new interaction channels with different governmental departments and business organizations, which leads to improvement in government performance and efficiency. Few studies have identified the significant factors that may affect the e-interaction among public agencies, especially local ones in developing countries. Therefore, this study uses social exchange theory as a basis to identify the most important factor that may be affected by the e-interaction among local agencies in developing countries.*

Index Terms—*E-government, electronic interaction, G2G, local agencies, social exchange theory.*

I. INTRODUCTION

Information and communication technology (ICT) has become one of the building blocks of modern society [1, 2]. Apart from playing a key role in the social, economic, cultural, and political growth of nations, ICT has revolutionized the way people live, think, and perform certain tasks. ICT has also helped countries achieve their goal of good governance. According to Salamat, Hassan, and Muhammad [3], governments in developing countries aim to provide their citizens with services through the ICT mechanism. Thus, ICT has brought numerous improvements to government services, including voter registration, online voting, renewal of driver's licenses, and so on [4].

The electronic (e-) government field (also known as electronic governance and digital government) emerged in the late 1990s [5]. However, research on this phenomenon is relatively new [6]. The shift from traditional government to e-government is a significant public policy issue for technologically advanced countries. However, Gilaninia et al. [7] stated that such a shift does not mean the end of the work of public administrators. E-government refers to the use of technologies (e.g., wide area networks, the Internet, and mobile computing) by government agencies to transform relationships with citizens, businesses, and other branches of government [8]. These technologies can provide citizens with better governmental services, thereby improving public interaction with business and industry, empowering citizens through access to information, and ensuring efficient governmental management [9].

E-government has undergone numerous changes, corrections, and improvements since its inception [10], and its development in the 21st century is inevitable. In fact, almost every country and government in the world today has implemented e-government in a particular manner. Countries also have their own visions, roadmaps, and objectives for the future course of their e-government strategies [11]. Wang and Hou [12] pointed out that although all governments have many commonalities in their functions, structures and processes, e-government implementations are not homogeneous.

Wang and Hou [9] suggested that governments have to explore new relationships among their agencies as well as partnerships with the private sectors to ensure the high quality and accessibility of e-government activities. Klischewski and Abubakr [13] said that, to fulfill their strategic objectives, the governmental agencies have to share information and link their administrative processes.

II. MOTIVATION OF STUDY

Safdari and Zarei [14] stated that governmental agencies usually rely on information services provided by other government agencies. This condition makes e-interaction crucial for effective inter-organizational business management in government. This type of interaction is known as government-to-government (G2G) interaction. Such interaction facilitates information availability and sharing across all government levels and improves the efficiency of government activities [12].

According to Alzahrani [15], G2G activities enable governments to provide new interactive channels with different governmental departments and business organizations, which leads to improved government performance and efficiency. Unfortunately, despite the importance of sharing information in government operations, this practice remains a major challenge in the field of G2G worldwide [16].

Pardo, Cresswell, Dawes, and Burke [17] asserted that leaders and information technology executives in the public sector have increasingly recognized the significance of sharing inter-organizational information to improve the efficiency of government agencies. However, information sharing involves complex interactions among different government agencies [18].

Bigdeli, Kamal, and DeCesare [19] stated that despite the active research and practice on e-government and information sharing, this field lacks a comprehensive framework to examine the factors that might affect e-information exchange among government agencies at the local level.

Scholars and practitioners argued that the most important interactions occur at the local level. However, studies on local e-government practices are few, particularly in developing countries; thus, more knowledge about these interactions should be generated [20]. Additionally, the interaction among government agencies, especially in developing countries [21], requires systematic investigation because of the range of challenges posed by e-government in these places. Therefore, the purpose of this paper is to identify the factors that may affect e-interaction based on social exchange theory (SET).

III. TYPES OF E-GOVERNMENT INTERACTIONS

E-government facilitates interaction between different stakeholders in governance. According to scholars (e.g., [22, 23]), four main types of interactions exist in e-government. These are G2G, government to citizens (G2C), government to business (G2B), and government to employees (G2E). These interactions are described as follows:

A. G2G

In this case, ICT is used not only to restructure governmental processes and functions but also to enhance the flow of information services within and among various entities. This kind of interaction, which can be both horizontal and vertical, is limited to the sphere of government. Horizontal interaction refers to collaboration among various government agencies as well as among various functional areas within an organization. Vertical interaction is among national, provincial, and local government agencies as well as among various levels within an organization. The primary objective of this type of interaction is to increase efficiency, performance, and output. In the present study, the interaction examined is that between the agencies within a local government; thus, it is horizontal.

B. G2C

In this type of interaction, the interface created between the government and citizens benefits the latter in terms of efficient delivery of various public services. Through G2C interaction, public services become widely accessible and the quality of these services is improved. The citizens can choose when or how often to interact with the government. For example, they can interact with the government frequently if e-government services are offered 24 hours a day or 7 days a week. Furthermore, the citizens have more choices of where (e.g., in a service center or in one's home) and how (e.g., face-to-face, through the Internet, or by telephone) to interact with the government. Thus, the primary purpose of this type of interaction is to make the government citizen-friendly.

C. G2B

In this kind of interaction, e-government tools are used to help the business community experience seamless interaction with the government. G2B interaction aims to cut red tape, save time, reduce operational costs, and provide a more transparent environment for businesses when dealing with the government. G2B initiatives may be transactional, that is, they may include licensing, releasing permits, and revenue collection. Such initiatives may also be promotional and facilitative, as observed in the trade, tourism, and investment areas. These measures help create a friendly environment for businesses, thereby enabling the latter to perform efficiently.

D. G2E

Governments are large employers, and similar to any organization, the government has to interact with its employees regularly. The interaction between the organization and the employee is a two-way process that can become fast and efficient with the use of ICT tools. Effective G2E interaction can increase the satisfaction levels of employees.

IV. G2G INTERACTION ISSUES

The G2G sector serves as the backbone of e-government, which involves data sharing and e-communication among governmental actors. At the same time, G2G involves both intra- and inter-agency exchanges at the federal level as well as exchanges between and among the federal, state, and local levels [24]. Scholars suggested that for the e-transactions of different government levels with citizens and businesses to be successful, governments should first improve and update their respective internal systems and procedures.

As is well known, e-government allows interaction without the constraints of time and location [25]. The concept of e-government is an attempt to provide more convenient access to government information and services to citizens, business organizations, and government agencies. In addition, e-government becomes an important tool for the public sector not only in providing e-services to citizens but also in interacting with businesses, other organizations, and governments [26]. According to Al-Khoury and Bal [22], G2G represents the backbone of e-government. Joia [27] reported that the use of traditional government processes between two or more public agencies consistently leads to lower efficiency and effectiveness, which results in higher costs than those of similar services in the private sector.

One of the main concerns in this area is that G2G interaction in the public sector may increase evaluation or feedback because it makes governmental processes and activities more transparent. Reduced cost and increased productivity, accuracy of information, sufficient information for decision making, and improvement of networked collaboration among governmental organizations are some of the perceived benefits of e-information exchange [28]. In addition, G2G helps governments improve and accelerate the

interactions among different government agencies [15]. Jaeger [29] stated that G2G enhances government transactions and ensures that tasks are completed consistently. In addition, G2G speeds up and facilitates networked information among different governmental departments. Information flows easily and smoothly, thereby reducing wastage of employee time and minimizing costs.

V. E-GOVERNMENT IN DEVELOPING COUNTRIES

How business is performed and how organizations compete have been revolutionized by the growth of digital connectivity, major developments in ICT, and global competition. Lee and Luedemann [30] said that the ongoing popularity of the “e-” trend, such as e-business, e-government, and e-learning, fosters an ever-increasing demand for interactions across organizational boundaries. E-government pertains to the use of ICT, particularly the Internet as a means to attain better government. ICT has been applied to the government sector for the past 20 years to improve operational efficiency [31].

E-government has been considered as a novel approach to enhance public sector operations in both developed and developing countries. However, according to Schuppan [32], only a few studies have focused on e-government in developing countries. Furthermore, despite the developments in e-government, the failure rate remains high. Heeks [33] stated that only 15% of developing countries were successful in implementing e-government whereas 85% failed. Heeks also categorized the outcomes of e-government applications into total failure, partial failure, and success. Total failure occurs when the initiative has never been implemented or has been implemented but abandoned immediately. Partial failure happens when the major goals for the initiative have not been attained and/or significant undesirable outcomes have been observed. Lastly, success takes place when most stakeholder groups have attained their major goals without experiencing major undesirable outcomes.

VI. E-GOVERNMENT AT THE LOCAL LEVEL

A local government can be defined as a city, county, parish, township, municipality, borough, ward, board, district, sub-district, or other general-purpose political subdivision of a state or a country. In other words, it is a county, municipality, city, town, township, local public authority, school district, special district, intrastate district, council of government, regional or interstate government entity, or agency or instrumentality of a local government; a tribe or authorized tribal organization, native village or organization; and a rural community, unincorporated town or village, or other public entity, for which an application for assistance is made by a state or political subdivision of a state [34]. Moreover, a “*local Government is often portrayed as representing the highest form of decentralization*” [35:4].

Countries must strengthen their e-government initiatives to accommodate the new model of using the Internet, telephones (traditional public or private lines), fax, personal digital assistants, computers, and mobile devices in domestic and international governmental interactions [36]. Besides offering the typical national government services, including registrations, customs, taxation, and elections, local governments have direct contact with citizens through the provision of a wide range of necessary services. Specific e-government services being offered at the local level are increasing [37]. G2G involves public services delivery from government to other governmental agencies at the local, regional, or inter-/national level [38]. According to many researchers, several initiatives and frameworks exist for central e-government applications, but a solution suitable for local e-government applications at the agency level has not been developed [39, 40].

Research on this area has focused mainly on the national level and few studies address the issue at the local level [41]. In addition, theories and models for e-government at the local level are lacking. Thus, research focusing on local e-government is necessary [19]. The present study attempts to fill the gap.

VII. SOCIAL EXCHANGE THEORY

According to Bensaou and Venkatraman [42], several theoretical bases, such as transaction cost, organizational, and political economy theories, have been used in the literature to explain inter-organizational cooperation. Kumar [43] criticized the literature on inter-organizational information systems because of its emphasis on technological and rational/economic perspectives. The author argued that, in addition to these perspectives, a socio-political view should be incorporated into the analysis. This view suggests that human exchanges are formed and sustained by a subjective cost–benefit approach. The more valuable the information received in the exchange, the greater the frequency of interaction [44].

Premkumar and Ramamurthy [45:306] said that “[SET] provides the foundation for the study of relationships between organizations”. This perspective emphasizes that the relationship between organizations does not necessarily have to be directly related to any economic outcomes [46]. According to Blau [47], social exchange is a highly significant process in social life, and it underpins the relationships between groups as well as between individuals. Numerous studies employ SET to explain knowledge sharing [48].

Additionally, Prekumar and Ramamurthy [45] said that SET had been used by Information System (IS) researchers as the theoretical background to investigate various antecedents of inter-organizational relationships through non-economic elements that affect the formation of relationships, such as power, trust, and interdependency. According to Son, Narasimhan, and Riggins [49], SET is well suited to analyzing inter-organizational exchange relationships.

Developed by Blau [47], SET posits that people look for balance in their exchanges with one another and consequently eliminate dissonance or stress that may result from their relationships [50]. Trust and power are the two most commonly studied aspects of SET, according to Ray [51].

Research suggests that trust leads to communication openness and information sharing, as well as commitment between organizations, thereby increasing cooperation [52]. Emerson [53] emphasized the role of power in exchange relationships, explaining that the relative powers of the involved parties are determined by their relative dependence on each other [54].

According to Hart and Saunders [55], power is defined as the ability of a firm or organization to exert influence on another firm or organization to act in a prescribed manner. Therefore, the powerful actor in a relationship may influence the other party to comply with the demands of the powerful party [54]. This approach assumes that the weaker party's actions can be influenced by the ability of the stronger party to control certain rewards and sanctions [56]. The role of power in inter-organizational relationships has been examined based on interdependencies between organizations. In an exchange relationship, the dependence of one party on the other is related to the need to maintain the relationship to achieve desired goals [57]. Most of the studies in this area have investigated the dependencies between organizations and found that the power relationships are based on inter-organizational resource acquisitions. However, Saunders and Clark [56] said that these studies do not address the extent to which power can force an organization to engage in a certain activity in which it would not otherwise participate. The authors further noted that "if an organization would have taken a certain activity anyway, power was not the cause for the action's occurrence. For instance the action may have [been] taken because of perceived benefits to the organization" (p. 10-11).

As mentioned in the earlier parts of this paper, trust is the most important factor when agencies use ICT in sharing information with the government. Figure 1 illustrates the main idea presented by the present study.

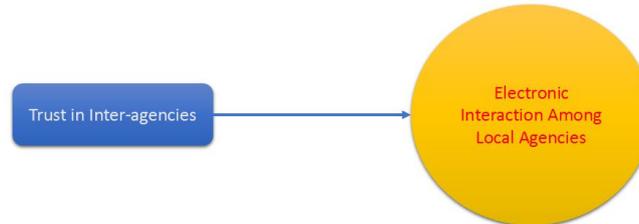


Fig 1. Effect of Trust on Electronic Interaction

VIII. INTER-AGENCY TRUST

Trust has been identified as a fundamental element in successful inter-organizational systems [58]. Trust pertains to the belief that the trustee will act cooperatively to satisfy the expectations of the trustor, and while doing so, the trustee will not exploit the trustor's vulnerabilities. For example, a trusted social network involves a set of collaborations among actors who participate in inter-organizational information sharing, and more importantly, who trust one another at the fundamental stage of information exchange [19]. Trust has several aspects that include competence, benevolence, and integrity [59]. Furthermore, trust is considered as crucial in social exchange relationships [47]. Bradach and Eccles [60] pointed out that trust is often used to minimize uncertainty or vulnerability in exchanges, especially when people have insufficient knowledge or experience in such exchanges. Research suggests that trust leads to communication openness and information sharing as well as commitment between organizations, and therefore increases cooperation [52]. Inter-agency trust refers to the belief that an agency will perform actions that will have positive outcomes for the other agency, and that neither agency will perform actions with potentially negative results [61].

IX. CONCLUSION

ICT is a powerful tool for reinventing local government agencies. It encourages transformation from the traditional bureaucratic paradigm that emphasizes standardization, departmentalization, and operational cost efficiency, to the e-government paradigm that emphasizes coordinated network building, external collaboration, and customer service. ICT has played an increasingly important role in the public sector. Many experts have highlighted the potential contribution of ICT to enhance interaction, transparency, and openness of public sector entities as well as to promote new forms of accountability. With the new and constantly changing nature of ICT in 21 century. Unfortunately, limited research has focused on using ICT in government agencies, particularly at the local level. Thus, this study aims to investigate the G2G interaction among local agencies, as well as the most significant factor that is needed to increase information sharing among such entities. Future research may involve testing the effect of this factor in an actual government agency in a local government. In addition, this field need more investigation in the developing countries because there are scarcity of the research in this area.

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