

CONCEPTUALIZATION OF E-GOVERNMENT INTEGRATION STUDIES

¹FATMA MOHAMED AL-BALUSHI, ²MAHADI BAHARI, ³AZIZAH ABDUL RAHMAN,
⁴HASLINA HASHIM

^{1,2,3,4}Department of Information Systems, Faculty of Computing, Universiti Teknologi Malaysia, Johor,
MALAYSIA

E-mail: ¹phdis@hotmail.com, ^{2,3,4}{mahadi, azizahar, haslinah@utm.my}

ABSTRACT

E-government integration has gained interest of researchers from different perspectives. Some have studied it from organizational perspective; other researchers have proposed models and recommended solutions for technical problems in some systems. Other researchers deal with integration interoperability or information sharing and often focus on integration in other domains (e.g., supply chain management). Yet, not many efforts are dedicated towards e-Government integration conceptualization. This paper renders a panoramic overview on the past development, present status and future trends of e-Government integration. This comprehensive and systematic assessment on existing literature is hoped to serve as taxonomy for navigating and understanding the research advancements towards e-Government integration. Based on a content analysis method, this paper identifies e-Government integration stakeholders, useful theories applied, and research methods employed. Our findings suggest that there is a strong need for a better understanding of what are valuable and compelling conceptions of e-Government integration and who are the stakeholders involved. The lack of e-Government integration research is now recognized; despite much research on the e-Government integration is far from being understood.

Keywords: *Integration, E-Government Implementation, E-Government Integration, Nvivo Software, Content Analysis*

1. INTRODUCTION

The main philosophy of e-Government is to develop and/or boost the competence of service deliverance in the public sector via the usage of information technology (IT), information communication technologies (ICT)s, and other web-based telecommunication technologies. Apart from intensifying the governance process, e-Government endorses and advances wide-ranging stakeholders involvement towards the national and community development. The prime objective of e-Government projects implementation is to provide essential services needed for the stakeholders with a single access point [1, 2].

In the 21st century IT era, the demand in consolidating, unifying, and providing transparent services via e-Government to public is ever-increasing. Hence, precise e-Government integration is expected to play a significant role in achieving the desired maturity of e-Government [3,4]. Moreover, enhanced efficiency, superior access to government services, better government services, more transparency resulting from

government reform, low corruption levels and more citizen empowerment are the prerequisites for successful execution of e-Government projects [5]. Recently, e-Government integration projects are inspected from different perspectives including pure technical and managerial aspects. However, comprehensive evaluation reflecting the complex interaction with projects such as legislative, institutional, development concerns and barriers are not carried out. Therefore, the integration projects in e-Government suffer from utter failure with risk due to multifaceted constraints [1]. Successful integration in overcoming those shortcomings remains a challenging issue in many e-Government projects implementation.

Following [6-8], this article attempts to provide a somewhat complete and detailed survey on the conceptualization of e-Government integration, its notable advantages, and future implication towards societal developments. Up-to-date research articles on e-Government integration are systematically synthesized, analyzed, and critical evaluation is made. The current status and future trends on the e-Government integration is underlined.

The structure of the rest of the paper is as follows: the next section, Section 2 introduces the research methodology used to select suitable publications for this research. This is followed by Section 3 that emphasizes the careful literature review which consists of stakeholders, useful theories, and applied research method. The final section, Section 4 concludes the paper with further outlook towards e-Government integration.

2. RESEARCH METHODOLOGY

To conceptualize the e-government integration efforts done so far, the authors applied the guidelines as suggested by [9]. The guidelines, known as content analysis method has been employed in this study to explore the current status of e-Government integration literature.

2.1 E-Government Integration Studies

Applying the content analysis method require this study to determine enormous amounts of articles from the existing studies that are relevant to the e-Government integration topic. In doing this, full-text articles in Elsevier, Web of Science, Science Direct and Emerald databases were extracted to ensure an extended search from multiple disciplines. This search covers the literature published between 2000 and 2014. The main keywords employed in the academic search were limited in extent to the title and body text search by selecting keywords, namely, 1) e-Government, 2) e-Government integration and 3) e-Government implementation. The first phase of search yielded 500 studies. By filtering through the abstracts, 467 articles that were found to be irrelevant to the topic being investigated were eliminated. The remaining 33 articles were chosen since they were closely related to the e-government integration (see **Table-1**).

Table-1. The Literature Of E-Government Integration

Publication	Number
Journal :	
<i>Government Information Quarterly</i>	12
<i>International Journal of Information Management</i>	3
<i>Transforming Government: People, Process and Policy</i>	3
<i>Social Science Computer Review</i>	1
<i>Journal of Enterprise Information Management</i>	1
<i>Journal of E-Government</i>	1
<i>Public Management Review</i>	1
<i>International Journal of Electronic Government</i>	1

<i>European Journal of Information Systems</i>	1
<i>Industrial Management and Data Systems</i>	1
<i>International Journal of Public Administration</i>	1
<i>European Scientific Journal</i>	1
Conference:	
<i>IEEE Aerospace Conference</i>	2
<i>International Conference on Digital Governmental Research</i>	2
<i>Hawaii International Conference on System Sciences</i>	1
<i>International Digital Government Research Conference</i>	1

Table-1 shows the sources of publication on e-Government integration literature. The overall analysis on the research outlets indicated that a total of 16 different sources of publication were used to publish the 33 research articles being examined. Following this, the study critically reviewed each paper and identified various stakeholders, theories and research methods (as will be discussed in the following section) have been used. However, the literature survey discloses that articles on integration in government related issues are scarce. Existing research articles mostly focus on other domain such as in supply chain management. It is worth mentioning that there may be some important articles that were excluded due to our limited scope and strategies [10].

2.2 Analyzing Tool Used for E-Government Integration Studies

Today, the usage of a tool to analyze qualitative data for reviewing the literature is becoming popular. There exist few applications that can be used, such as NVivo and Atlas/ti. In our case, we employ NVivo 10 by utilizing the coding and analysis strategies [11,12] that is being offered by this tool. To do this, all 33 articles as identified earlier are archived and enlisted in this NVivo tool. Next, we used the two-levels coding concept in order to get a well-defined of themes from the studies. Here, the first level of coding was aimed at capturing the content that is related to each main category or concept as core structure which is known as 'nodes' in the NVivo. At first, the coding was executed within the first 12 articles from the data set to ensure that we really captured the necessary category that represent the essence on e-Government integration studies. Whilst in the second phase, all categories resulted from the first phase were analyzed in detail. By looking at the similar concepts within each category, we were able to redefine, merge and dissolve some of the categories where necessary. Finally, the remaining articles (i.e., 21) were then coded in a similar way. The deeper findings and the processes of supporting

the analytical results are explained in the next section.

3. STATUS OF E-GOVERNMENT INTEGRATION

Here we provide a descriptive overview of e-Government integration by recalling 33 extracted articles from different disciplines. **Figure-1** illustrates the year-wise publication in terms of numbers. The need for integration studies became prominent during the Gulf War (i.e., early 1990s) due to unique external and internal information requirements (i.e., necessity of information sharing with all military services involved in the conflict) [13]. Certainly, this could not be attained without the integration with other service providers. Nonetheless, the first study that mentioned of e-Government integration directly appeared in 2000 [13], where the author demonstrated the solution for e-government integration to solve the electronic records management handling between several federal agencies in the US.

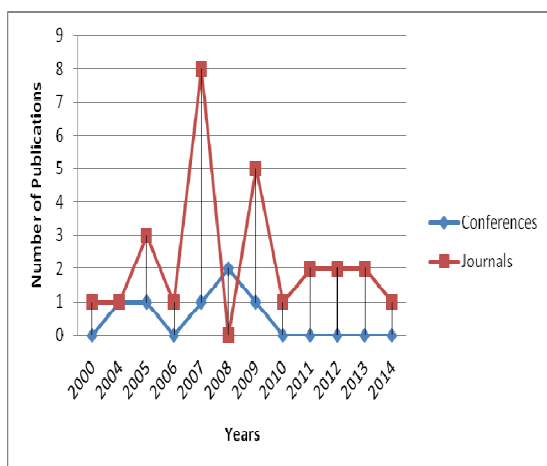


Figure-1. Year-Wise Publication On E-Government Integration

As e-Government integration studies are still in its development stage, its definition is still full of confusion. Some studies refer to e-Government integration as back-office integration of functions and the services they deliver via processes and IT [14,15]. Others refer to organizational and governance aspects [16]. There are also themes that relate to government approach [1,17], in terms of being managed like entities; being service and customer oriented and having a provider-client relationship (e.g., service level agreements, service quality, agreement type). Governance, therefore, is implicit in the concept of 'integration' and in

themes like collaboration. [18] on the other hand, has proposed a broad definition for e-government integration as "an organizational arrangement whereby multiple organizational units collaborate in the concentration of providing accurate and timely services in a single access point to all users". Although this definition looks promising, however, it required an arrangement efforts from all stakeholders involved in e-Government integration project to overcome any obstacles that they may faced during its implementation.

There are also many obstacles that have been discussed in the literature with regards to e-Government integration studies. For instance, [19] discussed the limitations faced by e-Government integration by emphasizing a set of seventeen constraints which are classified in four categories including: i) technology; ii) strategy; iii) organization; and iv) policy. The most significant constraints comprised of goals and objectives of e-Government as well as timeframes of delivery with its ownership. The defined technological constraints include legacy systems, architectural interoperability, and standards of data. For policy barriers, this study resulted in citizen privacy, data ownership and policy implications. The organizational constrictions include the pace of government reform, legacy of government processes and management together with technical skills. In addition, it was mentioned that numerous detected constraints in e-Government integration are found in similar integration projects of the private sector. The list of constraints include the lacking of required skill set, architectural interoperability, incompatibility to data standards, and the coexistence with legacy applications.

In another study, [1] contributed to the engineering research framework over interoperation and integration of e-Government applications. For instance, [16] has comprehensively described, evaluated, and compared the core focal areas of interoperation, info-sharing and integration in e-Government projects. This was performed from a stakeholder's viewpoint on a demand basis with identification of particular constraints and weaknesses. This investigation also targeted success and failure measures in similar projects along with socio-technical processes.

Studies on e-Government integration have also proposed some model as their findings (e.g., [20 - 25]). For instance, [23] introduce a prioritized factor model that combine with an Analytical Hierarchy Process (AHP) technique as a basis of their study. The AHP technique substantially enhanced the



analysis of enterprise analytical integration adoption in local government agencies. Other studies such as [22], has affirmed that the integration challenges must be overcome by governments in order to move towards e-Government maturity. A model for e-Government maturity that contains four progressive stages (i.e., informational, transactional, process integrated and service integrated stages) of e-Government maturity is then presented.

Several studies have also concentrated more on the technical solutions for the integration purpose (e.g., [26,27,28,29,30]). For instance, [30] explained the gain of the work while working in an organization by proposing a model and its influence on homeowner insurance rate. This model being public did open new possibilities without the direct control of the related industry or the governmental policy. This remained publicly available before enforcement and during its research to evaluate the parameters and design. The model was used to set up a rate evaluation process, which is less biased and more adaptable. This considerably helped the government agencies to judge the acceptance or rejection of increased rates with proper justification independently and seamlessly without any political interest. However, the model faced severe challenges. The team recovered and encountered technical glitches and properly engineered the factor resisting and causing integration slower or failing it. [27] introduced a methodology for engineering Government-to-government systems within technology databases. It empowers NASA management, engineering, operation, and data department to integrate technology. It integrated the plan using selection, combination, extension, specialization, and modification of underlying technological components. The NASA's achievements for database "composition" and centralization helps engineering. Open sources and industrial IT systems was used to strengthen effectively the systems of technology database.

It is observed that majority of the researchers paid attention on the management or organizational aspects of integration [13,15,17,20,31-40]. According to [15], should inter organizational integration at backend exist as functionality management challenge or as a command and control challenge? This question is answered via comparative case study, where a common understanding of integration is reached. This was acquired using ongoing recognition of the interdependencies among back offices as the content of the problem and not on jurisdictions or

costs. [39] demonstrated borders of inter boundary integration and sharing of information in larger perspective for Taiwanese e-Government systems. It described the difficulty attached within boundary integration and sharing of information. The proposed model of constraints by the authors for the integration and information sharing proved its worth and become an effective mean to compute certain vertical and horizontal constraints in start-up of inter boundary integration and sharing of information e-Government projects in Taiwanese environment.

3.1 Stakeholders Identification for E-Government Integration

For accurate, reliable and efficient e-Government integration, IS research emphasizes the importance of identifying the right stakeholders [41]. Proper stakeholders' identification is a pre-requisite for the implementation and evaluation of e-Government integration [36,42,43]. From the literature, the authors have found only one paper which highlights the stakeholders role in the adoption of technology integration solutions in UK local governments [38].

Table-2 enlists the stakeholder categories

Table- 2. Categories Of Stakeholders [38]

Stakeholder Categories	Stakeholders	Role or Domain of Expertise
Decision makers	Head of IT/ICT, Board of directors, Chief Executive Officers, Chief Information Officers	E-Government integration initiative managers/ e-Government project managers
Management	Top Organizational Managers, Project Managers, Project Champions, Web Managers	Leading e-Government Projects, Business Systems Strategy, e-Government Investment Supporters
IT/IS staff	Service Delivery Managers, Development Support Engineers, System Integrators	E-Government project implementation, Organizational IS/IT

It has been shown that an extensive research is needed to better understand stakeholders within e-Government integration. As various interests and power from diverse stakeholder categories can be a success or failure issue for e-Government integration. Subsequently, research is obliged to further expand and re-determine the categories presented and empirically validate these initial findings. Supplementary development of the



preliminary stakeholder categories should not only address the identity of stakeholders and their specific interests but must relate them in achieving the goals of e-Government integration. In our opinion, for better understanding of different stakeholders and their diverse interests, it is important to resolve the following issues:

- 1) Identify the right stakeholders for e-Government integration project.
- 2) Determine precisely the roles and interests of stakeholders in relation to the e-Government integration.
- 3) Establish the interests of stakeholders in fulfilling the e-Government integration objectives.

As a first measure, it is worth to give a lot of attention to e-Government integration stakeholders and their interests. However, it is not only adequate to advance academic comprehension and determine managerial implications. It is recommended that further research should be conducted on how the stakeholders of the e-Government integration projects should be managed with their interests. This can be notified by a hypothetical establishment that expands on stakeholder theory as evolved in the management literature. This also can present insights about how top management of the e-Government integration project can manage and engage the stakeholders. Alternatively, it can render insight on how stakeholders can influence the e-Government integration project as an example of the stakeholder influence strategies [44].

3.2 Perspective on E-Government Integration

The prior section of the paper shows a synthesized overview of stakeholders. While this investigation demonstrates the developing significance of e-Government integration phenomenon, it additionally indicates numerous gaps that warrant consideration. For future IS research in e-Government integration domain, it is essential to explore the literature on e-Government integration and present an overview about the theories employed and the research methods applied.

1. Theories of E-Government

Generally, theories are introduced for describing, explaining and enhancing the understanding of a phenomenon. It also predicts future happening and provides a foundation for interference and action (Gregor, 2006). The progress and relevance of a theory rely on improving the research standings in certain area and its future directions. Actually, this works as an intellectual and practice domain.

Foundation of every discipline is based upon theories and principles. This fact is accepted by the scientific community and practiced by professionals and industries. The detail search survey identifies a total of six theories (i.e., with three studies combined two of them) as enlisted in **Table- 3**. They are Needs and Wants Theory [1,16], Stakeholder Theory [1,16,36], Institutional Theory [20,35], Technology Enactment Theory [20], Grounded Theory [17], Theory of IT Conversion effectiveness [17]. There are three studies applied two theories simultaneously e.g. [20] used Institutional Theory and Technology Enactment Theory; [1] implemented Needs and Wants Theory and Stakeholder Theory and [16] applied Needs and Wants Theory and Stakeholder Theory.

Table-3. Theories Used In The Literature For E-Government Integration

Paper No.	Studies	Theory	Application of Theory
1	[1]	Needs and Wants Theory	To understand, evaluate, and analyze e-Government integration processes as well as their association and impacts.
2	[16]	Needs and Wants Theory	To ensure project foci and suggest feasibility of covering and ready to facing constraints and weaknesses of the processes to have desired outcomes.
3	[38]	Stakeholder Theory	Focuses on the people instead of the technical factors. It looks at who (or what) are the stakeholders of an organization, to whom (or what) organizations should pay attention.
4	[1]	Stakeholder Theory	To provide a reference frame for analysis and exploitation of processes and results of e-Government interoperation and integration.
5	[16]	Stakeholder Theory	To ensure project foci and purposes, this might meet limitations and constraints, leading to project-related processes and results.
6	[20]	Institutional Theory	To describe the impact and effect of mentioned technologies according to their architecture and generated information for revamping the organizational structure



			and functional norms.
7	[35]	Institutional Theory	Advantageous of situating organizations within a broader institutional field, which shapes its structures and practices in important ways.
8	[20]	Technology Enactment Theory	Explains the effects of organizational forms and institutional arrangements on the information technology used by government agencies.
9	[17]	Grounded Theory	Theoretical contribution showing limited case study to illustrate the application of the idea of the value generated by e-Government to generating value in the public sector.
10	[17]	Theory of IT Conversion effectiveness	Evaluate and maximize the value generated by e-Government projects, with a special focus on service-based IT integration projects.

The existence of less theory may be due to the fact that e-Government integration is a relatively new research domain. This would require more explorative and clear methodologies for strengthening. Therefore, it is too soon to give any profound bits of knowledge into the progress and relevance of theory. Rather than debating on the developmental aspects, this work intends to provide a descriptive overview of the distinctive theories used so far on e-Government integration.

The “Needs and Wants” theory is functional in e-Government integration [1,16]. It is used to establish a zero point for concluding the findings and suggesting future measures that needs to be taken in exploring e-Government interoperability and integration research [1]. Besides, it is implemented to ensure project foci and purposes, which might meet limitations and constraints, leading to project-related processes and results [16]. Needs and Wants theory is useful for the IS discipline as it can help to understand the requirements from e-Government integration and the barriers for practical realization. Both works offered insights about the different needs and requirements from the e-Government integration and expected outcomes. In addition, several constraints that hinder in attaining them are revealed. For instance, [19] has identifies different challenges that were organized into four groups (e.g. strategy, technology, policy and organization). The strategy barriers include (e.g. common e-government goals and objectives, delivery

timeframes, and ownership and governance), the technology barriers include (e.g. architecture interoperability, data standards and legacy systems). The policy barriers are citizen privacy, data ownership and policy implications. The last category of challenges is organizational, which consists of (e.g. pace of government reform, legacy government processes, and management and technical skills) [18, 56].

The Stakeholder theory is another theory that can be applied to focus on the people aspects instead of the technical factors [1,16,38]. This theory examined at who (or what) are the stakeholders of an organization and to whom (or what) organizations should pay attention [38]. It is employed as a central theme for understanding and associating the functionality and its advantages attached with e-Government integration and interoperation required to be detected by the stakeholders of the e-Government integration project [1]. This theory is also applied to ensure project foci and purposes by meeting limitations and constraints. This leads to project-related processes. The results are applicable without knowing the stakeholders of e-Government integration project as well [16]. Stakeholder theory requires an understanding of different types of stakeholders to get the full picture about the right and activities in the e-Government integration project. It is essential to know the stakeholders role especially in the public sector because of its diversity and hierarchal layers of authority.

E-Government integration can also be realized from Institutional Theory perspective. [20] applied Institutional Theory to comprehend the organizational settings because it helps to reveal the true impact of IT over institutional structure, decision making, designing, and implementation of IT in an organization. [35] also used Institutional Theory to take the advantage of situating organizations within a broader institutional field, which shaped its structures and practices in important ways. Therefore, Institutional theory is important for explaining e-Government integration effects over organizational settings.

[20] applied Technology Enactment Theory to determine the effects of organizational forms and institutional arrangements on the information technology used by government agencies. Moreover, the Theory of Grounded Approach or Process Theory Approach is implemented [17]. This theory is utilized to support the theoretical contribution. It revealed basic verification of the adopted case study and explained the



implementation idea for value generation. Especially, for electronic government service oriented integration of information technology towards value creation in the public sector this theory worked well. Theory of IT Conversion effectiveness is employed to compute and enhance advantages provided by certain projects of e-Government focusing service oriented integration of information technology projects [17]. Usually, most investigations included two theories to analyze and understand e-Government integration [1,16,17,20].

Yet, the lack of emphasis of IS literature on e-Government integration requires IS researchers to contribute more towards the understanding of e-Government integration. It is asserted that [45] IS is becoming noteworthy scholarly patron to its reference disciplines and additionally to other disciplines. Early understanding and distinguishing this capability of IS may add to confine the future research on e-Government integration research. Based on the analysis and discussion of the diverse application of theories used to understand e-Government integration the following questions for future research are posed:

- 1) Which theories are suitable for describing and/or explaining e-Government integration in IS?
- 2) Which theoretical consideration is valid for e-Government integration?
- 3) Which theoretical consideration will go beyond the e-Government integration decision and challenges?

Since the number of indigenous theories in IS discipline is rapidly growing [46], research on e-Government integration could possibly influence IS-specific theories related to governance, organizational design and sourcing. E-Government integration research could likewise add to the further advancement of these theories. In addition to the application of theories, the researchers too set out to distinguish the improvement of indigenous e-Government integration theory. To the best of our knowledge, no attempt is made so far to develop indigenous e-Government integration. Nevertheless, there is a need to create indigenous e-Government integration theory. It is additionally worth debating regardless of whether IS research could add to an indigenous theory on e-Government integration and whether this could or should be IS-specific. The application and development of indigenous, IS-specific theories on e-Government integration is still in its infancy. The following questions are put forward for future research:

- 1) What indigenous IS-specific theories are applicable for describing and/or explaining e-Government integration?
- 2) What is the role of the IS domain in creating indigenous theory on e-Government integration?
- 3) Should the indigenous theory be IS-specific?

So far, only a few articles on e-Government integration applied theory, mostly dealt with only one theory. The application of multiple IS-specific theories in e-Government integration may promote the question of whether the theoretical variety is helpful and preferable or not [47]. A multi-theoretical concept on e-Government integration can provide for several diverse aspects of IS e-Government integration. This means that diverse theories seem to be as complementary and the research may advance by applying integrated multi-theoretical methods and frameworks. On the other hand, a multi-theoretical concept on e-Government integration recognizes the early, pre-paradigmatic period of e-Government integration research. This signifies that various theories are considered as contending and further research is needed to examine their legitimacy. The following questions are proposed for future research identifies with the capability of theoretical variety for e-Government integration in the IS domain:

- 1) Is e-Government integration research going to gain from several theoretical viewpoints?
- 2) Should e-Government integration research apply different theories from other domain of study?
- 3) Are diverse theories in e-Government integration research seen as complementary or competing?

2. Description of Research Methods

The purpose of this section is to analyze the nature of the research approaches so far applied on the e-Government integration. This also builds a point of reference for future research. All selected articles are included in the analysis and not all of them are applied to the research method. Following [48], the articles are grouped into empirical and non-empirical categories. Articles that contain data through qualitative, quantitative or mixed approach including archival data are grouped in empirical class. Those empirical articles were classified into sub categories by applying the classification framework of [48]. In addition to the original sub categories of survey, case study, laboratory experiment, and field experiment and action research, two more categories are made. The first is based on archival analysis [47,49,50] and the



second is based on design science [51,52]. These sub categories are incorporated due to their popular and emergent trends within IS research (see **Table-4**). The coding of e-Government integration articles found that they are mainly focused on case study (13) and survey (1) research methods. This shows that e-Government integration research still on its emerging stage.

Table-4. Methods Applied For Empirical And Non-Empirical Research

Authors & Years	Practical Experiences	Conceptual	Survey	Experiment	Case Study	Action Research	Archival Analysis	Design Science	Others
[15]	-	-	-	-	√	-	-	-	-
[37]	-	-	√	-	-	-	-	-	-
[34]	-	-	-	-	√	-	-	-	-
[36]	-	-	-	-	√	-	-	-	-
[24]	-	-	-	-	√	-	-	-	-
[38]	-	-	-	-	√	-	-	-	-
[19]	-	-	-	-	√	-	-	-	-
[20]	-	-	-	-	√	-	-	-	-
[35]	-	-	-	-	√	-	-	-	-
[16]	-	-	-	-	√	-	-	-	-
[17]	-	-	-	-	√	-	-	-	-
[53]	-	-	-	-	√	-	-	-	-
[39]	-	-	-	-	√	-	-	-	-
[40]	-	-	-	-	√	-	-	-	-

In the empirical articles (**Table-4**), case studies are used as main research methodology. Case studies being popular in IS research are used to gather rich data [48]. Truly, e-Government integration being as emerging phenomenon requires in-depth investigation of rich contextual data. This clearly authenticates the importance of the case study method in e-Government integration. It is affirmed that [54] case studies are most prominent in the very early phases of a field's maturity where qualitative and exploratory work is essential to derive a common understanding of the core concepts of the field. Commonly, quantitative approaches, such as surveys and experiments are applied in later phases of maturity. In this standpoint, IS researchers are required to pay more attention to the articulation of the e-Government integration research method. This ensures the

inclusion of all essential aspects such as selection, design, transparency, and conduct of the research approach. Furthermore, the necessity for conducting more rigorous empirical work on e-Government integration is demanded. Specifically, the IS researchers can contribute to the understanding of e-Government integration by accomplishing further exploratory research in e-Government integration using other than cases studies research method.

4. CONCLUSION

We carefully scrutinized and analyzed the current understanding of e-Government integration via a systematic literature survey. Though e-Government integration is discussed in literature and regarded organizational arrangement in government organizations, the current body of knowledge in the IS discipline remains limited. There is a strong need for better understanding of what are valuable and compelling conceptions of e-Government integration and who are the stakeholders involved. The lack of e-Government integration research is already recognized [1,16]. Despite much research, the e-Government integration is far from being understood.

This paper, therefore, attempted to lay a foundation for advancing the understanding of e-Government integration from IS perspective by synthesizing the current literature and proposing a research agenda. It is asserted that IS-specific research in e-Government integration essential due to the conceptual foundation of research in e-Government integration with respect stakeholder perspective is not yet well-established. Following [38] the stakeholders classifications is performed by identifying their lacking in e-Government integration. An analytical overview of theories and methods used in the research on e-Government integration is emphasized. Majority of the articles are found to employ single theory and few used combination of theories. Certainly, the limited attention to theory and the shortage of articles clearly indicate that e-Government research is in the conceptual stage. The potential development for theoretical research on e-Government integration from an IS perspective is emphasized. Presently, all the empirical studies on e-Government integration are observed to use case study as dominant research method.

Future work on e-Government integration in the IS discipline must be undertaken with appropriate methodology [55] to enhance the awareness. Thus, the present communication must not be treated just

as a comprehensive review on e-Government integration, rather it should be considered as a guide to perform productive future research in the relevant domains.

There are some limitations on producing the paper because the coding has been done by one coder so, further validation and testing of the outcomes presented here is warranted to confirm the findings. Providing justice to this upcoming and emerging field is very difficult. A thorough and careful literature analysis on conceptualization of e-Government integration is made to establish a foundation for future research in IS discipline. We strongly advocate extending the research on e-Government integration to IS and beyond. This contribution may constitute a basis for consolidating and advancing e-Government integration conceptualization within and exterior of IS.

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