

Factors Affecting the Adoption of e-Government in Kuwait: A Qualitative Study

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Abstract: Previous research on information quality and organizations performance focuses on private sectors and pays little attention to governments and public organizations. To the best of the researchers' knowledge, e-Government success literature has rarely investigated information quality as a contributor to the success of e-Government initiatives in Kuwait. This paper aims to understand the factors that may influence or hinder for enabling e-Government strategic benefits in Kuwait. Data were collected from 31 employees through one-on-one interviews at three e-Government Kuwaiti agencies namely, Ministry of Justice, Ministry of Finance and Public Authority for Civil Communication. The study findings revealed that several themes (i.e. information quality, strategic benefits, and institutional values) were observed to achieve better e-Government Benefits. The research also reveals some new drivers (Cost saving and customer satisfaction) and barriers (e.g. Nepotism and Wasta) to improving organizational performance. These results and their implications to both theory and practice are described.

Keywords: Information Quality, Organizational performance, E-government, Qualitative research, Kuwait, Arab World.

1. Introduction

E-Government services increasingly centre on the needs of both citizens and businesses. At the same time, government leaders and e-Government proponents seek streamlined and efficient internal transactions and services. This requires the interoperation and collaboration of government agencies and their respective Electronic Government Information Systems (EGIS) across different levels and departments (Wohlers *et al.*, 2012; Yusuf *et al.*, 2016). The core issue of e-Government integration and interoperation is information sharing (Scholl and Klischewski, 2007). Yet, information can be shared on fairly different levels of quality and in many different ways, requiring different degrees of integration (Pedersen, 2016; Oni *et al.*, 2016). Furthermore, government organizations who engage in information sharing projects tend to have multiple views on the required quality of information exchanged. Information sharing participants' perceptions of information quality vary, and dependant on their role (information providers, users, and managers) (Alenezi *et al.*, 2015). Different perceptions of these participants need to be understood in order to enable organizations to better manage their resources and operation.

A considerable amount of literature is published on information quality dimensions and assessments (e.g. Wang and Strong, 1996; Kumar *et al.*, 2007; Masa'deh, 2012; Jimenez *et al.*, 2014), organizational performance assessment (e.g. Masa'deh, 2013; Abbasi *et al.*, 2015; Obeidat *et al.*, 2016) and e-Government benefits (e.g. Li and Feeney, 2014; Alenezi *et al.*, 2015). There is also a growing body of literature that focuses on the relationships between information quality and organizational performance (e.g. Kerr and Norris, 2004; Batini *et al.*, 2009). However, detailed explanation of these relationships is either non-existent or insufficient (Jaklič *et al.*, 2011; Alenezi *et al.*, 2015). Only few studies discussed the direct connection between information quality and organizational performance. For instance, Campbell *et al.*, (2004) investigated the linkage between information strategy and organizational performance and demonstrated that there is a positive link between information quality and organizational performance by calculating the return on investment. This conclusion is also supported by the findings of the cost-benefit analysis conducted by Kerr and Norris (2004) and Alenezi *et al.* (2015). Slone's (2006) conducted a comprehensive study of these links and noted that the organizational performance can be improved by focusing on information quality. Although the aforementioned studies contributed greatly in developing an understanding of the impact of the information quality on organizational performance, they did not offer answers to the questions of how and why information quality affects organizational performance. Having highlighted some limitations of the literature to date, this research fills the

gap in understanding the relationships between information quality and organizational performance. Thus, this research acquired an in-depth explanation and understanding on factors that may influence or hinder for enabling e-Government strategic benefits in Kuwait.

The structure of the paper is as follows. Section 2 reviews the relating literature. Section 3 presents the research methodology used in this study. Data analysis and result discussion are presented Section 4 and 5 respectively. Section 6 concludes the paper.

2. Literature Review

2.1 Information Quality

Considerable research attention has focused on the need for a rigorous definition of information quality (e.g. Wang and Strong, 1996; Obeidat *et al.*, 2012; Ayala and Franch, 2014, Alenezi *et al.*, 2015; Sharma *et al.*, 2017). In 1958, for instance, Maffei wrote, “a theory of the cost and value of information is needed. We need to know quantitatively what price is being paid by deviating from a ‘best’ course of action and weigh this against the cost of getting better information” (Maffei, 1958). In describing this as a cost issue, Maffei was referring to cost in the broadest possible sense, including such notions as opportunity cost and the cost of making poor decisions based on inferior information. Similarly, Trueblood (1960) focused on what was at the time the newly emerging field of operations research. As he defined it, “the purpose of operations research is not to replace management judgment but to provide more and better information”. Academics and practitioners have defined the concept of quality in different ways and perspectives. For example, among the earliest proponents of quality as a management concept was W. Edwards Deming, best known for his contribution to the industrial reconstruction of Japan after World War II. In recognition of this work, the Japanese Union of Scientists and Engineers established the Deming Prize in 1951 to distinguish businesses, which achieved a certain level of quality. Deming (1982) asserted that quality improvements inevitably lead to productivity improvements, hence enhancements in competitive position. In Deming’s view, low quality wastes effort and production capacity and causes reworking, each of which brings down productivity, increases cost and has the potential to damage a firm’s reputation.

Information quality literature provides a detailed classification of the dimensions of data quality; however, most dimensions contain discrepancies in their definition owing to the contextual nature of quality. The six most important classifications of quality dimensions are provided by Jarke *et al.* (1995); Wang and Strong (1996) and Wand and Wang (1996). By analyzing these classifications, Catarci and Scannapieco (2002) reported that a basic set of data quality dimensions, namely, accuracy, completeness, consistency and timeliness, which form the focus of most studies, can be defined. Indeed, Wang and Strong (1996) define accuracy in terms of the extent to which data are seen to be correct, reliable and certified. Michnik and Lo (2009) specify that data are accurate when the data values stored in the database correspond to real-world values. Completeness is defined as the degree to which a given data collection includes all the data describing the corresponding set of real-world objects and entities (Alenezi *et al.*, 2015). The consistency dimension refers to the violation of semantic rules defined over a set of data items. With reference to the relational theory, integrity constraints are a type of such semantic rules. In the statistical field, data edits are typical of the semantic rules allowing for consistency checks (Batini *et al.*, 2009). A vital aspect of data is of being updated over time. The main time-related dimensions proposed in the literature are currency, volatility and timeliness. Redman (2005) provide very similar definitions for timeliness and currency. Liu and Chi (2002) assume the same meaning for timeliness, while Bovee *et al.*, (2003) provide a definition for timeliness in terms of currency and volatility. The definition of currency expressed in Bovee *et al.*, (2003) corresponds to timeliness as defined by Liu and Chi, (2002). This comparison shows that there is no agreement on the abstract definition of time-related dimensions; typically, currency and timeliness are often used to refer to the same concept.

Batini *et al.* (2009) however argues that there is no general agreement as to which set of dimensions defines the quality neither of information nor on the exact meaning of each dimension. Furthermore, major approaches to managing information quality, namely, Total Data Quality Management (TDQM); data production maps and benchmarking are discussed. Most of the frameworks and approaches proposed for managing information quality are derived from an analogy between physical product manufacturing and information product manufacturing (Wang *et al.*, 1995; Wang and Strong, 1996; Wang *et al.*, 1998; Scannapieco *et al.*, 2005; Smith *et al.*, 2014).

2.2 Quality of Information in e-Government Services

Essential to the ability to manage something is the ability to measure it; managing information quality therefore may not be done properly without measuring it appropriately (Tarhini *et al.*, 2015; Sharma *et al.*, 2015). Ballou and Pazer, (1985) recognized that information quality is a relative rather than absolute term. In support of their work, they proposed a model for evaluating the magnitude of errors. They also identified four dimensions as relevant: accuracy, timeliness, completeness and consistency, and proposed measurements for each in terms of its differential in relation to some reference point. Taking a rather different approach, Agmon and Ahituv (1987) applied the concepts of quality control theory, as used in industrial engineering, to the issue of data reliability in information systems. In doing so, they subdivided the concept of data reliability into three components: internal reliability, relative reliability, and absolute reliability. In their use of the terms, internal reliability is most closely associated with what they call commonly accepted data use and characteristics, such as allowing positive values for quantities only in an inventory control system. Relative reliability is measured against user requirements, such as requiring that every vendor should have the name field specified. Absolute reliability is measured against experience and verified by observation (Zeist and Hendricks, 1996).

Against this backdrop, many researchers remained focused mainly on accuracy, considering others of less importance. Paradise and Fuerst (1991), who focused their efforts on a proposed formula for computing a stored error rate, defined this as a combination of the ratio of a particular data element classified as being in error and the percentage of times when the element was classified as correct, weighted by the probability, as measured by random samples, that any given element will be in error. Despite their limited focus, Paradise and Fuerst (1991) provided a valuable contribution to the field of data quality management. For instance, while noting that nearly all the previous literature they had reviewed relied upon the use of internal control processes, such as audits, rather than a quantifiable mechanism such as a calculated error rate, they observed a lack of research seeking to apply the quality control methods of manufacturing to information processing. In this context, Paradise and Fuerst (1991) proposed the metaphor of data as raw material being consumed by a data manufacturing system to produce information. They however, noted that data unlike most raw materials is not consumed when processed and therefore may be reused repeatedly.

Some of the main goals of e-Government are to improve the quality of the service, increase the efficiency of administrative processes and enable governments to more effectively participate and engage with service users (Helbig *et al.*, 2009; Nripendra and Dwivedi, 2015). Hence, the attainment of e-Government goals is of strategic importance for governments. The benefits to be expected from the previously discussed strategies, such as better services, operational savings and increased programme effectiveness, can be gained from these information-sharing initiatives (Zheng *et al.*, 2009). Nevertheless, researchers such as Scott *et al.*, (2011) and Zheng *et al.* (2013) suggest that little research has been conducted into identifying the measures that determine e-Government success when enhancing the capacity to share information between organizations.

The focus of the project was on improving the organizational service of the agencies involved by improving the quality of the information which they could collect, maintain and provide, and by improving the sharing of this information between agencies. E-Government websites have as their main goal to provide better and more convenient services to citizens and institutions (Gouscoset *al.*, 2007; Dolson and Young, 2012; Casalino, 2014). Less time is spent on travelling and waiting. In addition, online services are quicker than face-to-face services. From the government's standpoint, the more citizens use e-Government initiatives which are designed to alleviate the problem of having access to information and improve government services, the more operation and management costs are reduced (Gouscos *et al.*, 2007; Shareef *et al.*, 2011). For these reasons, governments around the world are making their services available online via e-Government websites such as South Korea, South Africa and Nigeria. In addition, several researchers (e.g. Yang and Wu, 2014) concluded that the significant barriers affecting the use of e-Government websites were the lack of information about which e-Government websites should be used and which services were available, the lack of the desired information or application forms, insufficient instructions, low confidence in the system and its slowness. By contrast, their study showed that the attractiveness of e-Government websites and confidence in the security of the system were inducements. In their research, of adaption and use of e-Government websites, Colesca and Dobrica (2008) revealed that the users' higher perception of usefulness, ease of use, quality and trust of e-Government services directly enhanced their satisfaction and implicitly the level of adoption of e-Government.

3. Research Methodology

This research takes the interpretive approach with the use of semi-structured interviews to understand the factors that may influence or hinder for enabling e-Government strategic benefits in Kuwait.

Irani *et al.*, (2005) classified research paradigms in Information Systems into two paradigms, behavioral science and design science. According to Irani *et al.*, (2005), the design science leads to create artifacts to provide solutions for business problems, whereas the behavioral science seeks to develop and justify theories explaining or predicting organizational and human behavior. Based on that, the present study can be classified under the behavioral science paradigm. In addition, methods, techniques and approaches sometimes are used interchangeably to execute tasks within the procedures of the methodology. Since IS, is multi-disciplinary with many of its aspects related to specialized subjects, the identification of an appropriate research approach is not a simple task. In addition, there is no single framework that includes all the domains of knowledge needed for the study of IS (Irani *et al.*, 2005). The information quality literature exemplifies the notion that multiple paradigms can and do survive alongside one another. Research on the topic spans multiple paradigms and includes the use of a wide assortment of methodological approaches, depending on the research question under consideration. As such, within the information quality field, the ability for an individual researcher to flexibly select from among multiple paradigms and multiple methodologies is seen as advantageous. This ability fits well within what Greene *et al.*, (2005) referred to as the “pragmatic stance”, which they described as “an inclusive philosophical framework within which multiple assumptions and diverse methods can comfortably reside” (p. 275).

3.1 Semi-Structured Interviews

Semi-structured interviewing (i.e., one way of conducting interviews) entails the interviewer a list of questions on topics referred to as an interview guide (Bryman & Bell, 2007). Also, semi-structured interview allows interviewees to talk freely about events, quality and strategy in relation to what they thought about improving information quality levels. Thus, the semi-structured interview method will be used for this study.

3.2 Research Design and Data Collection

Interviews can be highly structured, semi-structured or unstructured. In structured interviews interviewers ask each participant the same questions in the same way. A tightly structured schedule of questions is used, very much like that of a written questionnaire. The questions may even be phrased in such a way as to elicit a limited range of response. For example: “Do you think that the information quality in your organization is excellent, good, average or poor?” Bearing in mind the cost of conducting a series of one to one interviews, any researcher planning to use structured interviews should carefully consider whether the information could be more efficiently collected using questionnaires. This research has been accomplished through data collection from different public-sector organizations. First, three in-depth interviews were conducted after developing the final interview and before the pilot study commenced. The main goal of these interviews was to ensure that the meaning of the constructs under investigation was perceived correctly, and as expected by the researcher. The interviews also provided a validity check on the meaningfulness of the strategic benefits, transparency, and institutional value. The semi-structured interviews are informal that give the interviewee the chance to talk freely about events, quality and strategy in relation to what they thought about improving information quality levels. The qualitative interviews are conducted face-to-face, communicating directly by the author. Interviews are conducted with government management employees from different organizations that perform the roles of Information Providers, Information Managers, and Information Users. An example of interview’s weaknesses is that a poorly constructed interview can create bias in the interviewee’s answers (Yin, 2003). An example of a research weakness was highlighted by (Denscombe, 2007) is reflexivity, where the interviewee answers the content that interviewer wants to hear. In the interviews conducted with managers (as part of this research), they were advised that their individual participation was voluntary and that they could discontinue participation at any time. Furthermore, participants were not paid for their participation.

The primary source of data for this study was interviews conducted in Kuwait. Indeed, qualitative data were collected through interviews of selected managers and employees representing all types of participants (information providers, information managers, and information users). Consequently, participants identified in the sample are all positioned in the Kuwait government ministries. Those participants who decided to participate in the managers and employees interviews agreed to an interview schedule with the author. Complete interviews were recorded electronically, and saved only in the author’s personal computer.

Interviews are conducted with government management employees from different organizations that perform the roles of Information Providers (10 participants), Information Managers (7 participants), and Information Users (14 participants). Information systems used by the participants range from web portals, which enable public to participate in local governance activates, payments gateways, which provide alternative channels to pay for the governmental services, to static websites, which provide basic services and information for citizens.

3.3 Qualitative Analysis

There are different types of qualitative data analysis have been used across various areas of research. The two most popular types of qualitative data analysis are content and thematic analysis (Braun and Clarke, 2006). They are both used to develop a framework for describing and organizing qualitative data (Patton, 2002). In this research, the thematic analysis was used to analyze the qualitative data. Thematic analysis includes organizing principles within data into themes according to their similarities. There are a variety of steps and phases used to perform thematic analysis (Braun and Clarke, 2006). For the purpose of this research, four steps were applied following those of Braun and Clarke (2006).

- Getting familiar with data.
- Generating initial codes and themes.
- Searching for themes.
- Reviewing codes and developing analytical themes.

3.3.1 Getting Familiar with Data

This section provides some background about the interviewees including: gender, age, information sharing rule and occupation. Three e-Government agencies (A1, A2 and A3) were selected to conduct interviews namely, Ministry of Justice (A1), Ministry of Finance (A2) and Public Authority for Civil Communication (A3). To ensure a representative sample, the author collected qualitative data by conducting interviews with 31 participants. Table 1 presents a summary for the demographic characteristics and the profiles of the interviewees.

Table 1: Information on Demographic Characteristics and Profiles of the Interviewees

Demographic Characteristics	Description
Average Age	A1: 30 years A2: 27 years A3: 33 years
Gender	A1: Male 6, Female 4 A2: Male 6, Female 5 A3: Male 7, Female 4
Educational level	A1: High School & below 2, Diploma 3, Bachelor 3, Higher Education 2 A2: High School & below 2, Diploma 4, Bachelor 4, Higher Education 1 A3: High School & below 2, Diploma 3, Bachelor 3, Higher Education 3
Information Sharing Rule	A1: Users 4, Providers 3, Managers 3 A2: Users 3, Providers 4, Managers 4 A3: Users 4, Providers 3, Managers 4
Occupation	A1: Employee 4, Section Head 4, Manager 2, Director or above 0 A2: Employee 3, Section Head 1, Manager 2, Director or above 1 A3: Employee 4, Section Head 3, Manager 2, Director or above 2

3.3.2 Generating Initial Codes and Themes

There are two methods that can be used to generate codes and themes, manual and computer- assisted methods. In this study, the manual method was used as it allows more flexibility and also makes it easier to get the big picture from the data. To generate the codes, different colour highlighters and multiple folders were used. In addition, multiple readings of the transcripts were undertaken to allow the development of principles and constructs regarding potential codes. The next section presents the results of searching for themes and codes, through interview quotes, to gather interview-based codes.

3.3.3 Searching for Themes

This section discusses some of the research findings derived from the analysis of the interview data. These findings emerged from the process of reading and reviewing of text segments. The collected codes were grouped into sub-themes and themes. The themes, sub-themes and codes identified can be shown in Table 2.

Table 2: List of themes, sub-themes and codes

Themes	Sub-themes	Codes
Information Quality	Sound Information	Accuracy Completeness
	Useful Information	Objectivity Interpretability Relevancy
	Dependable Information	Security Timeliness
	Usable Information	Believability Accessibility Value added
Strategic Benefits	Costs	Costs savings Time and efforts
	Decision Making	Agility and efficiency Empowerment
	Service Quality	New and Innovative e-Services
Institutional Values	Institutional Image	Responsibility
	Credibility	Transparency Accountability

4. Data Analysis

This section presents the findings of the qualitative data analyzed using thematic methods explained in the data analysis section. A thematic analysis of semi-structure interviews with stakeholders in three governmental agencies, namely, Ministry of Justice (A1), Ministry of Finance (A2) and Public Authority for Civil Communication (A3) were conducted. Ministry of Justice is one of the important ministries in Kuwait as it encompasses many departments which receive thousands of transactions from both citizens and businesses. Its work spans a wide range of legal and Justice Issues, including criminal, civil justice, arbitration and democracy and rights. Ministry of Finance is one of the central and core agencies of Kuwaiti government. It is responsible for the public treasury, state investment, central bank, fields of international economic cooperation, budget implementation and monetary investment. The third agency is the Public Authority for Civil Communication. It is a government agency responsible for registration of population and issuing birth, death, marriage and divorce certificates as well as collecting statistics related to all civil events.

4.1 Information Quality Theme

This theme highlights the four dimensions of information, the soundness, usefulness, dependability and usability of the information produced by the e-Government websites and services. It also shows how the users perceive the product quality of information produced and the service quality of the information from the government.

4.1.1 Sound information

The findings show that sound information described as information that conforms to specific standards of quality such as accuracy and completeness contribute to both use and user satisfaction. It is closely associated with system use and net benefits, more significant than other criteria and influences the adoption of government websites (DeLone and McLean, 1992). Sound information was seen by many participants as a prerequisite to provide timely and efficient services. The importance of sound information on strategic benefits was emphasized on multiple segments in the text. In addition, many participants went beyond the link between strategic benefit and information quality to demonstrate the relationship between sound information and organizational performance. Some participants stated that sound information can lead to an increase use of e-Government services, while others indicated that sound information can improve the institution's image.

Accuracy

Most of the participants describe the quality of information provided by government websites as accurate and of high standard capable of enhancing their business goals and objectives. There has been a remarkable improvement in the soundness of the information provided by government which has resulted into an increased confidence and reliance on government information by the users. The following quotes highlight one participant perception about the importance of information accuracy.

"There is a remarkable improvement in the level and quality of information provided by government websites. Its accuracy cannot be faulted and we therefore find it reliable as we use it to pursue our business goals" [A1, User]

Participants appreciate the efforts of the government departments in ensuring the production of accurate and reliable information targeted at the needs of the business users in the economy. These efforts are yielding good results and good image for the government.

"We are satisfied with the quality of information we get from our government websites, this has helped our business to move forward" [A2, User]

"We in the government are aware of the importance of information quality in terms of accuracy and reliability; we therefore focus on producing and delivering quality information to meet the needs of our clients in their various endeavors" [A1, Provider]

The emphasis on having product quality that conforms to required standards of information needed to meet the needs of the clientele was made by government departmental staff. It was highlighted that government is concerned about the poor quality of information usually associated with the government websites and services which has adversely affected business users in particular in recent times.

"We acknowledge the need to conform to standards of information quality as this is the only way the information produced and provided will be of any good to our customers. Our efforts are therefore focused in that direction" [A1, Manager]

Completeness

The study also confirms the government's efforts in ensuring the provision of not just accurate information but sufficient information and details enough to assist the users in their business tasks. The user is able to have complete set of information in any required area and nothing is deliberately kept back or negligently missing. This was discovered to have helped the business users in efficiently and effectively carried out their tasks and meeting their customers' demand.

"Having sufficient information makes you a complete organization ready to take any right decisions, deal with prevailing situations and the constantly changing demands of the clients" [A3, Manager]

Participants also highlighted the usefulness of the complete and sufficient information in providing cost-effective services to their clients. It has minimized the time delays and costs of getting all required vital information usually achieved by going round all the government departments and running after staff officers of the departments concerned.

"Complete information helps us to answer our customers' questions quickly and effectively. It helps our staff to act quickly thereby providing better accurate and timely services to our clients" [A2, Manager]

4.1.2 Useful information

The objectivity, interpretability and relevancy of the information produced by government websites were major issues raised concerning the product quality as these determine the usefulness of information.

Objectivity

Concerns were raised about the objectivity of the information provided. While most participants believe the efforts of the government in providing complete information, the unbiased nature of the information may be of doubt. Participants are of the opinion that the government may have given out information that have been doctored to project the image of the government and to suit the best interest of the government. There is therefore the fear of the government providing information that is without bias, prejudices and impartiality.

“In as much as we trust in the accuracy of the information provided, It will still be preferred if the real information will not be replaced with government’s interpretation or opinion of the situation” [A1, Manager]

Interpretability

The product quality in terms of the appropriate symbols and languages used to enhance easy understanding and interpretability is however commendable. Information is given and translated in Arabic language which is the official language in the country. Familiar symbols are also used to emphasize the interpretation of the meanings of some sensitive information. The users are therefore at home with the information and are comfortable with it.

“We understand our culture and the demands of the society and their information requirements; therefore we keep the standards that are nationally accepted and used nationwide” [A3, User]

Relevancy

Participants also highlighted the issue of the information produced being helpful in accomplishing the tasks needed to be done in the business of the organization. Some participants however argue that most of the information produced by the government is not relevant in their businesses and therefore not applicable.

“Sometimes the information we get is not relevant to not just our business but general businesses, the government sometimes try to create an information overload with junks of information to sift relevant information which is time consuming and costly to most businesses” [A2, Provider]

4.1.3 Dependable Information

This sub-theme highlights the quality of information as a service provided by the government websites. The findings also confirm that participants were more concerned for the quality of information service in terms of the authenticity and security of the source of information, and the timely manner the information is released. In addition, the analysis revealed that Information Security is essential prerequisite for enabling e-Government. As seen by many interviewees, secure and timely sharing information is needed between the service providers and receivers to fulfil the fundamental security requirements: availability, integrity, confidentiality and control. Some of the interviewees correlated secure and timely information with cost reduction and ease of communication. Other interviewees linked between lack of security and increase in customers’ complaints. Interviewees who worked at the managerial level see that both service providers and receiver are sharing the responsibility to ensure that adequate information security measures are in place.

Security

The fear of unauthorized filtering or provision of unauthorized, unconfirmed and modified information was highlighted in the study. Doubts were raised about the efficiency of the process of passing information from one government department to the other. The possibility of introducing unauthenticated information or withdrawing authentic information raises doubt about the dependability of the information presented.

“The attitude of some government officials and the information sharing approach/system adopted by the government does not convince some of us of the ability of government websites to provide secured and dependable information” [A2, User]

“The integrity of information we use in our daily business is of paramount concern to us, our competitiveness in the industry depends very much on it, and we are therefore worried when we notice some lack of cooperation among government departments and some security lapses in the process of information sharing and processes” [A3, Provider]

Timeliness

Participants also agree that although the secured provision of information is important, but providing the information in its current state and in a timely manner gives the quality of dependability to the information. Again, some observed lack of cooperation among government departments may be slowing down the process and causing delays between the time information is received into the system and the time it is provided to the users.

“Time is of essence in our business that we rely on real-time information on events” [A2, User]

4.1.4 Usable information

This sub-theme also concerns the service quality of information and highlights the perception of the users on the credible nature of the information, the reputation of the source and the provisions made to enhance easy and effective access to the information made available. Participants were more concerned with believability, accessibility and the value added capacity of the information. Participants opined that users prefer information when it is believable and reputable, as well as beneficial.

Believability

Most participants agree to an extent that the information provided by the government websites is true and credible in spite of some chances of infiltration of the system and unauthorized modification by unauthorized people. The perceived security of the system and the obvious efforts by the government to improve the quality of information convinces the participants of the credibility of the information and the source.

“The government’s efforts and the introduction of state-of-art technologies have assured us and even the critics that we can believe the information we receive from the government” [A2, User]

Accessibility

Another major concern is the ease of data attainability and the time aspect of accessibility. Participants indicate that the ability to get access to needed information when it is needed most makes the information most usable. Participants agree that the needed information is usually available and most times can be easily and quickly retrieved by any user at any time. The websites are considered to be well designed with guides and helps to enhance direction and fast access to information. The search engines have been of tremendous help to users in finding easy and fast access to needed information.

“The websites are effectively designed to fast-track access to information” [A3, User]

“There is no restriction of access to any information put on the website; users are privileged to retrieve any information for use” [A2, User]

Value added

Participants highlighted the satisfaction gained and expectations achieved as a result of the use of the information provided by the government websites. The quality of the information assisted users in meeting their obligations to their clients which helped in meeting targets and business objectives. Participants therefore confirm that the information used as provided was beneficial and added value to their businesses.

“We are satisfied with the quality of the information as it meets our expectations” [A1, User]

Most participants also agree that providing added value information not only increases the use of e-Government, but also improves customers’ satisfaction. Some interviewees who do not have managerial responsibilities found that accessibility and believability are important enabler to increase adoption of the e-Government services.

“We do believe that providing value added services is essential to customer satisfaction. It also improves communication with our customers. Providing unbiased and credible information will be of enormous advantage not only to our customers, but also to our partners” [A2, Manager]

4.2 Strategic Benefits Theme

This theme highlights the participants views on the benefits gained from the use of the government websites. The benefits are summed up in the cost savings achieved and the ease of the decision making process that enhanced agility and efficiency in the business organizations.

4.2.1 Costs

Participants are overwhelmed with the cost savings attributed to the quality of information provided by the government information services. The time taken to search for information from the various departments of government has been reduced to the barest minimum, which has also reduced the cost of information search and cost of doing business both with the government and the clients. The cost of obtaining information from other sources that were previously relied upon, has also been scrapped since participants now turn to the government services for more reliable and free information.

“The time delay usually experienced in the past when quantified is costly in terms of customer loss, overtime paid to staff, etc. The service provided by the government has indeed brought an end to such expensive time delays” [A2, Manager]

4.2.2 Decision-Making

Good quality information has been able to simplify the decision making process of businesses. Participants finds it easy making good and quality decisions based on quality information that is readily available with unrestricted access. This has also enhanced business agility and efficiency in the ways businesses are conducted. Many interviewees link between information understandability and effective communications. Relevant information was identified by some interviewees as a necessary precondition for effective communications, while unbiased information recognized by many interviewees as an important driver of better decision-making.

“Information interpretability plays an important role in e-Government services. Easy to understand information helps us to alleviate confusion about procedures to receive e-Government services and reduce the need for further inquiries” [A1, User]

“Understandability is an essential characteristic of useful information. The lack of understandability complicates the realization of our service. Providing non relevance information can lead to delaying our services and violate the people interest” [A3, Provider]

4.2.3 Service Quality

Sound information was seen by most participants as a prerequisite to provide timely and efficient services. The importance of sound information on strategic benefits was emphasized on multiple segments in the text. Some participants stated that sound information can lead to an increase use of e-Government services. Other participants indicated that sound information can improve the institution's image.

“Complete information helps us to answer our customers’ questions quickly and effectively. In the case of presence of errors in the information, this can lead to delay our works and required us to back to our mangers” [A1, User]

4.3 Institutional Value Theme

4.3.1 Institutional Image

Most of the information users found that completeness and error free constructs are the most important aspect of sound information, which has the strongest effect on institution image. Some interviewees with management responsibilities found consistency the most important aspect of sound information and considered it as a key to develop a professional image for the organizations.

“Providing concise and consistent information will not improve our institution image, but also helps reduce problem inquiries from our partners and customers. Concise and consistence representation supports systems integration between government organizations, and when we appear integrated it’s better for our image” [A3, Provider]

Appropriate amount and relevancy were seen by many interviewees as key qualities of useful information, which influence institution image. Most of the information users correlated interpretability with ability of tracking and checking the states of e-Government services. Information managers and providers shared the same view in that relevant information is very important to organizations to save time and resources.

“I think interpretability and appropriate amount of information are the key attribute of useful information. Interpretability and appropriate amount make it easy to track and follow the status of our requests and orders and this clearly expressing the organization image” [A3, user]

Learning new services and participating in community activities were among the new codes emerged under this sub-theme. Most of the interview found that getting updated information is very essential for the image of any organization. Information users claimed that the availability of updated information encouraged them to learn about new services and participate in community activities. Most of the information managers found security issues is the key attribute of dependable information, which can affect the whole organization image. However, they affirmed that establishing and maintain adequate security measures are the responsibility of the whole community.

“Security issues play major role in shaping our institutional image. We work with our partners, providers and customers to ensure that adequate security measures are established and maintained. Access authority is well defined in our organization, and it provides us as managers a piece of mind especially in the case of sensitive information and increases our credibility in front of users and citizens” [A3, Manager]

4.3.2 Credibility

The code analysis under this sub-theme revealed that in order to maintain the credibility of an organization and to gain citizens trust, it is essential to deliver sound information. More specifically, some of the participants considered consistency and error free as a proxy for professionalism which in turn helps improve citizen retention and promotes the credibility of the organization.

“Sound Information creates confidence and respect to the work of government and enhance government image with employees and citizens. Consistency is a proxy for professionalism, which in turn helps to strengthen the institution's image. Error free information is also important to building credibility in our services” [A2, Manager]

4.4 Differences among Information Sharing Participants

The comparison of code groups across different information sharing participants revealed two main differences: a) the perspective of the information sharing participants on the most important characteristics of information quality, and b) the time when the information quality benefits can be expected. Table 3 illustrates four dimensions of information quality considered in this research. Moreover, a list of the most important characteristics of these dimensions grouped by the roles of information sharing participants.

Table 3: Dimensions of Information Quality grouped by the Roles of Information Sharing Participants

	Users	Providers	Managers
Sound Information	Completeness	Concise and Consistent Representation	Concise and Consistent Representation
Dependable Information	Security and Timeliness	Security and Timeliness	Security and Timeliness
Useful Information	Interpretability	Understandability	Relevancy
Usable Information	Accessibility, Ease of Manipulation	Ease of Manipulation and Value added	Value added

On one hand, information users are more concerned about the attributes of information quality that can help them to complete their daily tasks and jobs. On the other hand, providers and managers are more concerned about the attributes that provide strategic advantages to e-Government services. The quote below provides some examples that demonstrate these differences between the information sharing participants.

“Complete information helps us to answer our customers’ questions quickly and effectively. In the case of presence of errors in the information, this can lead to delay our works and required us to back to our managers” [A1, User]

4.5 Additional Benefits of Quality Information

Further thematic analysis also revealed other benefits of quality information on e-Government services. Some of these benefits represent almost purely individual gains such as personalisation, convenience, control and time saving. Other benefits are extended to the whole organization, including better decision support, reengineered business processes and cost saving. Although individual benefits may be small, the potential benefits for the organizations are huge. Moreover, there are also intangible benefits, which may impact organizational images and reputation such as enhancing transparency and reducing bureaucracy. The quote below support this insight and provide some of the additional benefits of quality information.

“Useful information should be appropriate in amount and relevant to ensure that it can be used to make informed decisions. Providing irrelevant information can confuse the services receivers and can damage the credibility and the image of any organization” [A1, Manager]

4.6 Challenges to the Benefits of Quality Information

Although the majority of interviewee recognized the benefits of quality information, they also noted some issues which may limit the benefits derived out from quality information. On the top of these issues are cultural and social influences. Other complicating factors that may hinder the benefits includes: lack of expertise and resistance to change. For example, managers from organizations A1 and A3, respectively, reported that:

“I think our society needs to know more about e-Government. If you ask anybody in the street, you will find the majority have no idea about it. Therefore, I think we need to raise the awareness about it before realize the benefits of e-Government” [A1, Manager]

“Connections (Wasta) in our society have a hidden force. Even though, we have resources to reap the full advantages of e-Government Wasta plays a major role in hindering e-Government initiatives” [A3, Manager]

“Lack of expertise sometimes leads citizens to not access services when they need them. Lack of in-house technical expertise can potentially create difficulties and lead to costly solutions. Staff resistance to changes can also pose a significant threat to our e-Government projects” [A3, Manager]

Cultural and social influences were seen by many of the interviewees as significant stimulus, which may have varied positive or negative effects on e-Government adoption. Some of the interviewee stated that they started using e-Government services because they saw their colleges using them. In contrast, other interviewee noted that they don’t have the expertise to use the e-Government services and they have not been encouraged to use or helped on how to use these services.

5. Discussion

The qualitative analysis revealed differences among information sharing participants in regard to the most important characteristics of sound information. In general, many of the interviewees found that concise and consistent representations are very important attributes of sound information. The qualitative analysis provided some insights on why sound information is an important enabler for e-Government strategic benefits. Based on this analysis, sound information is essential to provide timely and accurate information, which in turn leads to quick reaction to users’ needs. These findings are consistent with findings of Campbell *et al.*, (2004) who found that accuracy can positively affect organization's ability to respond quickly to customers’ needs. The analysis revealed agreement among different information participants on that security is the most important aspect of dependable information, which has influence on strategic benefits. There was also agreement among interviewees on that information security is essential prerequisite for enabling e-Government. This agrees with e-Government literature, where security and privacy have been cited frequently as a barrier to the development of e-Government (Lambrinouidakis *et al.*, 2003; Al-Shihi and McGrath, 2006).

Not surprisingly, the qualitative analysis of dependability questions revealed a deeper insight into the characteristics of dependable information.

In terms of explanation for why information security influences strategic benefits, some of the interviewees correlated secure information with cost reduction. Other interviewees linked between lack of security and increase in customers' complaints. The qualitative analysis presented several results, where the majority of the interviewees identified value-added and ease of use as the most important characteristics of usable information. Similar to useful information, most of the interviewees have linked between usable information and enhancing communications with partners and citizens.

The qualitative analysis added completeness to list of the characteristics that affects institutional value. These characteristics are vital to credibility of organizations and to strengthen their professional image. This because incomplete information can delay or stop processing e-Government transactions, which in turn can cause mistrust over the public. This corresponds with the literature findings those points out that sound information exerts a greater influence on organizational image and credibility (Nguyen and Leblanc, 2001; Rana *et al.*, 2012).

Both timeliness and security have become a priority for organizations because they not only affect the quality of e-Government services but the whole institutional image as well. In recent years, a number of reports literature findings have highlighted the relation between dependable information and organizational credibility and image (e.g. Shih and Li, 2006; Al-Shihi, 2006). The analysis also uncovered very interesting insights into the relationships between dependable information and institutional value. In addition to enhancing organization credibility and image, dependable information is a key enabler for community commitment and active participation in e-Government services. Such findings concur with literature stressing the influence of dependable information on community commitment and loyalty (e.g. Jang *et al.*, 2008). The qualitative analysis asserted that appropriate amount and relevancy are the most important characteristics of useful information that affects institutional value. Most of the interviews emphasized that relevance and appropriate amount of information make it easy to track and monitor e-Government services, which reflects directly on institutional value.

Findings also revealed differences among information sharing participants in regard to the most important characteristics of usable information. However, most of the interviewees have agreed that increase in e-Government services take-up is attainable through providing usable information. This is consistent with e-Government literature which identified information usability as a key barrier to the e-Government adoption (e.g. Ebrahim and Irani, 2005).

Results revealed some interesting insights that explained the differences among the perspective of the information sharing participants regarding the most important characteristics of information quality. Information users were more concerned about the attributes of information quality that can help them to complete their daily tasks and jobs; while employees with managerial responsibilities were more concerned about the attributes that provided strategic advantages to e-Government services. For example, users valued accessibility and ease of use over value added which was favoured by managers and provides.

Not surprisingly, the qualitative analysis added one of the excluded factors, which is introducing new and innovative e-Services. In addition, the qualitative analysis identified another three elements of strategic benefits. The three elements are (a) cost saving; (b) enhance decision-making process; and (c) improve citizen satisfaction. In the same line, previous studies has shown that there is a positive relationship between information quality and cost saving and this relationship, in turn, contribute to enhance organizational performance (Campbell *et al.*, 2004; Kerr and Norris, 2004).

As expected, some interesting insights also emerged from the qualitative analysis concerning the relationships between strategic benefits and organizational performance. These insights are centred on the explanation of how the improvement in various aspects of the strategic benefits can lead to increase the organizational performance. Some of the interviewees noted that introducing new and innovative e-Services can improve organizational performance. In addition, many of the interviewees go beyond the link between information quality and strategic benefit to demonstrate the relationship between usable information and organizational

performance. For instance, interviewees stated that usable information can lead to an increase use of e-Government services.

Results confirmed the strong relationship between all institutional value elements, including active participation in all government tiers, and institutional performance. Improvement in institutional image and credibility can greatly increase organizational performance. This is because the organizations will reduce the need to devote their resources to establish their image and credibility and will make these resources available for more productive purposes. The qualitative analysis also explained further on the relationships between information quality and organization performance. Most of the interviewees have agreed on that information, which is highly regarded in terms of its source or content, is very crucial for the organization image and credibility.

Based on this analysis, cost saving, increase citizens' satisfaction and enhance decision-making process were the most important benefits identified by the participants in this research. Cost saving is realized by utilizing organizational resources to improve their performance rather than to fix the problems of poor quality information. This finding clearly illustrates link between strategic benefits and institutional value because organizational image and credibility are the two most important attributes of institutional image.

The researchers believe that this link is a bidirectional relationship because both sides of the relationship have effects to the other side. For instance, quick reaction to users' needs, an element of strategic benefits, can lead to improved organizational image and credibility, which in turn can create closer relationships with partners and citizens. Various studies have pointed out that quality information is important for cost saving and efficiency in e-Government operation (e.g. Bertot *et al.*, 2013). Other studies reported cost saving as one of the key benefits of e-Government in general (e.g. Li and Feeney, 2014).

The qualitative analysis revealed that quality information can increase job satisfaction. Most of the interviewees stated that they are expecting quick and individual benefits from quality information. Some of the interviewees asserted that quality information empowered them and provided them with ability to exert more control over their job duties. As the focus in this research is on the perspective of different information sharing participants in e-Government, most of the interviewees' views were concerned about the insider benefits of information quality. However, the main aim of this research is to investigate the net benefits of information quality, which obviously extended to cover information sharing participants and citizens as well. Having this in mind, citizen satisfaction was one of the new benefits of information quality which emerged through the qualitative analysis. Some of the interviewees not only linked between information quality and citizen satisfaction, but also they attribute increase e-Government use to citizens' satisfaction. Gupta and Jana (2003) identified poor quality information as the major causes of citizen dissatisfaction.

Although most of the interviewees recognized the benefits of information quality, both at the individual and institutional level, they acknowledged some of the challenges and barriers which may limit the potential for positive outcomes of information quality. On the top of these challenges and barriers were cultural and social influences, lack of expertise and resistance to change.

Kuwait's social organization is predominantly tribal in nature where tribal and religious norms govern relationships among people including business and work relationships. The tribal system in Kuwait affects the role of individuals, which is reflected in the operational ethos and values of an organization. Kuwaitis depend heavily on personal and family connections "Wasta" to get work done. Wasta defined by Loewe *et al.*, (2007) as the act of asking for or benefiting from preferential treatment instead of going through official channels. Nepotism is another word for Wasta and can be defined as favoritism granted to relatives or friends regardless of merit. A good example of Wasta acts is the intervention on an individual's behalf to obtain a government services or documents. Majority of participants in that study (86%) expressed that they would use e-Government services if the importance of connections or "Wasta" was likely to be decreased in Kuwaiti society. The same participants claimed that Wasta acts contribute to maintain corruption in society and increases inequality between individuals. Many of the interviewees claimed that Wasta is negatively affecting their performance. For example, some of the interviewees noted that sometimes they forced to process transactions with missing information because of Wasta. Some of the interviewees have a strong believe that Wasta can lead to process orders, even in spite of poor quality or incomplete information.

It is very common to see gaps and variation in the level of information technology readiness amongst e-Government organizations. The variation also can be seen in the level of expertise and human resources. This variation presents significant challenges to maximize the potential benefits of information quality. In addition, weakness of one of e-Governmental partner involved in providing information can eventually influence other e-Government partners. Lack of experience adds an extra burden and causes a range of problems including poor quality services and low performance, which represents a significant reputational risk to the institutional image. Some of the interviewees revealed that they experienced major delays because they do not have in-house technical expertise to fix some of information quality problems. Other interviewees with managerial responsibilities noted that lack of experience and awareness of information security breaches can lead to damage the institutional image, citizen dissatisfaction and other major problems. They firmly assured that it is everyone responsibility to promote information security awareness in order to minimize information security problems.

Organizational changes are inevitable processes of any organization. However, some of the employees find them easy to deal with. In fact, some employees show some resistance to these processes, which can have some negative consequences on organizations. These consequences can be widespread and may affect moral maturity and ethical attitude of the whole organizational workforce. In addition, when employees resist changes taking place in an organization, they may feel insecure and pessimistic about their professional future with the organization. This can lead them to become less focused on doing their daily jobs and spend more time on resisting these changes. Moreover, resistance to changes can create a disruptive work environment where clashes between employees and management team are highly expected.

These findings are partially consistent with existing literature on challenges for e-Government initiatives (e.g. Ho, 2002; Gil-Garcia *et al.*, 2007). The main difference between this research and the mainstream literature is that this research focuses on the relationship between information quality and organizational benefits and performance in the context of e-Government, while the existing research studies investigate the relationship between e-Government initiatives in general and organizational benefits. However, this research is consistent with the mainstream literature in that resistance to changes has negative effects on organizational performance.

6. Conclusion

The study findings were reported from a 31 interviews investigated factors that may influence or hinder for enabling e-Government strategic benefits in Kuwait. Three e-Government agencies were selected to conduct semi-structured interviews namely, Ministry of Justice, Ministry of Finance and Public Authority for Civil Communication. On a practical level, the recommendations provided by this study may be useful to Kuwaiti e-Government and perhaps other countries' e-Government that are seeking ways for enabling e-Government services. Several themes (i.e. information quality, strategic benefits, and institutional values) were observed to achieve better e-Government Benefits. Specifically, for information quality theme, accuracy and completeness for the sub-theme of sound information; objectivity, interpretability, and relevancy for useful information; security and timeliness for dependable information; and believability, accessibility, and value added for useable information. In addition, for strategic benefits theme, cost savings and time and efforts for the sub-theme of costs; agility and efficiency, and empowerment for decision making; new and innovative e-services for service quality. Furthermore, for institutional values theme, responsibility for the sub-theme of institutional image; while transparency, and accountability for credibility. The research also uncover some new drivers (Cost saving and customer satisfaction) and barriers (e.g. Nepotism and Wasta) to improving organizational performance. In addition, the results can help in facilitating the development and planning of e-Government projects by defining information quality requirements.

There are some limitations in the data collected for this research. These data is collected from three governmental agencies in Kuwait. Those agencies have a relatively similar profile in terms of the portfolio of the e-Government services they offer. Therefore, the sample of the data collected is not representative of the entire Kuwaiti population and thus may introduce some bias to the results of this study. In addition, and as this study confined to Kuwait, the findings of this research cannot be generalized to other countries because each country has unique characteristics, needs and capabilities. Specifically, this research encountered some difficulties and limitations. First, the collecting data process presents some challenges. Only few participants were motivated to participate in the research interviews. Participants of this study were government

employees who are usually overworked and busy with their daily tasks. Also, access to the participants with top management responsibilities was not an easy task. In addition, another challenge was related to culture issues. For example, some female participants were uncomfortable to be with a male in the same room beyond close doors. To overcome these challenges, the author put extra time and effort to make arrangement to conduct interviews with as many participants as possible. Second, the analysis process presents also some challenges. The collected data from the interview was in Arabic language and translation of this data into English language was a challenging task and prone to errors. To overcome this challenge, the author followed Brislin's back-translation method (Brislin, 1980) by translate data back and forth between Arabic and English and with help of several bilingual experts. This process continues until the Arabic and English answers were converged. Another challenge related to the analysis process is the large amount of codes emerged from the data analysis. This forced the author to revisit the codes and refine the codes as much as possible, which results, in turn, into more high-level themes and categories. Third, although this study provides a valuable and reliable research model to explore information quality drivers and barriers to improving organization performance, this model, nor the recommendations and findings of in this study can constitute a guarantee for improving government performance. E-Government projects are complex, encompassing, cultural, political, organizational and technical aspects. Information quality aspects are not the only factors that affect the success of e-Government projects. Therefore, policymakers and stakeholders should consider all relevant factors that may contribute to the improvement of the performance of e-Government organizations.

Future research should employ new tools to collect data such as focus group and web logs. Focus group can provide insights into participant's shared understandings, while web logs can provide a great deal of insight into user interactions with e-Government services. Using these new methods to collect data required employing new data analysis tools and techniques such as data mining, text analytics and sentimental analytics. Other possible areas for future research are developing and applying new methods and Key Performance Indicators (KPI) to measure organization performance. Web logs can offer a treasure trove of data including, but not limited to, location data, traffic data, conversion data, and behavioural data. The analysis of these data can provide more accurate and actionable metrics and KPIs. Future research also might incorporate citizens' perspectives and views in regard to the relationships between information quality and organization performance.

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