 

# Information Technology Readiness and the Assessment and Adoption of Information Technology Innovativeness

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**Abstract**
Government Information Technology Innovativeness defined as notion of openness to new information technology ideas in the government as an aspect of an organizational culture. In adopting the information technology innovativeness, information technology readiness plays a crucial effect. Misunderstood organizational characteristic within information technology innovativeness may generate unrealistic or inaccurate outcomes. Unfortunately, the effect of organizational context is nearly ignored in information technology innovativeness literature. In response, using the Resources based view (RBV) and Diffusion-Innovation-Theory (DIT), this paper argues on the interaction between the influence of organizational characteristic (information technology readiness), so as to explain information technology innovativeness. This proposition could improve understanding the information technology innovativeness and help to resolve inconsistency of findings in the literature.
**Keywords:** Information Technology Readiness; Information Technology Innovativeness, Public Sector
**DOI:** 10.7176/ALST/90-04
**Publication date:** November 30th 2021

## 1. Introduction

In the era of globalization, deregulation, amassed competition, e-commerce and new technologies, public institutions are finding it tough to adhere to governmental working processes and serve the public. With this energetic and changing situation in the field of information technology, to attain development and sustain performance is to invent and innovate (Higgins, 1996).

Therefore, to achieve satisfactory levels of performance, it is important not to ignore opportunities: for the need for a little effort and low cost, an organization can achieve excellence and creativity among employees and a high level of performance in the field of information technology (Alatar, 2012).

The extent to which each country will achieve the functions depends on its level of adoption of information technology and its IT innovativeness. In the context of Palestine, therefore, there are twenty-one (21) ministries (Statistical Office of the General Personnel Council, 2016) created to perform different functions that encapsulate the ten identified functions by the United Nations and OECD. The functions comprise defence, education, health, environmental safety among others. Specifically, the country has a ministry of Information Technology that is charged with the responsibility of embracing different IT innovativeness for the delivery of government services by the other ministries.

So, in order to stay at the top and keep a public advantage, governments need to have a good strategy to maintain, progress, establish, allocate and utilize governmental organizations' resources. To achieve a satisfactory governmental working process and publicity, a systematic recognition of the information technology innovativeness is required, which has a strong influence on both the government's work and its publicity process (Grant, 2006).

This study investigate the level of government information technology innovativeness in local government in Gaza Strip, Palestine, through decision makers and managers by investigating the relationship between information technology readiness and government information technology innovativeness. It further aims to assess governmental readiness by studying the information technology readiness effect on government information technology innovativeness.

Governments and people today are very aware of governmental working processes and the provision of services in the public sector, and the public sector needs increasingly better and quicker government innovation (Mergel, 2013). The government responsibility to promote institutional services to the public sector is important, but local governments in the Gaza Strip are not willing to pay such important attention to the development of governmental institutions' working process by means of information technology (Claypool, 2013). In addition, they are not looking at how to facilitate the process of providing public services by using information technology (Hamada, 2014). A study conducted on online communication in the Gaza Strip revealed that there is little response from governments concerned about information technology implementation (Carano, Stuckart, & Whittaker, 2013). Furthermore, an empirical study indicating the information technology innovation implementation in local governments in the Gaza Strip reveals that the government shows a negative attitude towards information technology innovation, which causes the public sector to be dissatisfied with governmental work (El-Naby & Ashour, 2015).

The public sector commonly desires better services and sharp processes, but this turns into negative

 

thinking when it is related to local government in the Gaza Strip. Along with complications of efficiency and international benchmarking, the changing wants and needs of the public sector (people and government) demand enhanced technological innovation in governmental work and progress (Al-Madhoun, 2007). The private and non-private sectors and NGOs are demanding more facilities that include advancing public service, governmental progress, communication technologies, etc. The current technological progress of the Gaza Strip local government and the public sector is very much less satisfactory and acceptable when compared with many other governments (Shaqfa, 2014). Therefore, the local government in the Gaza Strip needs to increase its rate of technological innovation, chiefly in the public service sector, to confirm sustainability and advantages for further development and improvement (Sabella, 2013).

## 2. Significant of the study

There is a lack of research regarding the relationship between information technology readiness and information technology innovation implementations and intention to adapt. There remains a huge gap that needs to be filled in this field of research, and this study is being conducted in the public sector and from the perspectives of government managers, especially in the Gaza Strip.

Prior empirical study on government information technology innovativeness is rare, and such has not even been conducted in Palestine. From the theoretical perspective, therefore, this study contributes to the growing literature on information technology innovativeness implementations by extending the study on information technology innovativeness to Palestine. In addition, the study contributes to the study contributes to existing knowledge by incorporating the role of information technology readiness in information technology innovativeness implementations in governmental working process. Specifically, the findings show to what extent information technology readiness within the government could play an important role in shaping the government information technology innovation in governmental work. More importantly, the present study is able to enhance the existing body of knowledge by showing how organizational culture moderates the effect of information technology readiness on government information technology innovativeness via the application of Rogers' innovation model (Rogers, 1995).

## 3. Government Information Technology Innovativeness

Based on the Venkatesh and Bala (2012), Organization Innovativeness definition the Government Information Technology Innovativeness defined as notion of openness to new information technology ideas in the government as an aspect of an organizational culture. This study defines the government Information technology innovativeness as the openness and creativity of the government in application of information technology in the government service delivery.

## 4. Technology Readiness

Mithas, Jones, and Mitchell (2008) they defined technology Readiness, as the continuous technological improvements in existing work, development of new technology use, and investment in keeping abreast with technological developments. This study will define technology innovation Readiness as the effect on the government information technology innovativeness in the local government in Gaza strip – Palestine.

## 5. Relationship between information technology readiness and information technology innovativeness

Information technology has become a public figure in the competitive and developing stance of today's institutions. Several organizations have invested in and become reliant on information technology readiness. This is understood to be the case in the professional, enterprise, national, and public service stages and in e-government (Gordon, 2014).

In order to achieve IT innovativeness from the perspective of IT readiness, Dyerson, Spinelli and Harindranath (2016) state that the IT readiness is influenced by strategic motivation, technology complexity, project management and IT processes. Based on this, the heavy force behind government investment in information technology innovativeness seems to be strategically oriented (Huscroft, Hazen, Hall, & Hanna, 2013). However, according to Blomström, Globerman, and Kokko (2001), the implementation of information technology innovation by governments may not be acceptable and in fact may not deliver the strategic assistance primarily envisaged.

Interestingly, Montealegre (2012) contends that if governments are to gain an advantage through investing in government information technology innovation, then they are required to think about how they conduct their work by redesigning government strategy.

If governments plan strategically to obtain the fullest possible government information technology innovativeness, then they are required to assess its indirect and direct rewards and costs prior to its employment and implementation, as investments in government information technology innovativeness can form a significant part of a government's capital spending (Wixom & Watson, 2001).

 

Because government information technology innovativeness is a big investment, many governments find it hard to defend its readiness in relation to its perceived low benefit. It is important for management to be certain that readiness in government information technology innovativeness is defensible (Gao, 2015).

Gerst (2011) proposes that governments characteristically defend their investments in an unofficial source by making decisions based on individual observations of possible benefits and costs. On the comparable note, Colecchia and Schreyer (2002) recommend that one of the main difficulties governmental institutions have in creating real information technology readiness is their inability to measure and predict the outcome benefits.

## 6. Importance of information technology readiness

The old style of appraisal technique used to defend readiness in information technology has received great consideration in recent years. This increasing interest is attributable to the large sums being spent on the adoption of new technologies by governments to serve their people and to improve t governmental work, and the increasing need to justify significant investment expenditure on information technology or new technology that my help the government (Yang & Zehuan, 2012). Management are not satisfied with the available set of methods used to defend their investment in information technology (Doherty, 2013).

Crowder (2013) proposes that explanations and justifications used by management are characteristically grounded on the use of old methods, which are insufficient for strategic decision-making. The old methods lack precision in the explanations and evidences that management propose.

Blomström et al. (2001) have established that management is inclined to be biased when considering information technology readiness decisions, mainly because managers in the public sector do not have a framework by which to assess their information technology readiness. Management gives less consideration to the indirect costs associated with information technology readiness, which can be up to four times more than its direct information technology cost constituent (De La Potterie & Lichtenberg, 2001). The suggestion of ignoring unintended costs can have widespread consequences for governments.

Research undertaken by Yildiz, Bilgehan Ustaoglu, Murat Incekara, and Ahmet (2014) found the process of investment defence was a main barrier to adopting and implementing information technology innovation in several governments. Yildiz and colleagues classified the government's perception of an investment defence as an economic process that gives the final decision on the success of an information technology readiness suggestion. Therefore, managers may view an information technology readiness justification as an obstacle that has to be surmounted, and not as a method for evaluating the information technology innovation.

This has considerable consequences, as through the preparation of an information technology readiness plan, managers may take too much effort and time examining the technical characteristics of information technology innovation and thus become committed to the idea that, from a practical standpoint, the investment is critical. Additionally, managers may well simply be vulnerable to persuasion by software consultants and developers, and be ready to accept unusual models, which show unrealistically high levels of information technology readiness (Carter, Richard Strader, Troy Rozycki, John Root, & Thomas, 2015).

## 7. Cost and benefits effects of information technology innovativeness

The costs of technology are often thought to be easier to estimate than the benefits. Al-Htaybat, Abdulrahman, and Awad (2013) say that this is seldom the situation. The costs related to information technology readiness seem more tangible in nature because the expectations and requirements on which they are created are often not completely recognized, or are poorly understood by management. Definitely, information technology innovation is generally measured broadly during the investment policymaking procedure to account for the greater evaluation of costs and the lower estimation of benefits.

Dehning, Richardson, and Zmud (2003) contend that those responsible for implementing and adopting information technology innovation in governmental institutions are completely committed to the success of the information technology readiness and regularly discount the cost implications of governmental readiness, thus advocating positive assessments of benefits and budget savings. In this scenario, the failure to identify the complete cost implications, coupled with the promotion of positive savings and benefits, can lead institutions to a decrease in productivity and affordability due to the lengthy use of out-of-date information technology.

As additional governmental institutions employ information technology, many are progressively expressing their struggle and identifying the difficulty associated with its justification. The assessment of government information technology innovativeness is an essential part of a government working procedure cycle but remains subjective in its methodology. While many of the rewards offered by information technology innovation are suitable for inclusion within traditional accountancy frameworks, information technology innovation has intangible and non-financial benefits, added to the indirect costs of information technology readiness, which are considered to complicate the justification process (Bonina, 2012).

Malloy (2013) clarifies that because of the limitations characteristic of old style investment assessment techniques, many governmental institutions are often forced into new of justification. The preventive use of

 

traditional assessment methods favours the analysis of measureable benefits and budgets, and disregards the broader intangible and non-financial consequences of information technology innovation implementation and adoption (Collins, 2011). Also, there are effects regarding the inability of such methods to account for the complete measurement of costs connected with information technology innovation implementation and adoption, added to the associated human and governmental institution implications (Holzinger, Lehner, Fassold, & Holzinger, 2011).

Therefore, problems are not only being extended regarding the value of different appraisal techniques, but similarly there are implications associated with their limitations (Bockarova, 2014).

**8. The significance of technology benefits**

In recent years many studies have shown that the benefits from technology innovation have been significantly as expected when the projects were ordered (Mintzberg & Westley, 1992).

While there is debate amongst economists (Modigliani and Miller (2005) about how to measure efficiency, and a probable bias against identifying the benefits that information technology innovation currently delivers, there is an extensive belief that organizations should be able to exploit and extract more worth from information technology innovation implementation and adoption.

Ramirez, Melville, and Lawler (2010) remark that all too often the reality is that we cannot validate a link between what the organizations spend on information technology innovation and the benefits. Leaving aside opinions about the economic measurement of the level of information technology innovation adoption and implementation, there are three methods to solve this problem.

I. Raise the level of benefits from information technology readiness.
II. Increase the degree of information technology readiness.

A combination of the above.

**9. Research Methodology**

This study focuses on examining the determinant of the information technology innovativeness and adoption in the local government in Gaza strip - Palestine. Low rate of information technology in the Gaza strip local government is dedicated (Sultan, 2011). This study, therefore, considers 500 managers in the ministers of the Gaza strip-Palestine local government directory as a sampling frame to study this issue. Since the research objective is to examine the determinants of determinant of the information technology innovativeness and adoption in the local government in Gaza strip - Palestine, the unit of analysis is the organization. The targeted respondent all manager at the Palestinian ministries in the Gaza strip with grades General Director (A3), General Director (A4), Deputy Director (A), Unit managers (B) and Unit manager (C) they were (922). They generally have extensive IT knowledge and the about the governmental working process and processes and they have the ability to complete the questionnaire. An online internet questionnaire is considered for the data collection. There are three sections in the survey questionnaire. The first section is designed to collect demographic information relating to the respondents such as their: age, gender, Qualification, Job Title, Years of Experience, and working Ministry. The second section collects data about the government's information technology innovativeness. The last section collects data about information technology readiness that affecting government's information technology innovativeness. In this section, the questions have been built to proceed logically with one question linking to the next.

**Conclusion**

This conceptual paper discusses the determinants for government's innovativeness of information technologies in the public sector and adoption decision and explains the usage of different influence strategy may affect the role of other factors in information technology innovativeness and adoption decision. This concept paper suggests and encourages future work to examine the effect of information technology readiness to explain information technology innovativeness and adoption decision. In the next stage of this study, authors intend to investigate whether an influence strategy plays a significant effect of information technology innovativeness determinants to explain information technology innovativeness and adoption decision. By doing so, managers and policy makers can utilize the findings of this study to understand which factors would most likely facilitate the information technology innovativeness and adoption. In addition, the findings of this paper are to enable the managers and policy makers to manage the effects of these factors more effectively.

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