WIKI-GOVERNMENT AS COPRODUCTION OF PUBLIC POLICIES AND SERVICES: FEASIBILITY STUDY FOR THE UNITED ARAB EMIRATES

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ABSTRACT

Coproduction of public services, which involves the direct involvement of service users in their production, is an approach to public policy which fascinates many politicians and practitioners. Most successful experiments are limited in their scope in that they involve small localities and neighborhoods. They do not extend citizen involvement to participate in coproducing public policies and services at the national level. This task requires the utilization of the windows of opportunities opened by the proliferation of Information and Communication Technology (ICT) which helps to network citizens and creates high potentials for citizens’ involvement in public policy and services design. One of these potentials that proved its success in many instances is wiki-government. Wiki-government is a new Internet-based tool evolved to enable the ordinary citizens and self-selected experts to participate in designing public policies and services. This study attempts to evaluate the feasibility of applying these new concepts to United Arab Emirates.

JEL Classification: O19, F15, B28
Key words: coproduction, public policy, public service, wiki-government, United Arab Emirates
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INTRODUCTION

The concepts of wiki-government, crowdsourcing or mass collaboration as some writers prefer to call it, are products of the tremendous developments and integration of Information Technology and Communication Technology (ICT) that led to the emergence of the Internet and other enhanced digital communication tools. Moreover, this development has facilitated the emergence of social network technology that possesses the potentiality of enabling and empowering ordinary citizens as well as self-selected volunteering experts to participate in designing public policies and public services. Although both concepts of wiki-government and crowdsourcing are similar in their approach they are currently used in different settings. Although some writers find subtle differences between the ideas of wiki-government and crowdsourcing, where the latter is used in private business contexts, wiki-government or wiki-government is associated with governmental contexts. However, in this paper, both concepts of wiki-government and crowdsourcing are used interchangeably to denote the process of utilizing the Internet-based wiki technology to integrate government service units and their customers to co-produce public policies and services.

This paper seeks to explore the feasibility of wiki-government or crowdsourcing tools for popular participation in the coproduction of public policy and services in the United Arab Emirates (UAE). The answer to this research question is addressed in two ways: first by examining the availability of Information and Communication Technology (ICT) in the country and the willingness of the people to use it, and second by exploring the political system and citizens’ readiness to accept it. To tackle the first of these tasks, the paper utilizes the Networked Readiness Index (NRI) prepared by the World Economic Forum and the United Nations reports on e-government. To perform the second task the paper employs a qualitative approach to analyze the political and social systems to evaluate the level of the political system readiness to absorb and apply the technology of wiki-government to encourage popular participation in service co-production.

The Networked Readiness Index (NRI) is a measure of countries’ levels of readiness to employ information and communication technology (ICT) to facilitate the operation of their economies and to promote their effective management. The World Economic Forum together with INSEAD publishes the Global Information Technology Report which used the NRI scores to rank countries according to their achievements in ICT. The index was
originally developed by the Information Technology Group at Harvard University's Center for International Development until 2002. The NRI, which is published annually, measures the preparedness of an economy to use ICT to boost competitiveness and tracks the development of ICTs around the world. For example, the report assesses in 2013 the digital ecosystems of 144 developed and developing countries — accounting for more than 98 per cent of the world’s GDP (Bhatia, 2013). The NRI is a composite of three components: the environment for ICT and is measured by a country’s policies on market, political, regulatory, and infrastructure environments; the e-readiness of countries’ key stakeholders (individuals, businesses, and governments) to use ICT; and the usage of ICT among these stakeholders (Wikipedia, 2014). Figure 1 below provides a schematic model of the logic and components of the NRI framework.

**FIGURE 1. THE NETWORKED READINESS INDEX FRAMEWORK**

![Diagram of the Networked Readiness Index Framework](source)

The NRI system utilizes a total of 67 variables (increased to 68 in 2007-2008) to produce an overall NRI Index; the overall NRI index aggregates the NRI indexes of its major components: environment, readiness and usage. Accordingly, these 68 variables are unequally divided among its three main components, (environment, readiness, and usage), and these in turn are distributed among the component three pillars to produce overall three indexes (NRI) for each component as well as nine sub-indexes (NRI) for each of their constituent pillars. The calculated overall NRIs’ scores are utilized to provide a world ranking of participating countries of their overall networked e-readiness. Likewise scores of major components and their constituent pillars are utilized to rank participating countries in each component and pillar (Mia and Dutta, 2007).

The paper employs the overall NRI, which is a composite average of all sub-indexes to calibrate the achievements of UAE in the different dimensions of market, policies and regulations, ICT infrastructures, stakeholders’ e-readiness and their level of e-participation. Therefore, the NRI provides us with a more comprehensive and fairly exact measure of the potentiality of adopting a wiki-government by a certain country. The term E-Government which stands for electronic government, is also referred to in the literature by many names such
as e-gov., digital government, online government, or connected government. The term refers to electronic interactions between the main stakeholders of government: citizens, businesses and government. Many international organizations are involved in providing world rankings of e-government maturity among countries of the world; these include for example, the Eurostat, Economist, Brown University, and the UN e-Government Readiness Index rankings. The UN ranking employs a similar methodology to that of the NRI to rank e-government systems. Like the NRI, the UN report utilizes a quantitative composite index of e-government readiness based on website assessment, telecommunication infrastructure and human resource endowment to rank comparatively the countries of the world according to two primary indicators: i) the state of e-government readiness; and ii) the extent of citizens’ e-participation. Together with the NRI, these two indicators are used in this paper to measure the level of preparedness to adopt the imperatives of wiki-government in UAE.

The objective of this paper is two-fold: to examine the theoretical feasibility of the concept of wiki-government and to simultaneously examines the potentialities and hindrances to applying this concept to the United Arab Emirates (UAE) government to enable it to traverse the road from its traditional legacy of bureaucratic forms of public services production to the potentiality of public service co-production made possible by the development of wiki-technology and wiki-government.

LITRATURE REVIEW

The Concept of Coproduction of Public Services

The intellectual roots of the modern concepts of customer involvement, coproduction, and even wiki-government in the public sector can be traced back to the movements of New Public Management (NPM), Total Quality Management (TQM), reinvention of government and New Public Governance (NPG) (Niskanen, 1971; Osborne & Gaebler, 1992; Rosenbloom & Kravchuk, 2005; Osborne, 2010). The concept of service coproduction or collaboration as in the current vernacular of wiki-government is not completely novel and is associated with the concept that holds that what works in business organizations is equally applicable to government institutions. This concept is specifically propounded by those who subscribe to new public management and total quality management (TQM) (Morgan & Mugatroyd, 1994; Bendell, et al., 1994). Being concerned with involving customers in the production of quality goods, TQM specialists acknowledge the importance of involving consumers in determining the quality public goods and services.

Attempts to apply TQM to the public sector reveal that the nature of “service” as contrasted with manufactured goods made customer collaboration a constituent ingredient in the production of quality. Service is distinguished from manufactured or tangible goods by three characteristics: intangibility, heterogeneity and inseparability. While the characteristic of intangibility refers to the fact that services are performances rather than tangible objects, heterogeneity refers to the varied needs of service customers. The third characteristic of inseparability points to the fact that unlike tangible goods, the process of producing services is inseparable from their consumption (Morgan & Mugatroyd, 1994). It is this last characteristic of inseparability that made coproduction of services possible and desirable. Bovaird, Löfﬂer et al (2011) explain this fact in the following words…

The movement to user and community co-production harks back to one of the key characteristics of services in the public and private sectors: the production and consumption of many services are inseparable. Quality in services often occurs during service delivery, usually in the interaction between the customer and provider, rather than just at the end of the process. This means that customers do not evaluate service quality based solely on the outcomes (e.g. the success of a medical treatment in a hospital) - they also consider the process of service delivery (e.g. how friendly and responsive were the hospital medical staff and how comfortable was the ward).

However, in contexts of bureaucratic production of public services, characterized by secrecy and aloofness of bureaucrats from customers, involvement of customers in service production is resisted and is not acceptable by service professionals (Bovaird, 2007). It is no wonder that all these new movements mentioned above are anti-bureaucracy and overtly demand departure from bureaucratic styles of management. Nevertheless, they have their own limitations; i.e. they assign to customers roles that concentrate on service delivery rather than active involvement in coproduction of the services themselves.

The concept of coproduction has been in currency ever since the 1980s (Parks 1981). The term “coproduction” was first used in late 1970s by “…Elinor Ostrom and colleagues at Indiana University to explain why neighborhood crime rates went up in Chicago when the city’s police officers retreated from the beat into cars” (Wikipedia, 2014). Therefore, it is not a new concept altogether, but it has been given new emphasis by recent concerns in many governments with customer’s involvement in government business (Bovaird, 2007; Bovaird, et al.)
These concerns were not only motivated by government benevolent intentions to improve service quality to its customers but also by its intent to cut costs in an age of austerity and crises (Bovaird, et al. 2011). Government motives to enhance coproduction of public services may also include “…improving public service quality by bringing in the expertise of customers and their networks, providing more differentiated services and more choice, making public services more responsive to users, cutting costs” (Bovaird, et al. 2011).

Co-production highlights the importance of service beneficiaries’ cooperative behavior and their positive contribution to the service production and delivery processes. It requires that beneficiaries join their resources (skill, knowledge, time) with government resources (money, time, professional skills) to coproduce services with quality outputs and outcomes. Consequently Bovaird, (2011) defines co-production as “the public sector and citizens making better use of each other’s assets and resources to achieve better outcomes and improved efficiency”. This in fact requires that citizens play several roles as innovators, as critical success factors; as resource facilitators for improving quality of service, as asset holders – skills and talents- and ready to use them to benefit their societies, and finally as community developers (Bovaird, et al. 2011). The problem with most models of coproduction is that they do not consider the transaction costs and the free rider problems that may inhibit citizens’ involvement in coproduction. Moreover, well-entrenched bureaucratic ethos is another impediment to effective coproduction. In addition to that most successful experiments, such as those in Denmark, Malaysia, the UK and the US, are limited in their scope to local settings and are not extended to national settings to involve citizens in policy making. The mitigation of these problems, and especially the last one, may be achieved by utilizing the potentials of ICT and wiki-government technology.

Wiki-Government as Coproduction
The new concept of wiki-government, and associated concepts of virtual state and virtual organizations (Margrett, 2007), carries in them wild calls for abandoning government by bureaucracy. Wiki-government is more emphatic than NPM, TQM and NPG in calling for abandonment of bureaucracy to involve customers in co-production of services. The concept of wiki government is an attempt to encourage collaborative coproduction of services emulating successful experiments of producing many goods and services through the facilitation of the expertise of self-selected experts and enthusiast drawn from the general public. In their best seller book wikinomics Tapscott and Williams (2008) propound the main principles of the wiki approach and demonstrate its successful implementation in reputable coproduction innovations such as the famous encyclopedia Wikipedia and the famous computer program Linux. The latter is the famous operating program developed through the collaboration of self-selected programmers. Mergel (2012) has this to say about this approach…” Many of us are familiar with Wikipedia, which relies on thousands of active contributors who share their knowledge freely on a dazzling breadth of topics, with an accuracy rate rivaling that of traditional encyclopedias”. Tapscott and Williams (2008) also demonstrate the drive of many companies to employ the wiki technology to find solutions for their business problems. In their second book on macrowikinomics they urge for its use in other types of organization such as the media, newspapers and government and they demonstrate certain successful experiments in these sectors.

The term wiki is used in the current vocabulary of the internet to designate an electronic device that enables internet users to “create contents, edit and contribute to contents created by themselves and others (Mnsour, 2014). In a Guideline Manuel intended to help in practical establishment of wiki websites in government, Ines Mergel (2012) defines wikis as and traces the evolution of the famous electronic encyclopedia “Wikipedia” as a successful application of the wiki technology in the following words.

Wikis are websites whose content can be created, edited, discussed, and changed by users working in collaboration. The word Wiki comes from the Hawaiian; meaning “quick,” it highlights the easy, fast editing capability of Wikis. Wikis facilitate interaction and project collaboration. The most prominent Wiki is Wikipedia, known as the world’s online encyclopedia. Wikipedia was founded in 2001 by Jimmy Wales to quickly create, edit, and change information on every term its contributors want to define. Authors can create a page on a specific topic and publish a draft, which is then open to the whole world for edits and changes—and even deletion. The original Wikipedia page is structured through hyperlinks that connect keywords used in one article to the definitions provided in other articles. Definitions or content should not be replicated; instead, authors link to the original. The WYSIWYG principle (What You See Is What You Get) makes editing simple and easy. The formatting possibilities are reduced to a minimum, and pages are not intended to be flashy or nicely decorated, so that the content of the page is the focus of its authors and readers. Every registered user—but also every anonymous web surfer—can edit content with a simple mouse click.
This simple electronic device of wiki technology opened up a window of opportunity for utilizing it to facilitate coproduction of government policy, and even private business, decision-making as well popular and democratic participation in the coproduction and management of public services. This new window of opportunity is evident in the application of the wiki concept in practical government and business situations to seek creative ideas, practical solutions, and policy-relevant information from experts, professionals, lay people, or the internet population in general. And here originate the two terms employed in this paper: wiki-government and crowdsourcing. It is worth noting that the two terms refer to essentially the same process i.e. the use of the wiki technology to facilitate the generation of creative ideas and practical solutions. Whereas the terms wiki-government, wikinomics, and wiki-macronomics, are used by some authors to designate experiments of wiki applications in both the public and the private sectors the term crowdsourcing is utilized by some journalists and business writers to describe outstanding successful application of the wiki technology (see for example, Tapscott and Williams, 2008 and 2010; Noveck, 2010; Howe, 2008).

Models of Wiki-Government

Tapscott and Williams describes seven models of mass collaboration which categorize the experiments of utilizing the wiki technology to coproduce content and coproduction of services in government and other types of organization (Tapscott & Williams, 2006, 2008). They label the first model “the peer pioneers” in which volunteers collaborate to coproduce open software products like Linux operating program and Wikipedia. The second model is “ideagoras” that establish online markets for innovative ideas, solutions, and inventions. The best example of this model is the famous online InnoCentive Company which provides a market for private and public sector entities to buy solutions for business problems from online freelance experts. Tapscott and Williams name the third model as “prosumers”, a term coined by combining the two words “producer and consumer” to describe a process in which consumers join producers to coproduce the goods and services they consume. The fourth model is termed the “Alexandrians”, which refers to the ancient Greeks efforts to house all human knowledge in the Library of Alexandria, and involves now the online efforts to facilitate sharing of all human knowledge through global databases.

The fifth model of “platforms for participation” contains the efforts of some smart companies to share their patents and products to establish an open forum of networked partners to coproduce new values and new business. Amazon, Google and e-Buy are the best example of this model. The sixth model of “Global Plant Floor” involve efforts of some physical-goods producing industries to depart from the traditional secretive bureaucracy to build networked ecosystems for designing and producing physical goods through mass collaboration. The seventh model of “Wiki Workplace” depicts the transformations engineered by the wiki technology through mass collaboration in the workplace to create new work cultures and ethos that help to transform the bureaucratic modus operandi of business and, to a lesser extent, government organizations. This change in the workplace culture is explainable by the arrival of the Net Generation (teens who have grown up using the Net) to the workplace.

In government Noveck (2010) describes the successful experiment of Peer-to-Patent in which wiki technology is used to help the USA Office of Patent and Trademarks utilize volunteer experts’ cooperation to find prior arts necessary to decide on the eligibility for patents. Likewise Mergel (2012) discusses nine successful cases of wikis used in government in different settings and for different purposes. The nine case studies were designed at different levels of government to achieve varied purposes and goals. Mergel categorized these cases into three types: wikis for intra-organizational use, wikis for inter-organizational use, and wikis for engaging the public. The first type includes the example of Diplopedia, which utilizes MediaWiki software used by Wikipedia, was launched in 2006 by the US State Department in the office of e-Diplomacy to facilitate creation and sharing of intra-organizational knowledge. A second similar example was established by the USA Department of Defense in 2008. The second type of inter-organizational wikis includes two examples Intellipedia and GCPedia. Whereas Intellipedia which was launched by US government in 2006 to facilitate inter-organizational knowledge sharing among USA federal government multiple intelligence agencies, GCPedia was created by the government of Canada in 2010 to serve all levels of Canadian government.

The second type of wikis for engaging the public, which is closely related to the topic of this paper, includes five cases that were specifically designed to encourage popular participation in policy planning and coproduction of public services. These include BetterBuy Wiki in USA which was launched in 2010 in the office of Assisted Acquisition of the General Services Administration (GSA) and targeted stakeholders across government, industry, and the general public; EPA Watershed Wiki which was launched in USA in 2009 to bring experts together on all levels in an information-sharing environment. This wiki involves Federal Government experts including external experts who are involved in watershed conservations. Whereas all the above cases were created at central governments levels, Mergel cited other three cases that target popular participation at local government. These
include the Australian Future of Melbourne Wiki, Australia Wiki, San Jose, California Wiki planning, and Manor (TX) City Wiki. All the later cases are designed to integrate the general public as well as experts to search for solutions for public problems.

THE FEASIBILITY OF WIKI GOVERNMENT IN UAE

The System of Public Policy Making and Public Service Delivery in UAE

The United Arab Emirates (UAE) is a Southwest Asian Arab Gulf country bordering the Sultanate of Oman and Saudi Arabia. The country is situated between 22°30' and 26°10' north latitudes and between 51° and 56°25' east longitudes. The total area of the country is relatively very small with only 83,600 square kilometers and populated by approximately six millions only 20% of those are national and 80% are expatriates from Asian, Arab and other countries. The UAE estimated GNP per capita is 23,290 USS in 2007 (UAE Year Book, 2007, 14) placing the country among the richest nations in the world. This tremendous wealth, generated mostly from exports of oil, and the small size of the population endow UAE with the highest standards of living in the world and made it a pull area for skilled and unskilled labor from different parts of the world (Mansour & Alshaheen, 2008).

The strategic position of UAE along the southern costs of the Strait of Hormuz, which represents the most important conduit for world crude oil (Wikipedia, 2014), made the country an important element in the international political economic system. Historically speaking, before 1971 the country was populated by a number of Arab tribes ruled by traditional royal families under the British protection. After the declaration of the British government to leave the country in 1970, seven chiefdoms (now called emirates) agreed to join together to establish a federal state, the United Arab Emirates, in December 2, 1971. These include the emirates of Abu Dhabi, Dubai, Shargah, Ras al-Khaimah, Fujairah, Ajman, and Umm al-Qaiwain. Anxious to preserve their pre federation local autonomy, the seven emirates agreed on a loose federal constitution that establishes a federal government with limited powers and preserving the autonomy of the ruling families in each emirate. The Country is a cofounder and member of the Gulf Cooperation Council (GCC) which includes Saudi Arabia, Bahrain, Qatar, Sultanate of Oman, and Kuwait.

The Federal system adopted by UAE has resulted in a fragmented system of service delivery and policy making. The federal constitution was written up to sustain the internal political balances of powers between the seven emirates (Mansour, 2010). Therefore at the federal level all legislative and executive powers are reserved to the Highest Council of Emirates Rulers (HCER) which is membered by the rulers of the seven emirates. The HCER selects the president and approves all appointments to higher government positions. Although the presidency and vice presidency are rotational in the constitution but in practice they are both reserved for the rulers of Abu Dhabi and Dubai respectively. The prime minister is always the ruler of Dubai. The same formula is used to allocate different federal ministries and agencies. Understandably, these arrangements reflect the actual political and economic power of the different emirates. Thus the UAE government has three layers of administration: the federal, the emirate and the local municipality levels. This led to the proliferation of public sector and service delivery organizations. The federal constitution specifies under articles 120 and 121 the functions of the federal government organizations. These include:

- the functions of foreign affairs, security and defense, nationality and immigration, education, public health, currency, postal, telephone and other services such as communications, air traffic control and licensing of aircraft, in addition to a number of other topics specifically prescribed, including labor relations, banking, delimitation of territorial waters and extradition of criminals (Mansour, 2008).

It is worth noting here that the federal constitution limits the role of federal government to the performance of these core functions and allocates all other local social and economic functions to the emirate governments. These federal responsibilities are carried out by specialized federal ministries and agencies. The federal budget classifications place these organizations into sectors with each sector comprising groups of government agencies and ministries. In accordance with the types of goods and services they provide, these groups may be classified into two major categories. In the first category federal agencies and ministries perform the traditional functions of government or what economists call pure public goods. This group includes the presidency, legislative and control institutions, security and justice, and foreign affairs.

In the second category federal institutions provide certain goods and services that display some of the characteristics of private goods or quasi-public goods that can be provided by the market. This category includes the provision of social services such health and education, basic infrastructure projects that are necessary for the whole federation and economic services that organize the economic transactions in the country. It is worth noting here that these two categories are interdependent since each category is involved in the production of goods and services that
are needed for the good performance of the others (Mansour, 2008). It is evident that the first group contains activities that are not amenable to customer’s involvement; therefore this article concentrates on the three sectors in the second category; the social services, infrastructure and economic sectors for their direct relations with coproduction of public services and popular participation in public policy making.

However, and notwithstanding these constitutional arrangements, the trend towards preserving local autonomy persists. For example, on the one hand, Dubai and Ras al-Khaimah are not part to the federal court system and Dubai has its own police and security forces. Moreover each emirate has its own penal code. On the other hand disparities in economic endowments and levels of economic development in the seven emirates gives the federal government institutions a big role in providing police, educational and health services to the poor northern emirates. Although all seven emirates have constitutional powers within their local boundaries, in practice they are not all equally powerful and autonomous. The oil-rich Abu Dhabi emirate provides almost 85% of the federal government budget which provide services to the four relatively poor northern emirates of Ras al-Khaima, Fujairah, Ajman, and Umm al-Qwain and to some extent Al Shargah. Unlike the poor four northern emirates, some emirates such as Dubai and to some extent Shargah, are not dependent on federal government services in education and health and provide wide services through their local institutions. Consequently this diverse and complicated distribution of power and wealth make the possibility of a uniformed system of popular participation a difficult task. This task is made even worse by the varied composition of the country’s social fabric. Whereas kinship and tribal ties are stronger in Abu Dhabi, they are relatively weak in other emirates. This makes government legitimacy in Abu Dhabi more dependent on patron client relationships.

Technical Feasibility of Wiki-Government in UAE

The question addressed in this section is: does the United Arab Emirates possess the required ICT technology and managerial capability to launch wikis to encourage its citizens to participate in the coproduction of public services and policy making and design? The success of wiki-government depends on two factors; first the extent of e-readiness and the level of networkedness of individuals in society and their willingness to use ICT and second the willingness of their government and its ability to interact and involve them in service coproduction and policy making processes. The first factor refers to the level ICT preparedness of the major stakeholders in society: business, individuals, and government and their usage of ICT technology and the second factor relates to the ability of government to wire and link itself to those stakeholders. These two factors represent what may be called the wiki potentialities.

The availability of the two factors in UAE will be analyzed using its overall values of NRI, which provides a composite measure of all the other sub NRIs values, and the UN e-government reports indices for levels e-government readiness and e-participation. Whereas the former measures the level of a country’s networked readiness, the latter measures the country’s government’s networked connectivity. The NRI provides data for both the overall networkedness of a society as well as the e-readiness and level of ICT usage of the three major stakeholders of government. The UAE overall NRI and UN indices values will be compared with the values attained by the top ranked country in each field.

The Overall Level of Networkedness of UAE

Table 1 depicts the NRI world rank of UAE and its overall NRI scores compared to the top country in the Networked Readiness Index (NRI) and shows also in brackets the associated overall NRI scores that aggregate the scores of each country on the three components of the NRI: environment, readiness, and usage. The scores of each of these three components also aggregate the scores of other three sub-components. The fact that the UAE did not show up in the first two years points to its relatively undeveloped status in these years. The world ranks of UAE as well as its NRI scores are slightly unstable, reflecting the fierce competition among the countries of the world to acquire modern technology and boost their competitiveness. This fierce competition is an outcome of the realization that it is not possible to build a viable economy that is capable of surviving the ferocious competition in the present highly globalized markets without the facilitation of the potentials of modern ICT.
Table 1 shows that UAE has achieved impressive ranks and NRI scores that are comparable with the world top-rank within very short period. In all years between 2004 and 2014 UAE has managed to remain within the top 30 in the overall NRI ranks and scores. This fact led one observer to note in 2013 that...

The UAE and Qatar have moved five places up in the world of Network Readiness Index (NRI), according to a Global Information Technology Report by Insead, the leading international business school and the World Economic Forum. As part of the UAE’s long-term strategy to diversify its economy, the government has continued to drive the development of the ICT industry decisively and to expand the use of ICTs to all segments of the economy and society (1st). Available government online services (9th), the online participation of citizens (11th) and the important rise in mobile broadband subscriptions (49th), have driven this rise in the rankings (Bhatia, 2013).

Among the other sister GCC States, the UAE NRI rankings have been superseded in recent years by Qatar yet the race between them is neck to neck. Other GCC States’ NRI ranks and scores have always been far below the UAE. For example, the 2013 report “ranks three Gulf countries in the top 30 list globally for the second consecutive year, and another two in the top 40: Qatar (23), the UAE (25), Bahrain (29), Saudi Arabia (31) and Oman (40)” (Bhatia, 2013). In fact UAE is leading all other Arab countries in the Middle East and North Africa. These countries still lag behind UAE and other GCC states and encounter considerable challenges and they need to exert considerable efforts to fully leverage ICT and the Internet related technologies in their economies. For example Jordan in 2013 ranked (47), Egypt (80), Morocco (89), Lebanon (94) and Algeria (131) (Bhatia, 2013).

One may be inclined to explain the leading positions of GCC States in general and UAE in particular by highlighting their wealth and rich oil resources. However, such an explanation is short-sighted because it fails to account for the laggard positions and failure of Libya under Gadhafi and Iraq under Saddam to achieve any successes in ICT infrastructure and usage. Both countries are comparable in their economic endowments to the oil-rich Gulf States. And even within the Gulf Region itself UAE and Qatar have achieved ranks and NRI scores higher than Saudi Arabia the richest oil-rich country in the Gulf region. Political leaders in Libya and Iraq used to see ICT and its potential to enhance social networks as a menace to their political power.

The impressive achievements in ICT development of UAE and other GCC States are explainable by different sets of reasons. One possible reason is the relative internal political stability enjoyed by these countries in a turbulent region. Another potential reason is the dynamics and competition among GCC States which make their leaders keep up moving ahead in ICT. Having free-market globalized economies and driven by the ferocious global economic competition, the political leaders of UAE and Qatar play an important role in driving their countries to introduce ICT technology to energize their economies and government. It is worth noting here that in 2014 “UAE further its position in many other competitiveness indexes” (Economy, 2014, 12).

One more important reason for the drive towards ICT in UAE and Qatar is that both countries are seriously under populated and this forces them to depend on expatriate labour from different American, European, Asian and Arab countries. Hence the composition of UAE society is in fact multicultural leading to the coexistence of different cultures, languages, and traditions. This state of affairs alerted the political leaders to the threatening nature of this problem to their national identity, culture and security. Consequently the government has adopted a policy of manpower localization (i.e. emiratization) to replace expatriates with nationals (Mansour & Alshaheen). This policy was given further emphasis by political leaders after the country has experienced high levels of unemployment and
the turbulent conditions brought about by what is called the “Arab Spring” and the resulting turmoil thereof. Consequently, UAE political leaders sought to employ ICT and labour saving technology to reduce the country’s dependence on expatriate skills.

The Level of E-Government and E-Participation
Table 2, which shows the ranks of UAE and its associated scores compared to the top ranks in the United Nations e-government reports, confirms the above conclusion and shows progressive efforts on the part of UAE to obtain the necessary technology to establish a developed e-government. The table clearly indicates the efforts of the UAE leadership to institute a system of e-government comparable to its ranks and scores in the NRI. This in turn reflects the political leadership intent to revolutionize its system of public management. Accordingly, the UAE political leaders and government has adopted a visionary approach toward the introduction of e-government technology to facilitate the introduction of e-government. The UAE prime minister and the ruler of Dubai declared the intent of his government to move from e-government to what he called “the intelligent government” in which all government services will be delivered through mobile and smart phones.

**TABLE 2. THE UN E-GOVERNMENT READINESS RANKING FOR UAE AND TOP COUNTRY (2002-2012)**

<table>
<thead>
<tr>
<th>Year</th>
<th>UAE Rank</th>
<th>Overall Score</th>
<th>Top Country</th>
<th>Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-2003</td>
<td>38</td>
<td>0.535</td>
<td>USA</td>
<td>0.927</td>
</tr>
<tr>
<td>2003-2004</td>
<td>60</td>
<td>0.4736</td>
<td>USA</td>
<td>0.9132</td>
</tr>
<tr>
<td>2004-2005</td>
<td>42</td>
<td>0.5718</td>
<td>USA</td>
<td>0.9062</td>
</tr>
<tr>
<td>2008-2009</td>
<td>32</td>
<td>0.6301</td>
<td>Sweden</td>
<td>0.9157</td>
</tr>
<tr>
<td>2009-2010</td>
<td>49</td>
<td>0.5349</td>
<td>Rep. of Korea</td>
<td>0.8785</td>
</tr>
<tr>
<td>2011-2012</td>
<td>28</td>
<td>0.7344</td>
<td>Rep. of Korea</td>
<td>0.9283</td>
</tr>
</tbody>
</table>

Source: UN E-government reports 2002-2012

The table above clearly indicates that the development of UAE e-government has achieved a considerable leap in the last United Nations E-government Report in 2012 by rising up 29 ranks with an overall score of (0.7344). It is worth noting here that the nature of the UAE federal system has its impact on the UAE e-government. The rich emirate of Dubai has established its own separate e-government websites coexisting with the federal government website. Other emirates depend on the federal e-government system and this reflects the strong existence of the federal government in these emirates. Moreover, Dubai e-government website is way far developed than the federal one and since the scores in the table reflect a composite measure of all website in the country, the above scores underestimate the real level of Dubai e-government.

This developed status of e-government in UAE is not matched by comparable development in e-participation until 2010. Table 3 below measures the level of e-participation or the degree of interaction between government and its citizens. The table reveals a very amazing fact in that it demonstrates that the index of e-participation and interaction with government is very low between the years 2002 and 2010. The country actually deteriorated in 2010 to occupy the 86th rank with an overall score of (0.1286) far away from the top rank (Republic of Korea) with an associated overall score of (1.0000). This decline may be explained by the world financial crises which hit UAE, and especially the emirate of Dubai, the hard. Most companies, especially banks and construction companies were virtually paralyzed and some of them have fallen close to total bankruptcy. The UAE economy was able to recover sooner than any other country hit by the crises. This is reflected in the amazing leap in the e-participation index in 2012. Amazingly, the country leapt from the 86th rank with an overall score of (0.1286) to the 6th rank with an overall score of (0.7368) which is very close to the top rank (Netherlands) score of (1.0000).
TABLE 3. UN E-PARTICIPATION INDEX FOR UAE AND TOP COUNTRY (2002-2012)

<table>
<thead>
<tr>
<th>Year</th>
<th>UAE Rank</th>
<th>Overall Score</th>
<th>Top Country</th>
<th>Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-2003</td>
<td>55</td>
<td>0.172</td>
<td>UK</td>
<td>(1.000)</td>
</tr>
<tr>
<td>2003-2004</td>
<td>34</td>
<td>0.0492</td>
<td>UK</td>
<td>(1.0000)</td>
</tr>
<tr>
<td>2004-2005</td>
<td>42</td>
<td>0.5718</td>
<td>UK</td>
<td>(1.0000)</td>
</tr>
<tr>
<td>2008-2009</td>
<td>41</td>
<td>0.2955</td>
<td>USA</td>
<td>(1.0000)</td>
</tr>
<tr>
<td>2009-2010</td>
<td>86</td>
<td>0.1286</td>
<td>Rep. of Korea</td>
<td>(1.0000)</td>
</tr>
<tr>
<td>2011-2012</td>
<td>6</td>
<td>0.7368</td>
<td>Netherlands</td>
<td>(1.0000)</td>
</tr>
</tbody>
</table>

Source: UN E-government reports

Moreover, the UAE government took many formal steps towards encouraging its citizens and residents to use e-government more intensively to encourage popular participation. For example, the UAE Telecommunications Regulatory Authority (TRA) developed and issued E-Participation Guidelines for United Arab Emirate Entities in which it argues that ….

In the age of eGovernment, there is a greater demand for public services and information to be customized to people’s needs and to be available at the touch of a button, or click of a mouse. Achieving this would require the participation of ordinary users in the process of public service improvement and development. eParticipation is all about this, and about making the decision-making processes easier by connecting people with the government and enabling them to submit their views, comments, complaints and advice to the government through the use of new Information and Communication Technologies (ICTs). (TRA, January 2011)

The TRA suggests a set of online tools for government entities’ use that are exactly suitable for mass collaboration and wiki-government. These tools include…

- **“Discussion Forums”**: Government Entities can use discussion forums to raise certain issues and seek responses from the public. Users can also raise their own issues and questions and ask responses from the government entity as well as from other users.

- **Web Logs (Blogs)**: The government entity may create one or more blogs and use them as a platform to convey its mission, news and updates. Users’ comments are published after a reasonable degree of censorship.

- **Live Chat**: Government entities should give the user the option to chat live with one of its staff to answer their queries regarding its services during office hours.

- **Customers Satisfaction Surveys**: These surveys are posted periodically on the government entity’s website. They help gauge users’ satisfaction in a precise manner.

- **Opinion Polls**: Opinion polls on the government entity’s website explore users’ opinions on certain issues in order to help decision makers.

- **Feedback Forms**: These forms allow users to voice their opinions on different issues ranging from the entity’s services to the content of the website.

- **Social Networking Sites**: such as Facebook, Twitter, and LinkedIn etc...

It is evidently clear that the UAE achievements in ICT and e-government have created a great potential for a networked society and qualify the UAE society for a system of wiki-government that may enable the government to tap the expertise of its citizens to participate in policy design and coproduction of government services. This conclusion is not a theoretical construct but is demonstrated by practical experience. H.E the Prime Minister of UAE has recently posted in his website a pioneering venture in the direction of facilitating wiki-government potentials. He opened up in his website a brain-storming session asking for possible solutions for two strategic policy issues in UAE: education and health. Each issue was broken down into sub-issues or its constituent elements such as graduates, and curriculum. This venture can be easily accommodated within Tapscot and William’s model of “ideagoras” (Mansour, 2014). It is reported that his H.E endeavor received thousands of responses from different sectors of society. This result fairly indicates the proclivity of UAE citizens to involve themselves in public policy making and coproduction of public services. However, as of now certain factors work to impede the full involvement of UAE citizens in policy design and coproduction of services.

**Political and Social Feasibility of Wiki-Government and Coproduction in UAE**

The question addressed in this section is that: do the political and social systems of the United Arab Emirates possess the required qualities to encourage popular participation in the coproduction of public services and participation in policy making and design? To encourage popular participation in designing and producing public
services it is not enough to have the required technology to network societal groups because the willingness of individuals and political leaders is of paramount importance for the achievement of that goal. The UN E-government Report of 2010 highlights this fact by arguing that …

A misleading assumption frequently made with regard to public participation, be it ICT enabled or not, is that the simple creation of channels for citizens to interact with governments necessarily engenders citizen participation. Evidence shows that most e-participation experiences have repeatedly shown disappointingly low levels of participation, despite the multiple and varied initiatives implemented by governments in recent years to engage citizens online, and apart from a few highly publicized examples discussion groups, blogs and other forums on the topic of crisis-response funds report that, in most of the cases, participation has been extremely low. (UN E-government Report, 2010, 16)

It should be emphasized from the outset that the mindsets of political leaders in UAE are technologically oriented and intent on modernizing their society. Technology and especially ICT and the internet are widely used in education, health care and other services. Computer skills are promoted through mandatory curricula at all educational levels. Efforts to institutionalize interactive education through the internet, IPADs, and blackboards are abound. The smart-room technology is common in most higher and general education institutions. But the use of all these technological potentials, whether in education or social services, is mostly directed towards service delivery rather than coproduction. Two factors may be cited to explain this state of affairs. These factors include the inherited bureaucratic ethos and social factors in UAE culture.

With regard to bureaucratic legacy, being severely wanting in qualified administrative and technical personnel on the eve of its independence, the UAE government invited bureaucrats from Arab countries and especially Egyptians, to man its nascent bureaucratic apparatus. Egypt is known as the oldest bureaucratic government since the reign of its ancient civilization. Egyptian and other Arab bureaucrats transplant in the new bureaucracy the ethos of secrecy and routine and aloofness from clients. The consequent lack of transparency and aloofness led to the bureaucracy’s reluctance to involve citizens in the operations of delivering let alone producing government services. In recent years the government made serious efforts to move away from bureaucracy to the ethos of new public management and emphasized the ideas of total quality management and customer service. But these endeavors are about service delivery and not service coproduction. In a recent study about the feasibility of TQM in the UAE public sector organizations, it is found that bureaucrats are reluctant to allow customers to specify service quality specifications (Mansour & Jakka, 2014).

Moreover, the federal constitution was written up to hold the internal political balances of powers between the seven emirates (Mansour, 2010). In these balances the legitimacy of emirates rulers resides on a patron-client relationship in which direct access of citizens (clients) to their rulers (patrons) is the foundation of ruler legitimacy. Citizens approach their rulers directly for the provision of service and favors. This patron-client relationship is also witnessed in other GCC countries (Mansour, 2008). Consequently, this fact affects the structure of government and bureaucracy in UAE and created a sort of a prismatic (to use Fred Rigg’s jargon) bureaucracy in which modernity and traditionalism coexist comfortably in formal and informal structures (Riggs, 1964; Mansour, 2008). The operation of the formal bureaucracy in UAE is influenced by the existence of this informal public sector (the traditional system) in which…

…the ruler of an emirate, the sheikh, was the leader of the most powerful, though not necessarily the most populous, tribe, while each individual tribe, and often its subsections, also generally had a chief or sheikh. Such rulers and chief maintained their authority only insofar as they were able to retain the loyalty and support of their people, in essence a form of direct democracy, though without paraphernalia of western forms of suffrage. Part of that democracy was the unwritten but strong principle that the people should have free access to their sheikh, and that he should hold a frequent and open majlis, or council, in which his fellow tribesmen could voice their opinions….Nevertheless, a fascinating aspect of life in the UAE today, and one that is essential to an understanding of its political system, is the way in which the institution of the majlis maintains its relevance. In larger emirates, not only the ruler, but also a number of other senior family members, continue to hold open majlises (majlis pl. of majlis), in which participants may raise a wide range of topics request for a piece of land, or scholarship for a son or daughter to go abroad, to more weighty subjects such as the impact of large scale immigration upon societies or complaints about perceived flaws in the practices of various ministries” (UAE Yearbook, 2006: 53).

It is very interesting to note that this informal structure help to lubricate the bureaucratic machine and ease the process of decision-making because what the ruler decides prompt the bureaucracy to carry out his directive smoothly and without much routine and complexity. Notwithstanding this conclusion, the patron-client relationship does not encourage service coproduction because it is geared toward service delivery and lubricating the operation of the bureaucratic machine.
With regard to social factors, there are certain factors that militate against the involvement of citizens’ in service coproduction. These factors include semantic and literacy factors which are mostly related to the scarcity of Arabic digital content in the internet and Arabic and English illiteracy especially among older generations. These factors worked to reduce the level of UAE citizens’ willingness to use ICT and whatever e-government service that is available in the Web (Mansour, 2012). The literacy factor also worked to reduce the level of citizens’ participation in policy making (Mansour, 2012). One expert commenting on problems of e-government in GCC countries said that “… the biggest issue of all is literacy itself—not just computer literacy. And how e-government can reach those under-privileged masses and provide effective services (Blair, 2006).

CONCLUSIONS
The objective of the paper is two-fold: to examine the theoretical feasibility of the concept of wiki-government and to simultaneously examines the hindrances and potentialities of applying these concepts in the United Arab Emirates (UAE) government to enable it to traverse the road from its traditional legacy of bureaucratic forms of public services production to the potentiality of public service co-production made possible by the development of wiki-technology and wiki-government. The paper approaches this goal by theoretically examining first the concepts of coproduction and wiki-government and their origins and then utilizes the Networkedness Rank Index (NRI) and UN E-government reports to assess the UAE government potentialities to adopt the concepts of wiki-government to engage its citizens in not only passively receive government services but participate in coproducing them. The major thesis advocated in this paper is that successful experiments of coproduction of public services in some developed countries are limited in their scope to local and neighborhood settings, and wiki-government utilizing the Internet and ICT technology represents a viable tool to extend coproduction to national policy making.

The United Arab Emirates government has made in recent years significant strides towards introducing technology to its economy in order to be able to compete in the international markets. This achievement qualifies UAE to network its society to actively participate in policy making and coproduction of public services. For this purpose the paper recommends that the UAE government ministries and agencies establish a separate specialized websites to empower the ordinary citizens to participate not only to voice their demands and complaints but also to be involved in coproducing public policies and public services. The UAE has an impressive reservoir of talents among its nationals and expatriate. This reservoir of talents can be tapped to find creative and innovative solutions for many problems of public policies. It is important to note here that this task is not easy because it requires the transformation of the dominant bureaucratic and professional cultures to allow for the involvement of citizens in designing and customizing public services and policies. The success of the task of transforming bureaucratic culture requires in turn the willingness of the political leadership to induce change in the operations of the bureaucracy, its procedures and ethos. The current political leadership in UAE is aware of the need to improve and streamline its public management systems to facilitate competitiveness and efficiency. Coproduction through wiki-government is proven to be cost effective and efficient since it allows ordinary citizens to share responsibility with government agencies for the design and implementation of public policies and services.

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Wikipedia, Networked Readiness Index