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One Country, One E-Government Portal

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Abstract

From the development stages of e-government perspective, one single governmental portal has become a common goal among developed democracies. This paper argues that “one country, one e-government portal” will become a global phenomenon in the future decades to come. E-government development in the world progresses rapidly from the web-based unconnected government to the more advanced web-based integrated government level. This paper argues that, since the single e-government portal will be the main form of e-government development, it is imperative to design an integrated e-government strategy and planning principle of the portal. The single portal has to integrate websites maintained by different levels of governments and different departments/agencies. The single portal not only has to connect the existing websites, it needs to integrate the delicate and complex web of policy/service/regulation that related the general public. In doing this integration process, the portal has to be designed around the “life event” principle to facilitate the net usage by the general public intuitively.

Keywords: e-government, website, holistic governance, life-event, government portal

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Introduction

At the beginning of the new century, almost every country is developing e-government strategies and implementing related projects. Following the rapid development of the information and communication technology (ICT), especially the sophisticated internet technology, establishing a single governmental portal has become a common goal among countries in the past decade. In the past decade, web technology has provided governments with the ability to set up a variety of websites that offer citizens information, interactivity, and transaction services. However, the services rendered on the governmental websites tend to be basic, stand-alone type that can be grouped as web-based non-integrated government category. At the turn of the century, countries like the US, the UK, Singapore, Taiwan, began establishing single portal services for the public to access services offered by different levels and branches of government. More importantly, single entry portals are designed from the user perspective, ensuring that government services can be searched with ease and speed. This paper will discuss the important issues of “citizen-centered” design in the portal system and consider what should be done in order to well establish such an epochal governance mechanism.

Definition of E-Government

Electronic government (or e-government) as an expression was coined after the example of Electronic Commerce (Lenk & Traunmüller, 2002) and become popular only in the past decade. However, it designates a field of activity which is with us for several decades already. In many respects, e-government is only a new name for the informatisation of the public sector, which has been going on for several decades (Lenk, 1994). But the invention of web technology has subtly and dramatically changed the definition of e-government.

The OECD defines that “the term e-government focuses on the use of new information and communication technology by governments as applied to the full range of government functions. In particular, the networking potential offered by the internet and related technologies has the potential to transform the structures and operation of government” (OECD, 2001).

The World Bank further suggests that “e-government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions (<http://www.worldbank.org/publicsector/egov/definition>, Accessed 30 May 2007).

These definitions from OECD and the World Bank both describes the definition of e-government as including (1) the use of ICTs and internet; (2) providing better information and services and (3) transforming the structures and operation of government. A sample of definitions of e-governments from different countries also point to the same contents.

The Cabinet Office in the UK, for example, suggests that, “e-government focuses on better services for citizens and businesses and more effective use of the Government’s information resources. Implementing it will create an environment for the transformation of government activities by the application of e-business methods throughout the public sector” (Cabinet Office, 2001).

The New Zealand government suggests that “e-government is a way for governments to use the new technologies to provide people with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in our democratic institutions and processes” (<http://www.e-government.govt.nz/evision/index.html>, Accessed 30 May 2007).

The US e-government Act of 2002 defines electronic Government as the use by the Government of web-based internet applications and other information technologies to (1) enhance the access to and delivery of Government information and services to the public, other agencies, and other Government entities; or (2) bring about improvements in Government operations that may include effectiveness, efficiency, service quality, or transformation.

Viewing from the above definitions and the existing technology and its development, e-government implementation will adopt the most advanced web system to offer all users the most efficient and effective services. Judging from the

technology feasibility and web technology application in the private sector, it is clear that a single entry government portal will complement and finally may replace all the other government websites. In pushing toward the goal of a single entry portal and the ensuing 24/7 non-stop on-line government services, the often neglected governmental reorganization task, as the above definitions have advocated, needs to be explored.

Stages of E-Government

There are several stages arguments to explain the development of e-government phenomenon. Since this paper argues for the goal of “one country, one e-government portal,” it merits the reflection on these stages theories.

Swedish Agency for Administrative Development (2000: 26) identifies four stages in the development of e-government.

- Stage 1: Website containing “packaged” information about the agency and its services;
- Stage 2: Website containing “interactive” information about the agency and its services;
- Stage 3: Website and communicative functions that allow the visitor to submit and retrieve personal information;
- Stage 4: Website and network functions for joined-up services involving several agencies and institutions

Layne and Lee (2001) distinguish the e-government stages as (1) catalogue; (2) transaction; (3) vertical integration; and (4) horizontal integration. The OECD report (OECD, 2003) adopts a slightly different stages definition which includes: (1) information; (2) interactive information; (3) transaction; and (4) data learning.

Peng revised the previous e-government development stages to distinguish the web-based unconnected stage and the web-based connected stage. Peng identifies the early age of internet usage of governmental portals as the web-based unconnected government (Peng, 2005). This early stage can be further divided into three sub-stages: publishing, interaction, and transaction (Accenture, 2001). At the publishing stage, governmental websites offer only information about certain organizations, to serve as an instant bulletin board. However, the publishing function already greatly enhanced the accessibility of government information which never existed before. When government websites can interact with their users, the communication channel becomes two-way which effectively improves the relationship between government and the general public. When transactions can be executed on government websites, like paying tax dollars or buying products/services, the potential for internet technology is further enhanced. At this stage, to citizens familiar with the structure

and relationships among governmental organizations, government websites become extremely convenient service platform that can satisfy most information and service needs. However, to citizens not so knowledgeable about the government mechanism and detailed organizations, government website could be viewed as a maze that difficult to navigate.

It is increasingly expected that the web-based unconnected stage will progress to the web-based connected stage that needs only a single government portal. A single entry portal that offers all government services requires three dimensions of website integration: integration among different levels of governments, integration among different departments, and integration among websites (Peng, 2005, see figure 1). This point will be discussed later.

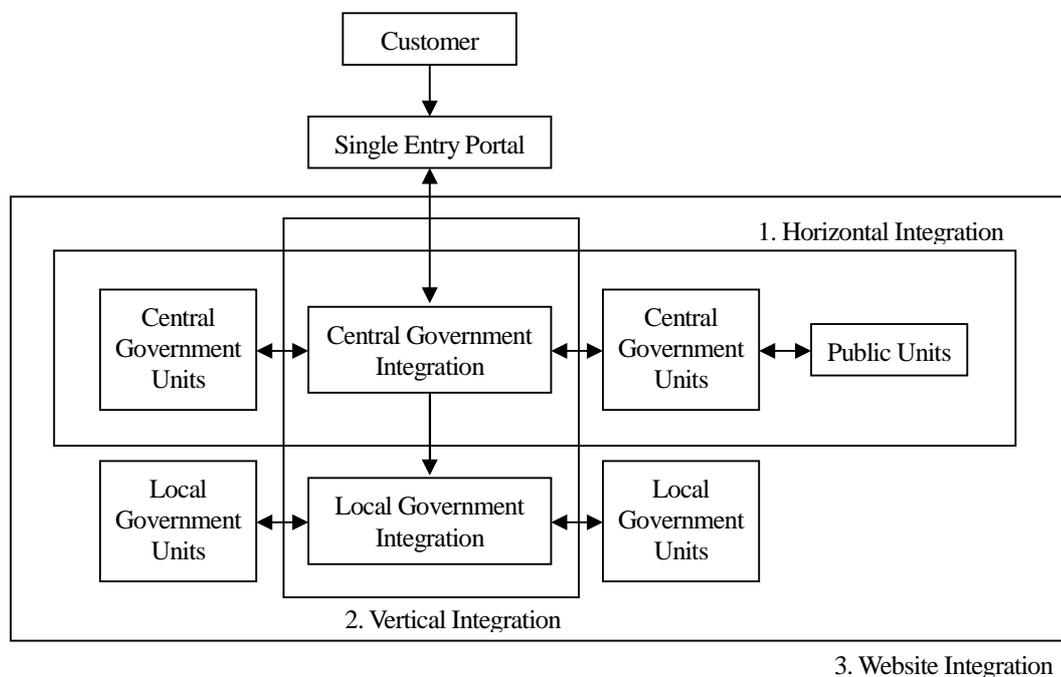


Figure 1: Three types of Government Website Integration toward One E-Government Portal

Functions of a single government portal

With the exponential development of the web technology and utilization of internet, the term “portal” has gained a new meaning for the world-wide users. Portals are easy to use, generally secure and widely accessible throughout the world. In little more than a decade, Internet users have grown to more than 1.1 billion people (<http://www.internetworldstats.com/stats.htm>, Accessed 30 May 2007). Different functions are associated with portals. References are given, what or who is where.

Personal information is given, security examinations are undertaken, access authorization is controlled, inquiries and orders are taken, purchases are delivered, and payment processes are completed (Reinermann, 2002: 129).

At the web-based unconnected stage, the government portals can be established and refined to a versatile electronic window that offers convenient services. Through the government portals, users can access to information, application forms, process, and persons from legislative bodies, government, justice and public enterprises. Users of public portals can interact with public officials through e-mail linkage or carry out transactions on the web. Access to the portal can take place via different media and access channels based on the multi-channel principle.

There are many types of internet portals in the public sector worldwide (Accenture, 2004: 42-56, 61-105; Accenture, 2005: 40-47, 53-97; Bent, Kernaghan, & Marson, 1999: 13-100). Some of them are accessible to the public, while others are only for the internal use of an agency. Some public sector portals are designed around existing organizations while others are planned for special target groups (von Lucke, 2005). In the past decade, agency portals are designed around a certain agency, an administrative unit, a municipal government, a public institute, a ministry, a public enterprise or a public school. Following the development trend, they have increasingly transformed from information bulletins into service centers or even virtual transaction place.

Based on the convenient design method of web technology, many stand alone governmental portals began to present the form of cross-agency portal without any attempt to substantively integrate the internet functioning of horizontal units. These cross-agency portals could be national government portals or of state government, county government, or international organization. These cross-agency portals serve to connect or introduce users to access their subordinate units to access information or service but do not provide service functions beyond the core units. The same situation may happen to the vertical cross-government portals. These portals are realized and run by several government units of different (vertical) levels of government.

These portals help users to access different levels of governments that generally difficult or unable to access simultaneously before the internet era. These portals offer the general public, especially those located in remote or less privileged areas, a convenient way to access government information and services.

However, in order to provide the public the most convenient and intuitive access to government portals, government specific portals are not idealistic solutions, no

matter they are cross-agency portals or vertical cross-government portals. In the past few years, more and more public portals are transforming into user-centered portals. There are at least three types of “user centered” approaches in building government website. These three types of user interest portals are topics portals, audience portals, and life event portals (von Lucke, 2007: 1330). Topics portals are arranged around certain topics or subjects. Audience portals bundle all the relevant information and service for special target groups in one portal. Life event portals are designed to cluster all the information and services under the headings of various individual needs during the whole life span. Life event portals are constructed around the major life events of the general public: includes the administrative process that related to birth, death, marriage, education, social welfare, pension and so on.

Portals for the public sector that centered around customers and their needs represent a paradigmatic change of public administration. Customer-centered services, advocated for so long in the public sector but without much success, can now be achieved from the portals design that integrates government services horizontally and vertically. A well-integrated portal system will integrate portal components so that the single entry portal (along with all the existing websites), the call centers, and the existing offices could make use of the same government data bases and profit from the utilization of other service channels. The multi-channel portal concept will reduce the criticism of the digital divide because the whole population will be reached via the single entry portal, independent of the communication channel (von Lucke, 2004: 80-81). Viewing from the development of mobile communication technology and widespread use of mobile communication devices, including the like of Apple’s advanced iPhone products, the single entry portal will be a necessary infrastructure for the construction of a 24/7 non-stop government.

Barriers to the One Government Portal

A single e-government portal will produce many benefits that traditional public administration could not achieve: providing real time answer to information enquiry, providing fast, efficient and effective services, and improving customer satisfaction. However, there are numerous barriers to implementation of the single e-government portal operation. There are four dimensions of the challenges:

1. Political structure:

The unitary countries can integrate the government portals with ease, while the federal countries may encounter huge opposition in coordinating the vertical levels of government regulations and policies. There are too much at stake that local

governments want to have discretion over their policies or keeping secrets on certain public affairs.

2. Organizational coordination:

With the development of New Public Management movement in the 1980s, forms of government organizations have since become more diversified. Government services become more fragmented as a result of the organizational diversification. How to coordinate the horizontal government units in order to provide joined-up services is a challenging task.

A single entry portal, with the requirement of data-sharing and borderless flow of information, also challenges the traditional “chain-of-command” structure of government (Bovaird, 2005).

Countries like UK, Canada, and Australia have been working toward a joined-up approach to contain the departmental fragmentation since the mid 1990’s (Peng, 2005). Without a political reform that focuses on the departmental coordination, the single e-government portal idea may be difficult to gain solid ground.

3. Political and administrative commitment:

During the web-based unconnected stage of e-government, quality of each website is determined by each government unit. The maintenance of the website is independent from all the other government websites unless it is hyper linked to other sites and cause some connectivity problems. However, as the following discussion point out, a single entry portal needs strategic as well as managerial devotion to present the customers best website facility. It needs strong political and administrative leadership commitment to overcome turf arguments that derived from personnel, financial, organizational issues on distribution and regulation.

Examples of e-government initiatives that have been strategically aligned with larger public sector reform processes include (Khosrow-Pour, 2005: 91):

France. The “electronic administration” movement puts information technology at the centre of state reform. The French program displays strong linkages between e-government and the reform in structures of government advocated in the French Program for the Information Society.

USA. E-government is integral to the President’s Five-Part Management Agenda

for making government more focused on the citizen.

UK. The “Modernizing Government” whitepaper for the renewal and reform of government embeds several key e-government components in its “information age government” approach (i.e., electronic service delivery targets; cross-government coordination mechanisms established).

4. Financial support and personnel competency:

A web-based integrated portal, unlike the stand alone website, requires advanced software design as well as hardware architecture. The project to build a well-designed single entry portal needs tremendous investment in many respects: long time planning, huge financial investment, coordinating mechanism, competent working team, networking culture, phasing in introduction, and so on.

Integrating the Government Websites

In order to provide a well-integrated single entry portal service, the process of integrating websites includes two types of integration. The first type of integration is the integration of “government websites,” which include integration among horizontal government websites integration, integration among vertical government websites, and integration of all the government websites.

1. Integrating the Government Websites

As the figure 1 shows, the single entry portal is established and maintained by the central government. Since the central government is divided into numerous units that include ministries, departments, agencies, public bodies, public enterprises, and even voluntary organizations, the horizontal integration of government websites requires well planned systematic engineering. Other than maintaining the existing websites to serve the current and future customers that feel more comfortable with the function specific websites, the single entry portal has to integrate the technical framework out of the widely differentiated web systems. A single entry portal has to integrate the following technical aspects: interoperability frameworks, metadata, web technologies, and commercial tools (Tambouris and Wimmer, 2005: 121).

The horizontal integration of government websites also include myriads of tasks: designing the portal homepage and layers of web pages, establishing technical standards, aligning the jurisdictional ambiguity and/or overlapping, maintaining system integrity, and adapting to the customers’ perception toward official jargon that

passed down for years.

The vertical integration of government websites has to tackle more diversified geographical problems that generally existing among local governments. Before the devolution of Scotland, Wales, and Northern Ireland in the late 1990s, the UK e-government work has no problem in adopting new technology. UK officials of e-government projects complained about the difficult communication problem thereafter when this author interviewed them in 2000. Federal countries obviously have more difficulty in integrating government websites of different levels of governments. Although the US portal (FirstGov) contains numerous pages of information, it has relatively weak presentation of the local government operation.

In order to maintain a full function portal, the integration of horizontal units and the integration of vertical levels of government websites have to be reorganized and integrated into a single portal mechanism. The integration of all government website is a daunting task that requires huge financial resources and technical expertise throughout the government system. The process also requires incremental planning and implementation.

2. Integrating of Processes

The second type of the integration that a single entry portal needs can be labeled “process integration.” From the perspective of stake-holders that involved in the integration, there are four types of process integration (Figure 2): integration of users, of Front-offices with each other, of Back-offices with each other, and of Front-offices and Back-offices (Bovaird, 2005: 52). For the integration of users, an intermediary who “represents” the customers needs to be identified. The intermediary can present the needs of customers with its experience and authority. With the help of an intermediary, the design of web-site can be aligned with the real needs and the problems of the users. Another way to identify the needs of customers is to interview the portal users on their real needs and ability to serve themselves through an online portal (Tambouris & Wimmer, 2005: 122).

Front-offices integration is to offer users “one-stop shop” service that can solve problems or needs of customers in one single contact. In the past, the one-stop services are provided through a well-promoted telephone number, a call center, or an office, they can be replaced by an audio or video enabled web-site. The fully connected web services can provide the following administrative benefits (Bovaird, 2005: 52):

1. Front-office staff can access clients' record immediately;
2. Front-office staff can record clients' new information in real time;
3. Front-office staff can access expertise in the organization when the problems are not embedded in the electronic knowledge base.

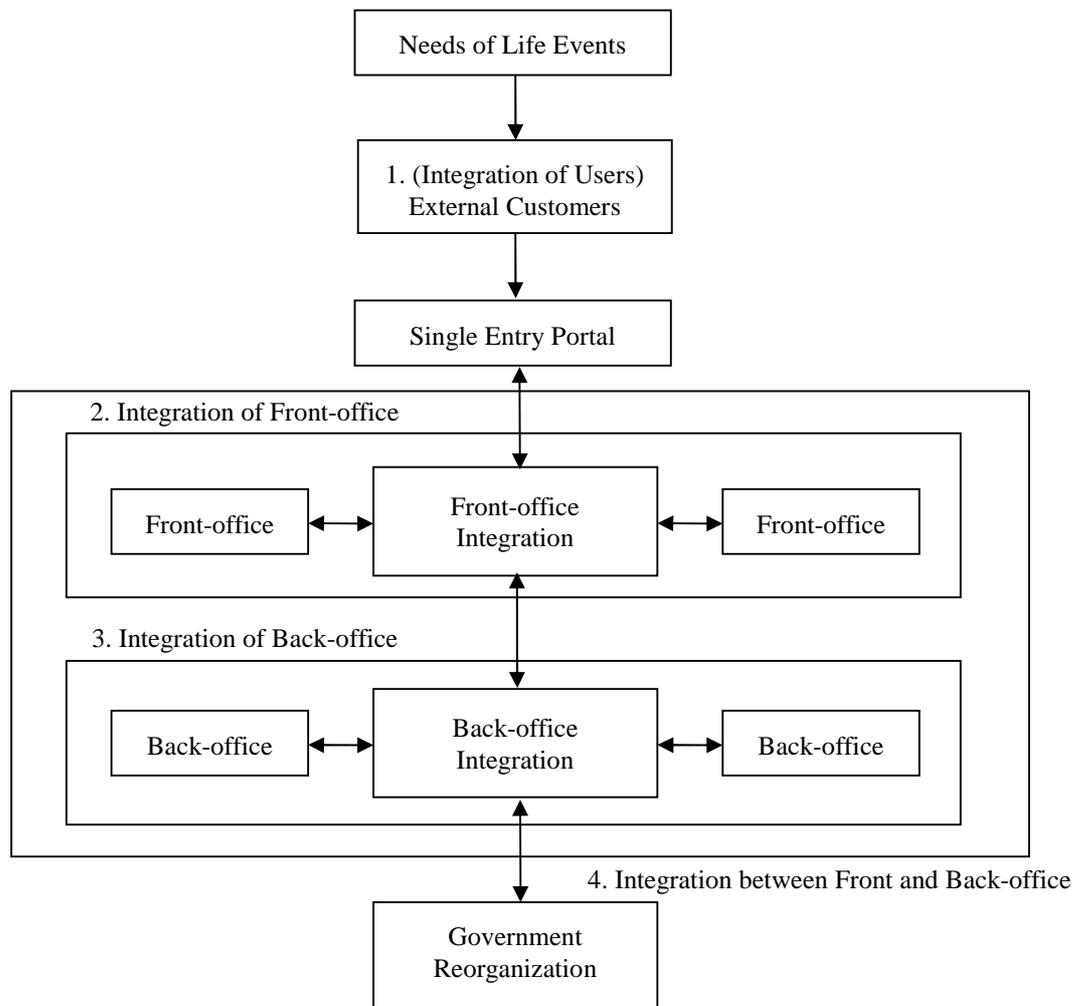


Figure 2: Four types of Process Integration toward One E-Government Portal

Front-office integration also needs to investigate the business processes at stake carefully. It is not that all public service are suitable for online provision. Many transactions of public affairs may not be provided online. Certain chain of activities can be completed and provided online. Some services, due to the nature of the service, can not be carried out through the online portal.

Back-office integration means different suppliers of back-office services are integrated with each other to provide a concerted service to the front line staff. Back-

office integrations are most facilitated by the establishment of various international standards among computer hardware and software providers. It is also promoted by the government requirements and standards. Sample of the existing interoperability frameworks for e-government include UK e-Government Interoperability Framework (e-GIF), the German Standards and Architectures for e-Government Applications (SAGA) (KBSt, 2003) the Swedish Spridnings och Hämtning System (SHS), or the Greek e-Government Interoperability Framework.

Back-office integration can be further categorized into four types (Kubicek, Millard, & Wsetholm, 2007: 125):

1. One service, one stage: the service offered in the front-office is produced by one back-office only.
2. Multiservice, one stage: two or more service and integrated according to life events or business needs.
3. One service, multistage: a service to a customer needs integration of two or more back-offices on different stages of the supply chain.
4. Multiservice, multistage: two or more services toward the same customers require the integration of two or more back-offices.

The above types of process integration finally need to be completed by the final Front Office-Back Office integration. Front Office-Back Office integration means front-offices staff and back office suppliers work together at the customer contact points to provide vertically joined-up services.

Characteristics of the Single Entry Portal

For many national governments, the representative portal is the front face of a public service online. The portal design has subtly changed from the agency specific layout to the users centered format. Although agencies still can be searched on the homepage, they have occupied less prominent position on the homepage of the portal. It reflects the thinking that users are not required to know and remember the inner operation mechanism of government. Besides the traditional function specific categorization of the agencies, portals are increasingly organized by several sets of indexes. The most widely used, or idealistic, indexes include: topic, transaction, client group, local government, and personal enquiry (see Table 1).

Topic indexes can be subdivided into two types of service categories: functions of government and life events of citizens. Functions of government comprise all the major government undertakings, no matter they are internal affairs, education, housing, finance, economy, defense, international relations, or anything else (Peng, 2005). These topics may be mostly overlapped with the jurisdictions of the respected departments, but they may be just the headings of aggregated services that are both offered by the departments of central government, local government, and all the other public bodies. The idealistic presentation of government functions on the portal, based on the horizontal and vertical integration of the government websites, may include the information and services that offered by non-profit organizations. The US government portal has already adopted this approach to provide more comprehensive reference materials on various topics.

Table 1: Characteristics of Portal Homepages of Four Sampled Countries

	Agency	Topic (function) (life event)	Transaction	Client Group	Local Government	Personal Contact
US	○	○	○	○	X	○
UK	○	○	○	○	○	X
SG	○	○	○	X	X	X
TW	○	X	○	○	X	X

The “life event” service categorization was originally promoted by Perri 6 of UK. In his influential book of *Holistic Government*, Perri (1997) advocates that government division should be reorganized by the grouping of life events of the public. He argues that, from the perspective of a citizen, one’s life is constituted by several life events, as finding job, looking for a house, getting medical treatment, getting education. Life event oriented portal offers customers friendlier internet service. Based on so-called active matrix of life-events, the portal can be further upgraded. The knowledge-based system can depend on inference mechanisms to solve a given problem by employing the relevant knowledge (Vintar & Leben, 2002: 389). While from the perspective of government, these events are organized by the departments of specific functions, the categorization of topics of either type has become common practices on homepages of government portals.

Online transaction services are promoted as the benchmark of e-government development around the world. The key point is how many types of transaction can be carried out online and to what kind of depth and integration. Services of transaction like tax payment, car registration, are among the most popular ones. Many countries have set their respective timetables to put transaction service online.

Client groups are increasingly posted as a service category on the portal homepage. The FirstGov portal of US government lists: kids, parents, seniors, military and veterans, American abroad. DirectGov of UK identifies five client groups: young people, parents, disabled people, over 50s, and Britons living abroad. The client group's area could integrate the related government service that devoted to the specific users so that they can access the information with ease and speed.

Although a well-designed single entry portal should integrate local governments and their websites into the national portal, the current national portals seem to be fall short of this goal. The rare exception is that the UK portal lists some local services for portal users: sports facility, garbage collection, and activities for young people. Since the development stage of government portals is still struggling with the website integration among horizontal units, it is understandable that the vertical integration among levels of government still has a long way to go.

No matter how delicate and smart a single entry portal can be for the present time or in the future, there are always questions needs be to answered by a real person, a government official. The single entry portal can be accessed by users through multiple channels, which include internet, physical presence, call center, digital TV, FAX, PDA, and infokiosks. When questions arise among portal users, they should be able to talk to someone for an answer through variety channels. Although national portals all have email address for enquiry and interaction, real person communication still is a necessary service mechanism. For those persons that are not so familiar with the internet operation and for those people with special problems web database can not handle, person-to-person communication is desirable as well as necessary. The FirstGov portal of US offers "Chat" facility so that users can talk to someone in charge or knowledgeable about the question. Although the "Chat" service needs pre-registration, it should serve as a model for other national portals. The above mentioned major components of a single entry portal can thus be diagramed as the figure 3. All the components are complementary in nature. They both represent the complex structure of modern government environment. But they also represent the most recognizable and accessible way for the general public to utilize government services.

In order to provide all-purpose one-stop service to the portal users, there are many hard problems on the operational level. Virtual one-stop e-government services such the issue of a business permit or a change application of address need to be delivered by multiple providers. The technology used by any individual providers has to be checked for technical interoperability. Considering the public agencies are

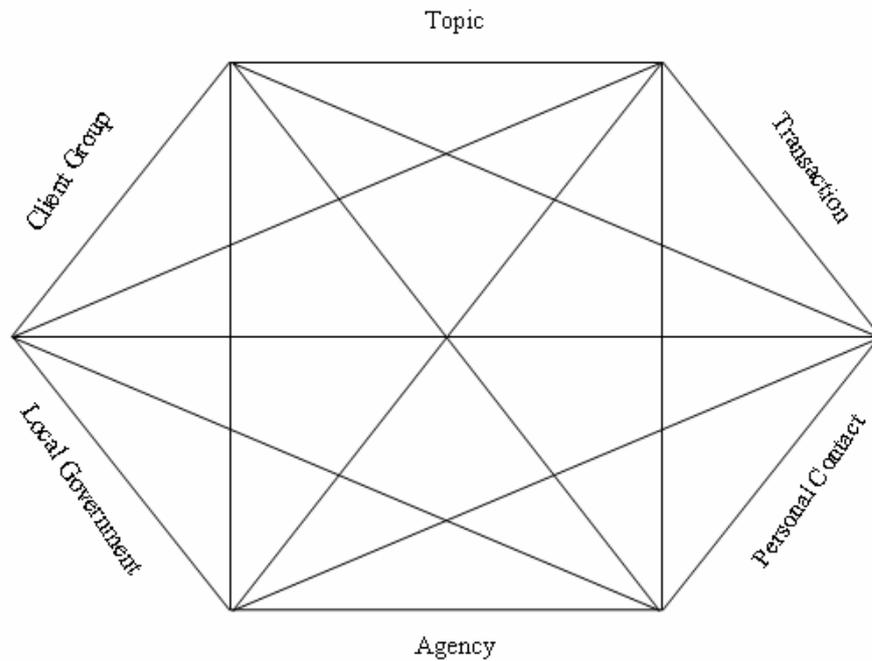


Figure 3: Integrative Web of the Customer-Centered Portal Characteristics

generally governed by complex or fuzzy regulatory frameworks, their internal workflows may contain complex, multi-conditioned conditions (Gouscos et al., 2002: 265). The intricate and delicate integration required of the single e-government portal signifies that the easy to use portal, in its essence, commands huge amount of technical combination of hardware and software design and administrative adaptation.

Roadmap to a Single E-Government Portal

“If we could create a public service from scratch, operationalizing the innovations in technology and management, what would it look like (Borins & Wolf, 2000: 207).”

The invention of the internet has redefined public expectations of the government and its services. The internet technology gives e-government a new meaning that someday the government will be a 24/7 government, online government, holistic government, or even a seamless government (see Figure 4). However, it is not easy to make e-government a reality, let alone the implementation of a single entry portal that offers full line of government services. According to a 2004 survey

commissioned by European Commission, 17 member countries have scored 67% online sophistication for the 20 public services investigated (European Commission, 2003: 10). Singapore, being a pioneer in e-government movement, had put 92% of all public services online by the end of 2001 (Ke & Wei, 2004: 98).

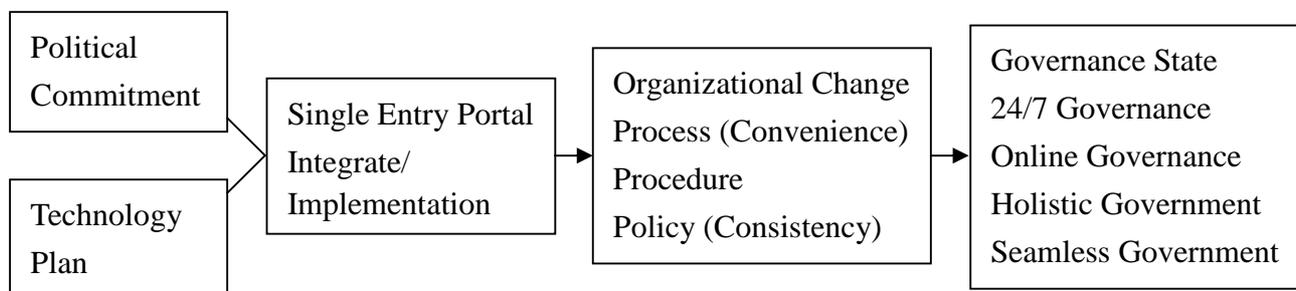


Figure 4: Concept Roadmap to a Single Government Portal

Ke and Wei points out that the success of Singapore’s e-government depends on three factors (Ke & Wei, 2004: 98-99):

1. Strong leadership with vision;
2. Information structure and bridging the digital divide;
3. Coordinating measures that can foster integration among agencies.

Viewing from the experiences and the portal designs of the most successful countries in promoting e-government, a clear conclusion can be reached: the establishment of a single entry national portal needs strong political commitment, personal or legal, and a sophisticated technology plan that integrate the government websites and processes among Front-offices and Back-offices. Singapore used a common e-service infrastructure to facilitate open and secure communication among agencies (Ke & Wei, 2004: 99).

A single entry portal requires very complex and delicate integration of the website designs and all the related integration which include the credit card system to complete the transaction cycle. In order to eliminate the inconsistencies among policies that produced by different government and agencies, the single portal may call for reorganization of the government so as to streamline the service processes and procedures. Internet technology can deal with the full integration of information, but it is impossible for the technology to offer integrative services by itself. The idealistic, integrative service provision still depends on the organizational changes.

Conclusion

There are many challenges in constructing an ideal e-government portal. They include: the scale of integration, the communication and design planning among all governmental websites, the iron-out of the technical incompatibility among websites, the elimination of the policy/service conflicts and ambiguity among governmental units, compatibility problems among hardware/software structure of the websites, etc. The list may not be exhaustive in any period of time considering the complexity of the whole project. But the single e-government portal is surely the only goal of e-government pursuit.

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