



# Select Aspects of Conceptual Foundations of E-government: Clearing the Fog for a Better Vision

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## ABSTRACT

*The birth of e-government more than a decade ago, characterized by its almost instantaneous acceptance, has been a unique phenomenon in governance worldwide. The phenomenon has also spawned new terms, and with fancy spellings, which has clouded the scene, making e-government terms and relationship of e-government with other terms unclear, vague and often confusing. An attempt is made here to define, and to distinguish where necessary, select terms currently being freely used in the growing literature of e-government at the level of its basic terminology and relationship of e-government with other related terms and make suggestions wherever considered necessary.*

**Keywords:** E-government, Websites, Portals, Vortals, Email, SMS, Blog, RSS Feed, Online Discussion Groups, Wiki.

## 1. Introduction

In one and a half decades since its birth in 1993 in United States (Kamensky 2001), *e-government* has virtually galloped to occupy the centre stage in *governance* worldwide, in developed as well as in developing countries. Equally remarkably *e-government* has found almost universal ready acceptance (DESA 2005), as if every one was just waiting it to happen to address, among other things, the vexing issues of improved public policy formulation and public service delivery. Such a remarkable development in such a short period of time is unprecedented in history of governance. This development has also placed a responsibility on both the e-government academicians as well as on its practitioners to develop sound *conceptual foundations* for *e-government*. Time has also come to set the *e-government* terminology in order as the initial novelty and sheen of e-government have started wearing off and e-government has started showing signs of stability, maturity and long-term sustainability.

Conceptual foundations for any discipline are necessary, more so for a new, rapidly evolving discipline like *e-government*. Conceptual foundations provide necessary clarifications which help us to remove ambiguities in terminology and provide clarity of meaning, describe scope and content of various terms and attempt to standardize their usage facilitating communication within the e-government community of practice (COP) as well as outside it. This helps the development of e-government discipline. It also helps e-government practitioners to proceed with e-government with a direction, thus accelerating the pace of e-government practice and development.

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## 2. Spelling of E-government Terms

There appears to be a free-for-all environment for spelling the frequently used terms in e-government according to one's fancy including spelling acronyms and abbreviations (eGov: Isn't it cute? Yes, it is. But what does it mean? E-governance or e-government or, much worse, both). This does not befit a *discipline*. Moreover, a spelling may have profound meaning and a term spelt in two different ways may have two entirely different meanings as is the case, say, with "World Wide Web" and "WorldWideWeb" (one word) or may have governance implications as is the case with "Internet" and "internet."

### *E-government or eGovernment?*

Currently e-government is spelled in a number of confusing ways – eGovernment, egovernment, eGov, E-gov, Egov, etc. Heeks (2004)' *eGovernment for Development* website recommends eGovernment (at the start of sentences) and e-government (lower case). Three rules could be *proposed* here: *Rule 1*. Spell these words the way you like and stick to them. (The down side of this rule is present confusion in spelling *e-government terms*. The up side is that it has preferred *consistency* in usage). *Rule 2*: Never, ever, spell a term *differently* in the same text or in the same organization (This requires issue of a *note of practice*, if not *standardization* of terminology). *Rule 3*: *Develop a reason-based, unambiguous spelling of e-government terms and promote their use.*

Illustration to Rule 3: The term "*electronic government*" has two words. If we wish to join them, a hyphen is required to be placed between them making *electronic-government* one word. However, since this one word is also long, defeating the very purpose of the exercise, it requires further contraction. As "e" as an abbreviation of "electronic" is widely understood, the word can be contracted to *e-government*. But this word cannot be further contracted satisfactorily. For example, if it is contracted to *e-gov*, it makes the meaning ambiguous- does it stand for *e-governance*, *e-government*, *e-govern* or indeed some thing else? As such the proposed spelling is *e-government* (or *E-government* at the beginning of a sentence), which requires to be promoted.

### *"Internet" or "internet"?*

"Internet" (with upper case "I") is a network of networks which hosts the *World Wide Web* which is surfed by us day in, day out. *Internet* is *unique*. While "internet" is non-existent entity so far except that some writers have started using the term "internet" for "Internet" (perhaps under the (mistaken) impression that it should be so spelt because it has become a public utility like telephony or electricity). There is however a deeper significance in the difference in spellings.

Shannon (2004) in *International Herald Tribune* reports that with "internet" (with lower case "i") International Telecommunication Union (ITU), a United Nations agency, wants to lower-case the word Internet as a matter of official policy so that it could take over the governance of Internet. She reports that some of the 2,100 participants at the union's highest-level strategy meeting, which convened for three weeks in November 2006 in Antalya, Turkey, "saw the move as the latest in a long-running effort by the organization to control the Internet, this time through a subtle yet symbolic imprint on the most powerful communications and commercial tool of the 21st century." (ibid.). Yoshio Utsumi, who turns over his office as secretary general of the agency to Touré in January, had called the Internet a "utility" to be managed for the public good (ibid.).

### *"World Wide Web," "world wide web" or "WorldWideWeb"?*

Since the "*World Wide Web*," the universe of information over the Internet, like the Internet, is *unique*, it should be spelled as "*World Wide Web*" and *not* as "*world wide web*." More importantly, the three words "*World Wide Web*" should not be combined to make word "*World Wide Web*" as this (one word) was the first Web client, a browser-editor written in 1990 that ran on a Next machine. According to Berners-Lee

(n.d.), the inventor of *World Wide Web*, “Much later it was renamed Nexus in order to save confusion between the program and the abstract information space (which is now spelled *World Wide Web* with spaces).”

*Web site, web site or website?*

Which one to use: *Web site* (with upper case “W”), *web site* (two words) or *website* (one word)? The *Concise Oxford Dictionary* (COD) (eleventh edition, revised, 2006:1636), comes to our rescue by recognizing (and thus implicitly recommending) *website* (one word). Interestingly, its earlier edition, *Concise Oxford Dictionary* (COD) (Tenth edition, 1999:1623), spells it as two words-*web site*. Even dictionaries change in our e-age so fast, reflecting the current usage!

*E-mail or Email?*

*AskOxford.com* (OUP 2007) recommends email (without hyphen), “as this is now by far the most common form.” The *Concise Oxford Dictionary* (COD) (eleventh edition, revised, 2006), however, also recognizes “*e-mail*” (with a hyphen). At this juncture of usage, therefore, both the spellings- *email* and *e-mail*- are acceptable though ultimately *email* may prevail over *e-mail*.

*Other E-words*

*AskOxford.com* asks “What is the correct way to spell ‘e’ words such as ‘email’, ‘ecommerce’, ‘egovernment’? (ibid.). Should they be hyphenated or capitalized or neither?” The long-time friend and guide in such matters – *Concise Oxford Dictionary* (COD), last revised in 2004, eleventh edition, and the first in the 21<sup>st</sup> century – still treats the issue as premature. It has no policy on *e-words* but guesses that *e-government* may appear in this form (ibid.). Other frequently used *e-age* words have already been recognized by the *Concise Oxford Dictionary* (COD). Its eleventh edition (revised) (2006), spells *Internet* (with capital I), *World Wide Web* (three words), *webmaster* (one word), *weblog* (one word) or *blog* (lower case “b”) but *web page* (two words).

*AskOxford.com*’s advice “If in doubt with other words, hyphenate - this is the most comprehensible form of such words” (ibid.) needs to be kept in mind as a general rule so also the fact that *usage may change these spellings in due course*.

### **3. Select E-government Terms and Distinction between Them**

#### ***Birth of E-government***

The term *electronic government* was first used in September 1993 in the United States in the National Performance Review (NPR) (Kamensky 2001). An interagency task force created on March 3, 1993, to reform and streamline the U.S. Federal Government, the aim of the National Performance Review (NPR) in the United States in Clinton-Gore administration was to create a government that “works better, costs less.” (ibid.). The National Performance Review (NPR) was created on March 3, 1993 and presented its report to the U.S. President on September 7, 1993. The report *From Red Tape to Results: Creating a Government That Works Better and Costs Less* made 384 recommendations (NPRG 1993) An accompanying report of the NPR, *Reengineering through Information Technology* (OVP 1993) spelled out the details of the implementation of *Electronic Government*. The NPR is claimed to be the longest running and most successful government reform effort in U.S. history.

#### ***E-government and the World Wide Web***

Three phases of development of e-government in India have been distinguished: 1. Phase I (1947-1984): *Informatics-based E-government*, 2. Phase II (1984-1995): *Personal Computer (PC)-based E-government*, and 3. Phase III (1995-2007): *Web-based E-government*. (Misra 2007). Each phase has a dominant,

defining characteristic- *informatics, personal computer (PC) and the World Wide Web.*

**Table 1:** Development of the World Wide Web

S.N.	Web	Characteristics	Technology
1	Web 1.0	Posted pages and static content-Read only, information consumer	HTML, XML. Java
2	Web 2.0	A read and write-Application platform-Information consumer, Content producer	AJAX (Asynchronous JavaScript and XML)
3	Web 3.0 or Web x..0	Executable Web-We can execute applications of our own making-Customizable executable application environment	Existing Technologies
4	Web 4.0	Semantic Web- Ask questions and get replies	New technologies

Source: Adopted from Jerney (2007)

The World Wide Web, however, is not a static medium. On the contrary, it is developing very fast (Table 1). Tim Berners-Lee, the weaver of World Wide Web, who was knighted in 2004, and is Director, *World Wide Web Consortium*, has devoted himself to push the frontiers of the Web by concentrating on the development of the *Semantic Web*, which may even have greater impact than the Web (*Business Week* 2007). The message here is that governments cannot take Web-based e-government as one-shot affair but have to keep a close watch on the development of the Web so that they steer e-government successfully by making use of latest development of the Web and are not overtaken by it as usually is the case.

**Websites, Portals, Vocal Portals and Vortals**

The brave new world of Internet/World Wide Web has given rise to a number of unique phenomena among which *websites, portals, online discussion groups* and *blogs* deserve attention. A *website* is any site, that is, location on the *World Wide Web* identified by its unique address, called uniform resource locator (URL). A *portal* is a gateway for the *World Wide Web* and thus a starting point or an anchor for surfing. Typically it offers a number of general services like e-mail, news, weather information, etc. A *vocal portal* is a portal which receives queries through voice on telephone and sends them to a computer. The response is also received vocally thus eliminating the need for screens, keyboards, and clicks. They became available in the U.S. in summer of 2000. A *vortal* is a vertical portal, which is confined to a particular industry, service, etc. or specific to a theme. According to an estimate by Gartner Group, there are 300 *vortals*. The Gartner Group predicts that the number will shoot up to 10,000 within next several years (Misra 2007).

**Government Websites**

The launching of government websites in mid-1990s indicated the scintillating dawn of e-government worldwide. Governments of developed as well as developing countries made a beeline to launch their websites. Anzinger (2002)’s *Governments on the WWW*, online since June 1995, contained more than 17000 entries from more than 220 countries and territories as of June 2002. Germany (1,827) had the highest number of entries followed by Great Britain and Northern Island (1,152), U.S.A. (867) and India (727). The *Directory of Indian Government Websites*, maintained by National Informatics Centre (NIC), Government of India, lists 3,609 websites covering central, state and district governments (Table 2).

**More May Not be Merrier in E-government Websites**

A proliferation of e-government web sites has led Britain to rationalize its e-government websites and migrate their content to two primary, one-stop, websites, *Directgov* (2007) for citizens, and the *Business Link* (2007) for businesses. According to the report, *Transformational Government*, “In the first phase of departmental reviews, 951 websites were considered across 16 central government departments. Decisions

have already been taken to close 551 (58 per cent) of these websites; 90 sites have already closed. Decisions have also been taken to continue with 26 websites – although some of their current content will move to Directgov and Business Link – and decisions on the remaining 374 sites will be taken in the next six months.” (HMG 2007:4).

**Table 2:** Official Websites in India 2007

S.N.	Category	Total
<b>INDIAN GOVERNMENT</b>		
1	Executive	1,313
2	Legislature	20
3	Judiciary	65
4	States [including districts]	2,882
5	Districts	504
<b>INSTITUTIONS/ORGANISATIONS</b>		
6	Banking, Financial & Insurance	94
7	Co-operatives	26
8	Cultural	64
9	Educational	654
10	Health & Medical	119
11	Public and Joint Ventures	33
12	Scientific and Research	206
13	Sports	25
14	Tourism and Hospitality	54
<b>INTERNATIONAL PRESENCE</b>		
15	Indian Missions Abroad	88
16	Intergovernmental Organizations in India	71
<b>COMMITTEES/DOCUMENTS</b>		
17	Committees, Commissions, etc.	76
18	Documents, Reports, Surveys, etc.	36
<b>MISCELLANEOUS</b>		
19	Events	10
Total Number of Unique Entries		3,609

Source: (NIC 2007)

There is a lesson from this British experience for India: Instead of launching a large number of e-government websites, only a handful of e-government websites should be launched and maintained. This will be very convenient to users (who will not have to waste their time in finding and surfing various web sites) but would also save scarce public funds which could otherwise be invested in other fields of e-government, for example, in training of citizens and public personnel in e-government, areas which are yet to get sufficient attention either from public, private or voluntary sector (Misra 2007:80-81).

### ***E-government and Short Message Service (SMS)***

*Short Message Service (SMS)*, which enables us to send and receive *text* messages on mobile phones limited to 160 alpha-numeric characters without any images or graphics, has taken the world by storm. It has turned out to be a very powerful tool for communication with human ingenuity on text limitation (for example, *how r u?* for *how are you?*). Indeed, a Finnish author, Hannu Luntiala, has written a 332-page novel-*The Last Messages*- containing 1,000 messages based on the travel of a fictitious former information technology (IT) executive to Europe and India who keeps in touch with his friends and relatives through text messages (AP 2007). The extra-ordinary popularity of SMS in India is due to its low cost (Rs 1/- for local and Rs 2/- for national SMS) and the timeliness of the message. Private sector has found profit in it if large volume could be obtained. For example, India’s TV programme, “*Kaun Banega Crorepati*”

reportedly generated 58 million SMSes over three months giving a revenue of Rs 174 million (assuming a charge of Rs 3/- per SMS), which was shared between the TV channel and the cellular operator (Tewari 2007).

The power of the SMS can be gauged from the fact that “The President of the Philippines was deposed in 2001 in an SMS-organized mobilization he called a “coup de text” when just 15% of Filipinos had mobile phones (Res Publica 2007:4). Incidentally, Philippines has been called as the “text messaging capital of the world.” More than one million SMS messages were traversing every day as text messages over cellphones in India (Pandya 2007). An estimated 12.3 billion SMS messages were sent by Indian subscribers in 2004, projected to grow to 180 billion in 2010 (Tsuchiyama 2007).

The growth of SMS messages in India has, however, not been as astonishing as, say in, China. Tsuchiyama notes that the key differentiator is in Indic “vernacular languages” and “a key barrier to SMS growth in India is the lack of handsets embedded with predictive text software in vernacular languages, as well as the lack of awareness, education, and promotion programmes.”(ibid). Overall 65% of Indians queried want to type text messages in their own language (and not in English) (ibid).

The “lowly” SMS, whose importance was initially not realized by many, has great potential for e-government. It has already found application in banks (for balance, withdrawal, etc.), schools (for declaration of results), railways (reservation status), airlines (flight status), traffic police (for overcharging by auto rickshaws, complaint about traffic signals not working). Other important areas include bed availability in hospitals, health and educational campaigns and emergency messages/warning to citizens. In an innovative step, nine deputy commissioners in the national capital territory of Delhi have also introduced SMS service to know the status of a citizen’s application for 11 types of certificates (1. Registration of Marriage Certificate, 2. Surviving Member Certificate, 3. Orders for Death Certificate, 4. Nationality Certificate, 5. Schedule Caste (SC) Certificate, 6. Domicile of Delhi Certificate, 7. Handicap Certificate, 8. Solvency Certificate, 9. Other Backward Classes (OBC) Certificate, 10. Orders for Birth Certificate, and 11. Income Certificate, (GNCTD 2007)) by sending a SMS at 9868231002 (Kumar 2006:5). Many citizens, however, are not aware of this service, which requires publicity. Much also depends upon the governments to avail of SMS as an important channel of e-government in reaching citizens.

### ***E-government and Instant Messaging (IM) on Phone***

A more promising development is proposed launch of instant messaging (IM), like Yahoo! and MSN on the Internet (who have an estimated 300 million IM subscribers worldwide), on *phone* by telcos in India in July 2007. Much cheaper than SMS and likely to be based on monthly subscription of, say, Rs 100 per month with unlimited messaging with telephone number as the user id (SMS generates 8% to 10% of revenues for Indian telcos) (Luvangal 2007:11). This will provide another communication channel to governments in relating to citizens in real time. E-government has, therefore, also to take this development into account in designing any strategy.

### ***E-government and E-mail***

Rightly described as the “killer app” of new technology, people took to the email as fish takes to water (Misra 2004). Indeed the symbol “@,” introduced by Ray Tomlinson in 1972 who is credited with sending world’s first e-mail, has become the icon of our Internet age. More than 2.25 billion e-mails are sent each day. Second only to telephone in subscriber base, checking e-mail has become a daily habit. With e-mail service providers offering free and huge/almost unlimited storage, e-mail has become an indispensable part of our working/private lives.

**Table 3:** A Typology of Online Discussion Groups

S.N.	Criterion	Type of Group	
1	Membership	Open	Closed
2	Message Approval	Required	Not required
3	Level of Activity	Good	Poor
4	Moderator Performance	Democratic	Undemocratic

Despite its inherent advantages, e-mail is an under-used tool in e-government. It is still to find extensive use in internal communications in ministries/departments where paper still rules the roost. Even such a simple application like applying for casual leave through e-mail is yet to be mandated on large scale. Similarly, e-mail is under-used in relating to citizens. For example, very few official websites provide the facility of querying through e-mail. Apparently this entails extra and often problematic work (for example, collecting information from various sections in a department) but there is no escape from this responsibility. Finally, e-mail lists can be used to inform citizens about changes in official policies and programmes from time to time.

### ***E-government and Online Discussion Groups***

A successor to bulletin board system (BBS) or message board of 1980s (Textfiles n.d.), *online discussion groups*, sometimes also referred to as *e-groups*, have an important place in e-government. These online discussion groups have emerged as an important source of *feedback* on government policies and programmes and as *opinion-shapers*. Where permitted, they allow freedom of expression of views to members. Usually set up by an individual or two, such groups are “personal properties” of their founders, called *moderators* and reflect their value system in laying down parameters for participation in the groups.

A typology of these *online discussion groups* can be developed to aid our understanding based on selected criteria of (i) *Type of Membership* (1. *Open* - whose membership *does not require* moderator’s approval, and 2. *Closed* -whose membership *requires* moderator’s approval), (ii) *Posting of Messages* (1. Requires moderator’s approval, and 2. Does not require moderator’s approval), (iii) *Level of Activity* (based on number of messages posted, 1. Good, and 2. Poor), and 4. *Moderator’s Performance* (based on allowing posting of *opposite* views, 1. Democratic- allows posting of *opposite* views, and Undemocratic – does not allow posting of *opposite* views) (Table 3). This typology also allows rating of online discussion groups.

Set up by spirited individuals, a number of India-centric e-government online discussion groups have come into being (Table 4). Such groups, however, have severe limitations. For example, if you have open membership (any body can join), many spammers join the group. Similarly, if you allow posting of messages without approval, spammers have a field day by posting irrelevant, often commercial, matter. If you have closed group, then its membership is based on whims and fancies of the moderator. Similarly, if messages require approval, their approval again becomes open to arbitrariness. Additionally, there is no time frame for approval of messages. (The present time limit of 14 days allowed by Yahoo! for example, is too long on Internet). Lastly, a discussion on a particular topic, called *thread*, can be snapped when, say, a reply to a counter reply is not given or the discussion initiator suddenly loses interest in the thread without any rhyme or reason, thus abruptly closing the discussion.

Despite these limitations such *online discussion groups* are an important source of citizen engagement. Official websites, therefore, must, as a matter of rule, set up *online discussion groups*. Department of Information Technology (DIT), in its pioneering attempt and showing new age orientation, had a discussion group in its erstwhile website but in its revamped, more attractive website, the discussion group has been dropped (DIT 2007). There is a strong case for revival of discussion group on DIT’s website.

**E-government, Websites and Blogs**

A *website*, as its name indicates, is a site on the *World Wide Web* usually launched by an organization or an individual. A *weblog*, better known as *blog*, on the other hand, is a chain of related websites usually on a single topic, typically launched by an individual. The *Merriam Webster* dictionary declared it as the word of year 2004 (Misra 2005). The *blogs* played a unique role from the U. S. Presidential election to tackling the Asian Tsunami tragedy and some of the *blogs* have become more popular than some of the big media portals (ibid.). Since then their growth has not looked back.

**Table 4:** Select India-centric E-government Discussion Groups on Yahoo!\*

SN	Discussion Group	Date Founded	Members	Type	Level of Activity (Number of Messages)		
					2005	2006	2007
1	<i>Digital governance</i> (2007) Category: Politics Moderator: Vikas Nath	February 20, 2001	2,430	Open	1	1	1
2	<i>Egov4dev</i> (2007) Category: Politics Moderator: Richard Heeks	May 1, 2002	926	Closed	42	51	11
3	<i>India-egov</i> (2007) Category: Politics Moderator: Sameer Sachdeva	January 18, 2003	1,299	Open	1,550	329	219
4	<i>Egovernance</i> (2007) Category: Globalisation Moderator: Vikas Kanungo	January 2, 2004	749	Closed	62	100	54
5	<i>Civilservicesreform</i> (2006): Category: India Moderator: Atul Asthana	September 10, 2004	31	Closed	72	1	Nil
6	<i>eGovINDIA</i> (2007) Category: India Moderators: VM Kumaraswamy and C.Umashankar	Mar 31, 2005	3,448	Closed	4,336	3,682	1,388

Note: 1. \*As on July 11, 2007, arranged chronologically.

2. Group at S.N.2 is for developing countries.

3. Large number of posts, possibly including its large membership too, in group at S.N. 6 is due to large scale posting of messages not related to e-government

4. Low level of activity also reflects that the moderators are not able to devote time for nurturing their groups due to their preoccupation with their jobs, etc.

Tom Weber, in his column E-World, in the *Wall Street Journal*, writes that it combines the personal perspective of a journal with the vast databank of cyberspace. Compelling and interactive, it represents the most successful new literacy form of the Internet Age. Check, by way of example, the websites of *blogger* (2007), *Weblog* (2007), and *Word Press* (2007).

**E-government, “Blogosphere” and “Blogoneers”**

Born ten years ago in 1997 (Vardarajan 2007), an astonishing number of 60 million *blogs* are in existence as of April 2007 and *blogosphere*, defined by Wyld as “sum of all blogs,” continues to double its size every six months (Wyld 2007). Blogs cover “anything, and everything” from family and friends to politics. *Blogoneers*, a term coined by Wyld, meaning blog pioneers, have already started showing the way. Wyld describes “The Virtual Family Mosaic” (Figure 1) analyzing the rise of a more accessible, interactive Internet. He further develops a typology of four different types of blogs for public officials, adapted from the Congressional Management Foundation: 1. *The Travel Blog*, 2. *The Blow-by-Blow Blog*, 3. *The*

*Personal Blog*, and 4. *The Team Blog* (ibid).

In this pioneering study *The Blogging Revolution: Government in the Age of Web 2.0*, Wylde found blogging activities “across all levels of government, including blogs from: Members of Congress, Congressional committees and caucuses, Governors and lieutenant governors, State legislators, City managers and mayors, Police and fire departments, College and University presidents.” (ibid). Recently the political bureau of a leading financial newspaper in India underscored the importance of blogs, SMSes, and e-mails (PB 2007). Dayananda Bannikal, Superintendent of Police, Dakshina Kannada (DK), Mangalore, Karnataka maintains a police department blog (SPDK 2007), which is also mentioned by Wylde. This blog, started in November 2005, has been set up “with the purpose of disseminating police news of the district to those interested” and “... just an attempt to create an interface with the press and the public at large.” (ibid). The blog promises posting of authentic and official information of DK Police regularly. It welcomes views and suggestions too.

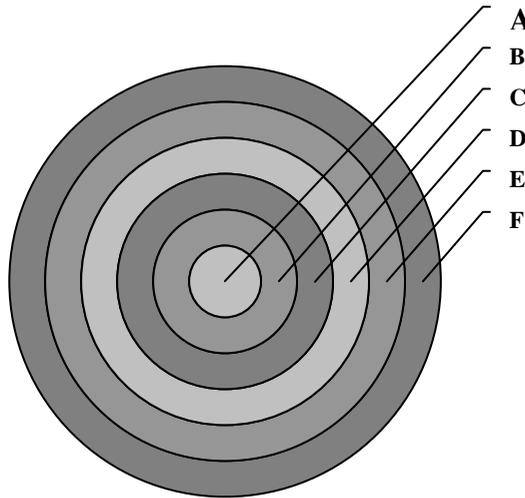
Similarly, and not many Indian tax payers may know it, the Income Tax Department (ITD) in India has setup up a *blog* on its website on May 11, 2007 (ITD 2007). The aim of the blog is to undertake a “business process reengineering (BPR) exercise to study its processes with the following objectives: (i) How can the ITD function in a more efficient manner? (ii) How can ITD serve the tax-payers better? and (iii) How can ITD maximise tax collection revisions?” Further, the website states: “What this Blog is: Since tax-payers are one of the important stakeholders in the functioning of ITD, we intend to capture tax-payer views and feedback through this forum. This will provide new perspectives on ITD operations and functioning (ibid). Also, “What this Blog is not: This blog is not a forum for raising case-specific grievances for redressal. This blog is merely an exercise by the Income Tax Department to gather tax payer views.” (ibid). This is a very interesting development in e-government which requires to be watched for drawing useful and practical lessons for other government departments.

The importance of *blogs* for e-government is two-fold. First, a *blog* can be a powerful management tool for improving the *internal* working of a ministry/department by providing an interactive forum if set up within a ministry/department. Secondly, they can be a very important source for citizen engagement for obtaining feedback on government policies and programmes and re-orienting them to meet their needs.

### ***E-government, RSS Feed, Blog, and Wiki***

Really simple syndication (RSS) feed, originally named RDF Site Summary, is a highly successful tool of automatic website connectivity and aggregation. This ubiquitous icon of connectivity, whose inventor has been called *Aldus of the Web* by Marc Andreessen, the creator of Netscape Web browser, was invented by Ramanathan V. Guha, a computer scientist, in March 1999 while working with Netscape (He is now with Google). Blog and Wiki are often confused to be the same concepts but they are fundamentally different and must be distinguished (Table 5). Nevertheless they also have a number of similarities which may also be noted. For example, both *blog* and *wiki* are publishing tools on the Web, groupware and can have RSS feed. Beyond this point, however, they take different routes.

Both *blogs* and *wikis* are very useful tools of e-government. *Wikis* can, for example, be used for hosting manuals (civil service manuals, collaborating on a project, writing a joint report after field visits or enabling citizens to develop their own forum as a clearing house of information, etc.). Several UK state-sector organisations are setting up their own ‘wikis’ (Mathieson 2996). A *Government Wiki*, formally named as *GovIT wiki* (2007), has been launched in March 2007 in the U.S. It is “written collaboratively by a combination of dedicated staffers and volunteers from around” the U.S., “and in some cases from around the globe.” It has already been visited by 447,167 visitors as on July 11, 2007. It will be very instructive to see how this *wiki* shapes as it may have important lessons for cash-strapped developing countries in making e-government citizen-centric. An *India Broadband Wiki* (IBW 2007) has also been launched.



Key: A:  *Blogging*, B:  *Discussion Groups*, C:  *Social Networking*, D:  *User-Generated Media*, E:  *Web 2.0* and F:  *The Internet* (Source: Adopted from Wylde)

**Figure 1:** The Virtual Family Mosaic

**Table 5:** Distinction between  *Blog* and  *Wiki*

S N	Characteristics	Blog	Wiki
1	Year of Birth	1999	March 1995 (Mattison 2003)
2	Focus	Individual	Collaboration
3	Content	Personal Diary	User alterable reference site (Mathieson 2006)
4	Participation	Comments can be posted	Not only comments can be posted but the contents can also be edited
5	Views	Opinionated	Consensus
6	Internal Search Engine	Usually not available	Usually available

#### 4. Concluding Remarks

This paper has dealt with select aspects of conceptual foundations of e-government. It has attempted to clear the fog surrounding e-government for a better vision. The selection of various concepts underlying or driving e-government, is, however, not, nor can it be, exhaustive. E-government is inter-disciplinary in nature. As a result, a number of disciplines ranging from political science to computer science have contributed, and are contributing, to its development. The select aspects are, nevertheless, the building blocks of e-government and it is useful from time to time to check how the discipline and practice of e-government are growing over time with the aim to nurture and strengthen their foundations so that e-government faces the enormous challenges competently in its unstoppable, but slow, march of progress and delivers its basic promise of *citizen-centric*, *transparent* and *productive* governance worldwide.

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