



# Strategic Marketing of E-Government for Technology Adoption Facilitation

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## ABSTRACT

*The e-government is being adopted all across the world for better facilitation of public services. It is a citizen-centric service i.e. of, by and for the citizens. However the developing countries like India, China and other South Asian countries are finding tough to convince their masses to try, avail and trust these e-government facilities. Major concern is that many of current IT users do not avail the e-government services. The success of any plan or programme can be measured by its reach among users. The challenge before government is how to broaden awareness, acceptance and usage of e-government services. The present research analyzes the marketing strategy to be adopted in the Indian context to meet this objective. It introduces the concept of 'progressive segmentation' for taking into e-government fold more and more citizen users. The increased usage will not only bring down the cost but also increase transparency, autonomy and global economic integration.*

**Keywords:** Progressive Segmentation, Promotion, E-Government, Citizen -Centric

## 1. Preamble

According to study done by Garcia and Pardo (2005) the extent to which e-government is planned and implemented shall decide the level of its success and excellence. It increases operational efficiency by reducing costs and increasing productivity and ensures better quality of services provided by the government. On basis of analysis of more than 40 reports on e-government cases from developing and transitional countries, submitted for academic assessment at the University of Manchester, Richard Heeks (2003) concluded that the success rate of e-government project implementation in developing countries is as low as 15%. These failures cause various tangible and intangible costs to the countries. He opined that proper marketing of e-government may increase its awareness, acceptance and usage among the masses thereby increasing success rate of e-government projects.

The present paper is an attempt to review the E-government initiatives in India in the backdrop of several constraints due to low education level, low, awareness, varied geographic and social milieu. The Government of India like other progressive nations has invested heavily in developing, procuring and implementing technologies to deliver e-services, and streamlining administrative procedures in alignment with e-government (US\$ 4.92 billion in budget allocations in the Tenth Five Year Plan (2002-07))for implementation of e-government (<http://www.egovonline.net>). Every government department is expected

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to invest 2% of its budget on e-government (<http://www.mit.gov.in>). Table 1 summarises the initiatives which have been quite successful in achieving their objectives.

Akshaya E-government initiative in Kerala aimed at providing e-literacy to one member from every household who would act as ICT (Information and Communication Technology) disseminator node and ITeS (IT enabled Services) delivery point in every village. These centres had internet connectivity and networked with centralized operating centre (<http://www.akshaya.net>). Similarly Karnataka started Bhoomi in mid 1998 to computerize land records to ensure more secure title deeds and check rampant cases of corruption (<http://www.revedept-01.kar.nic.in/Bhoomi>). The Computer-aided Administration of Registration Department (CARD) in Andhra Pradesh provides electronic delivery of all registration services. It has demystified the registration process besides ensuring speed, efficiency, consistency and reliability in the government-citizen interface (<http://www.dqindia.ciol.com>).

DISK (Dairy Information System Kiosk) as an E-government initiative provides internet connectivity and a portal at district level to serve transactional and information needs of dairy societies. It has automated milk buying process at three thousand rural milk collection societies (<http://www.dqindia.ciol.com>). Another E-government interface e-Seva was started in Andhra Pradesh to pay utility bills, availing of trade licenses and transact on government matters. It provides services from 8.00 am to 8.00 pm and is quite popular. The government has extended this facility to many other states too (<http://www.esevaonline.com>). A similar e-government portal called FRIENDS (Fast, Reliable, Instant, Efficient Network for the Disbursement of Services) has been started by Kerala state. It facilitates utility payment for electricity and water, revenue taxes, license fees, motor vehicle taxes, university fees, etc. (<http://www.dqindia.ciol.com>).

The Gram Sampark is flagship E-government initiative of Madhya Pradesh. It contains complete database of available resources, basic amenities, beneficiaries of government programmes and public grievances of all 51,000 villages in Madhya Pradesh. An eleven-point monitoring system monitors the programmes village-wise every month (<http://www.mp.nic.in/gramsampark>). The Gyandoot is a low cost, self-sustainable and community-owned rural Intranet system. It caters to specific needs like agricultural information, market information, health, education, etc. of the village communities in different districts of Madhya Pradesh (<http://www.gyandoot.nic.in>).

The Lok Mitra e-government project in Himachal Pradesh offers services like information about vacancies, tenders, market rates, matrimonial services, village e-mail, etc. The citizens can also use this ITeS service for grievance redressal (<http://www.himachal.nic.in/lokmitra.htm>). The Vijayawada Online Information Centre (VOICE) is e-government services in Vijayawada district to deliver municipal services such as building approvals, and birth and death certificates, apart from collection of property, water and sewerage taxes. It has helped in reducing corruption; made services more accessible and convenient; and improved the finances of the local government (<http://www.ap-it.com>).

Studies have shown that initiatives at micro level have been more successful than those at macro level. The National E-Governance Plan, an ambitious initiative of India was initially designed to begin in 2003 and complete by 2007. However the Plan got cabinet nod only in May 2006 and was made perpetual. The studies show that major hurdles in its progress and implementations are lack of readiness by State governments, by policy makers and also by users (Geetika and Pandey, 2007). Country needs to learn from the experience of previous problems faced in popularizing the e-government services and replicate the successful models after suitable adaptations (De, 2006).

It is envisaged here that in order to ensure that various E-government plans do not dovetail into bureaucratic juggernaut exercises with meaningful agenda and endless timeframe, a holistic approach has to be taken. The premise is that just like any other product, E-government also requires a complete

marketing strategy, where product, price, promotion, placement all aspects have to taken care of. The readiness of consumer (user-citizen) and selection of suitable distribution network will determine the ultimate success. Needless to say, howsoever good a product may be but till the market is ready to receive it, the product is bound to fail. It is believed that the generic product, i.e. 'E-government' is very efficient and effective in serving the purpose it is meant for, such as improving service delivery, reducing corruption, increasing transparency, increasing revenue, ensuring cost reduction and empowering people (Margetts, 1995; Taylor, 1992; Sawhney 1996; Jaegar, 2003)). Therefore it will not be wrong to preempt that the low success rate is due to ineffective marketing of the product.

**Table 1:** Successful E-Government Initiatives in India

<b>E-Government Project</b>	<b>Project Details</b>	<b>Year of Implementation</b>
Akshaya	e-literacy Campaign in Kerala	November, 2002
Bhoomi	Land Record Computerization in Karnataka	July, 1998
CARD	Computer-aided Administration of Registration Department in Andhra Pradesh	April, 1998
DISK	Dairy Information System Kiosk in Gujarat	October, 2000
e-Seva	Electronic Services related to Government Departments in Andhra Pradesh	August, 2001
FRIENDS	Fast, Reliable, Instant, Efficient Network for the Disbursement of Services in Kerala	June, 2000
GramSampark	Flagship ICT initiative in Madhya Pradesh	October, 2002
Gyandoot	Low cost, self-sustainable and community-owned rural intranet system in Dhar district of Madhya Pradesh	January, 2000
Lok Mitra	Information about vacancies, tenders, market rates, e-mail and grievance redressal using IT in Himachal Pradesh	May, 2001
VOICE	Vijayawada Online Information Centre in Andhra Pradesh	June, 1998

Source: <http://www.dqindia.ciol.com>

## 2. Study Design

The present paper is conceptual in nature and draws information from various researches as well as reports on different dimensions of E-government and strategic marketing. The main basis of this paper is the conclusion of study by Heeks (2003) on success (failure) of E-government in less developed/developing countries. Further more E-government is a hybrid product germinated from combination of information and communication technology and government processes/services/utilities. It calls for revisit of legal reforms before its successful launch. Its biggest advantage of transparency creates apprehensions about security and privacy.

In a study done by Internet and Mobile Association of India (IAMAI) in 2006 on the Internet users, it has been found that only 23% of internet users use Internet banking as a preferable banking channel in India. In other words even those who are net savvy are not very keen on internet banking what to say of the rest of the lot. Education and economic growth appeared to be playing spoilsport as Bihar and Uttaranchal lagged behind with only 1.6% and 1% of people using internet banking as against 28.7% and 17.7% in

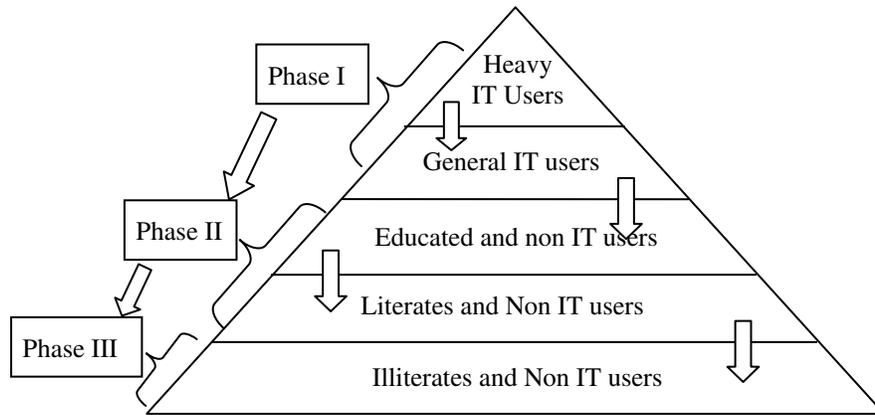
Maharashtra and Delhi respectively (IAMAI Report 2006). Another survey of internet users showed that security concerns was most important deterrent against internet transactions, whereas convenience, time saving, better control over finances, more information were perceived benefits (Geetika, Nandan and Upadhyay, 2008). This calls for retrospection among policymakers regarding the need for creating a sound base for penetration and absorption of e-government initiatives in the country. There is a need to remind ourselves that we are talking of a country, where more than one third of population lives below poverty line (although recent study by World Bank has proved this figure to be above 50 % on basis of revised guidelines). More than one third of the people are illiterate and only 8% are graduates, implying thereby that majority is only humbly educated, with primary school dropout rate of 39% (<http://timesofindia.indiatimes.com/articleshow/431375.cms>). Two third people still live in villages where situation of power supply, availability of electricity and telephones and other basic infrastructure needed as prerequisite to E- governance is in extremely meager shape. Let us also remember that only 0.6% of Indian population uses internet. So are we talking of these 0.6% people when we talk of internet? Surely not. With programmes like, Akshaya, Bhoomi and Gyandoot (to mention a few) we are targeting the unserved and those 65% living in low tech, traditional and uneducated environment.

In this backdrop this paper aims to explore the possibilities of making E- government implementation successful in spite of all odds. The basic premise on which this paper is drawn is that E-government is a product (Service) which is very useful in minimizing delivery costs and corruption and increasing transparency and efficiency. In spite of this, the product is still in its nascent stage and has very scattered/skewed presence.

The second premise here is that the producer/seller of the product, i.e. governments of the country/states should adopt an innovative marketing strategy for its successful adoption in the market. Simple supply chain analysis may not give effective results due to various constraints including wanting infrastructure, low education, less awareness and rigid legal procedures.

Taking learning from basics of strategic marketing an analytical model dealing with design of the product, its pricing, market analysis and promotion strategy has been developed (Figure 2). While dealing with the market analysis a new concept of '*progressive segmentation*' is proposed here (Figure1) and this is the major contribution of present research. The word 'Progressive' has its root in the word 'Progression' which means the process of moving gradually from one stage to another. This terminology is borrowed from medical science. The progressive segmentation is used in chest radiographic image segmentation algorithm. An initial segmentation is progressively refined until an image in which all regions have clinical meaning is arrived (<http://www.ieeexplore.ieee.org/psmi>). The progressive segmentation similarly as a marketing tool also captures the various different target segments in a gradual manner. The proposed model is conceptual and based on research premises. It can be tested in field in different context to verify its validity and further amendments if required.

***Progressive Segmentation and Targeting:*** It may be assumed that e-government should be segment neutral as it is expected to benefit the entire population. However a deeper analysis would reveal that progressive segmentation holds key to e-government success in India. The target users of e-government may be divided into five major segments of the population viz. The 'IT (Information Technology) Nerds or Heavy users', 'General IT users', 'Educated and non IT users', 'Literates and non IT users', and 'Illiterate and non IT users' in a progressive manner. The rationale is that the government has limited resources and targeting all the segments in the past has not yielded encouraging results. Many of the existing IT users do not use e-government facilities due to multiple barriers, notional as well as real. Another advantage of progressive segmentation is more focused approach to serving target users. The precise target group selection helps devise product design, pricing, advertisement/sales promotion and public relations exercise for creating awareness and acceptance in that particular citizen segment.



**Figure 1:** Progressive Segmentation for Marketing E-Government

In the first phase of progressive segmentation, ‘IT nerds’ category and ‘General IT users’ category should be targeted. The product can be such for which these segments do not have to make any additional efforts on hardware or software; also where security issues, psychological uncertainties are minimal. Some such areas can be road transport offices, employment exchanges, electricity boards, telephone billing, electricity boards, municipal boards etc. Widespread promotional efforts should be made to popularize this among first two segments and if the other segments start using e-government services as a result of this promotion will be a welcome development. In the second phase of progressive segmentation the next two categories educated but non IT users and ‘Literates but non computer users’ is targeted. The promotional campaign i.e. advertising, sales promotion and public relations will change or slightly adapted and be focused on these new target citizen group. Once sufficient number of e-government new users i.e. already pre-specified number of target users, is achieved (which can easily be monitored at e-government service touch point), the third and final phase of promotional campaign is started. The last two phases are tough but the conversion rates may be high once the acceptability is built. The rationale is that everyone likes fast, unbiased and convenient services. Once the latter two categories taste the fruits of efficient and quick e-government services there is quite high probability of them converting into regular users. The last segment of ‘Illiterates and non IT users’ is most difficult to handle but by the time it reaches them there will be sufficient number of neighborhoods acquainted with e-government utilities. Some of the success stories are so well known.

When we strategise marketing of e-government via progressive segmentation, the other aspects of marketing like product, pricing, promotion also get clear focus and create a value chain network for the service provider as well as the target user citizens.

**Product and Services:** The Services provided under e-government should be user-friendly. Easy-to-use GUI (Graphical User Interface) needs to be used so that citizens may operate it by seeing icons. This will help remove linguistic and literacy barriers (Perri, 2002). A thorough market research should precede the development of e-government services. The market research will lead to the first most important component of marketing i.e. it will tell exactly what the citizens want from the e-government service. It will help define users and identify barriers to using the service. This will also result in not only devising better e-government product and services but also help in promotion of these services to the masses. A Test Marketing of the web portal with potential user group and stakeholder representatives will highlight any preliminary shortcoming. The  $\alpha$ -Testing and  $\beta$ -Testing would highlight the types of navigation or other features needed by the users (<http://www.agimo.gov.au>).  $\alpha$ -Testing is simulated operational testing by an

independent test team or invited users at the developers site. The idea is to check the web portal internally for customer understanding and response. The  $\beta$ -Testing is done through the actual users to get prompt feedback about the web portal. The panel user members may also be used for this purpose. At times revelations regarding any key interface window which may have been missed out due to human error or other constraints may surface during test marketing. This is important as any major repair work within a few days of web portal launch may erode the confidence and trust of the user citizens.

Like every product and service the e-government service has its own Product Life Cycle (PLC). After the introduction stage i.e. launch of the portal, the market research information is collected. This gives the usage pattern and feedback of the portal. The tools like search engine analysis, web logs and usage statistical analysis will give key input for next stage of refinement during the growth phase of the PLC.

In this context the use of Panel User Members may be useful. These are the e-government service users who sign in with the government department hosting the portal to give regular updates on the mutually agreed date and time. The panel user members also allow access to them as and when required apart from agreed slots (Thomas and Streib, 2003). The advantage is that they provide complete information on a regular basis and are available for open-ended discussions and feedback sessions. The top officials of the host department may also interact on one-to-one basis with panel user members which otherwise becomes difficult to arrange with normal users. The research has shown the successful application of product refinement on basis of panel user members, in retail and FMCG (Fast Moving Consumer Goods) sector (Ostrom and Iacobucci, 1995; Tax and Brown, 1998; Schmitt, 2003).

Also, the e-government services should have in-built flexibility in the product to accommodate new technologies and changing tastes of the client. This will help in retaining the citizen users besides attracting more citizens for usage especially the youth users. The citizens should be informed after the contemporary changes are incorporated.

**Price and Delivery to People:** Whenever a new product is launched the producer/seller adopts a combination of strategies to create demand. E-Government is a service which should benefit the masses therefore the prices of e-government services should be kept low during initial phase of launch of web portal. The government revenue model in e-government plans and programmes should aim to recover the variable cost and not the fixed cost (Norris, 2001). The fixed cost would be the subsidy by the government. It may be recovered after initial two years, by which time the usage pattern will go up. The initial e-government service cost would be low and as a result more and more number of citizens will avail the facility. Seeing at number of citizen population India has, even 1% increase in usage pattern will add lakhs of citizen users. This approach will be beneficial in the long term and help make e-government successful. The delivery of e-government services should be hassle-free and trust worthy. The marketing process of e-government should consider the needs of culturally and linguistically diverse background citizens. Plain and simple English and one vernacular language along with graphical icons should be incorporated to facilitate the portal-client interface. The security of websites should be a priority concern to build trust of citizens (Norris, 2001)

**Promotion:** Promotion of e-government services would commensurate with the target segment chosen for promotion. This will help in better capturing and winning over the citizen mind set in that progressive segment category. The advertisement and other communication campaigns should highlight a popular and high profile application of any e-government portal. This will increase awareness, acceptance and usage of e-government services among the 'General IT users' category, 'New IT users' category and 'Literates but never used a computer users' category. Such campaign may attract the citizen users who have stopped using the e-government facilities.

*Leveraging Internet and Blogs:* Advertisement on Internet through viral marketing and creating discussion groups on the blogs are contemporary promotional tools targeted at first segment user group i.e. IT Nerds or heavy users' category. This gives instant and candid feedback of the citizen users of the portal, apart from enhancing engagement of bloggers with that particular e-government service brand. This has also 'word-of-mouth' appeal to moderate and non-users. Since this category has the fastest growth rate in India and consists mostly of youths, the promotion through Internet and Blogs cannot be overlooked as part of integrated marketing communication strategy for popularizing e-government services.

*Choosing Intuitive URL:* The URL (Uniform Resource Locator) of e-government portal should have parent organization name in it. An intuitive URL containing the parent organization name is easy to guess and it increases the success rate because at times citizen user may avoid using a search engine and choose to type the website directly based on his intuition (Kaylor et al, 2001). It aids in publicizing the e-government service portal and is easy to recall by all categories of e-government users.

*Collaborating with Other Websites:* The parent department which is hosting the e-government web portal should collaborate with other web portals - both in the public sector and in the private sector - to provide a link for that particular e-government website and also giving statement on the collaborating partner website encouraging linking to e-government website. This promotional method should be targeted to General IT users category and New IT users category. The rationale is that users find a website through variety of ways and once they use a service, like it and then they become regular users.

*Advertisement of e-government services:* The media advertisements through newspapers, brochures, TV, messages on public transport and subway, banner in public places, roadshows and seminars would also increase e-government user population. Advertisement space in bus and railway tickets, electricity bills, tax invoices and receipts and web kiosks will also increase awareness of e-government services. However all the campaigns should be consistent in message content communication to avoid any confusion (Lyne and Lee, 2001). This will target the 'New IT users' category, 'Literates but never used a computer' category, and 'Illiterate Citizens' category and help the particular e-government service become a brand.

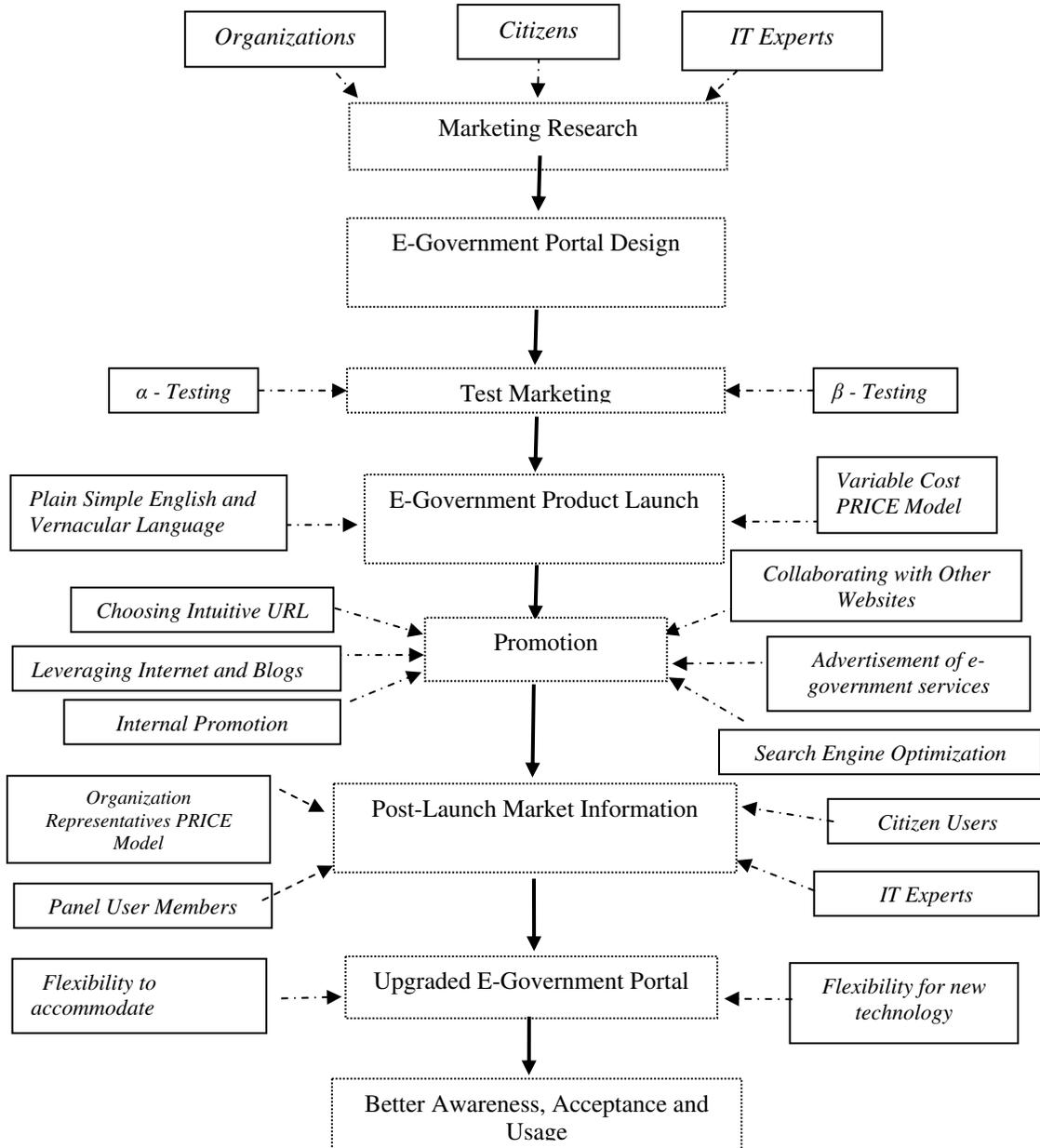
*Search Engine Optimization:* The search engine optimization is one of the most important promotional methods for success of any dot com venture (West, 2001). There are various technological tools for optimizing results. Also linking collaboration with other websites will also increase the number of hits which would be duly recorded by search engine like Google, Yahoo, MSN, etc.. This will help in ranking the e-government web portal high in the search results thereby increasing chances of its awareness and usage by the citizens. This would be quite effective for Heavy users category, General IT users category and New IT users category.

*Internal Promotion:* While emphasis on external promotion of e-government is imperative to increase the awareness, acceptance and usage rates, the internal promotion of e-government is equally important. The internal promotion involves communicating about the latest e-government service being offered to the employees and motivating them to use the services for their own personal requirements. This will help in receiving not only the prompt feedback from its own user employees but also help the staff especially the call centre and customer helpdesk staff provide online and offline information and trouble shooting regarding e-government services to the clients i.e. citizen users.

### **3. Challenges Ahead**

The biggest challenge before the government is to connect the unconnected. The illiterate category citizens are to be included in e-government fold as last step of progressive segmentation. They constitute a large chunk (approximately 35%) of population. Apart from traditional advertising methods, offline consultation

through e-Seva outlets will increase their engagement with e-government services. But it is easier said than done. This category would have maximum usage barrier including lack of awareness and trust. Hence human interface coupled with IT intervention should be the part of e-government initiative for this citizen segment. Later, as this involvement and engagement increases human interface may be reduced and electronic interface component may be increased. This segment needs a change of mindset and a mixed approach may be a step in the right direction.



**Figure 2:** Marketing E-Government for Technology Adoption

Though internet ownership has seen growth of 32% compare to last year which is a delighting fact, there are some concerning factors too (<http://www.financialexpress.com>). Those are:

- Only 5.3% people use internet in India which is very low.
- Most of the users are male (85%).
- Maximum number of users is from top 10 cities (37%). So, the internet usage in urban areas is very less what to say of sub urban/rural areas.

India along with other BRIC (Brazil, Russia, India and China) countries is likely to become home to over 1.7 billion mobile users by 2012 driven by emergent middle class, with 680 million users expected to be addicted to net surfing through their handsets. Among these 1.7 billion India is likely to have 560 million mobile users and about 53 per cent subscribers would use mobile internet. At present, India has over 270 million mobile users and is adding over eight million subscribers every month (<http://www.financialexpress.com>). Rapid growth in entertainment and media consumption in the BRIC countries is important for marketers looking to interact with mobile consumers.

#### 4. Concluding Remarks

E-government should assess the needs of citizen in general and the needs of different strata of citizens in particular and then devise online services to meet the citizen expectation. The intent should be to delight and not merely satisfy the users through this government-citizen interface. There is a need for a more citizen-centric approach. There is a need to follow stepwise approach, where basics of marketing can be utilized with advantage. The Progressive Segmentation model is a new addition to the segmentation approach of market analysis. This is expected to facilitate the effective application, adoption and absorption of e-government to the masses. It also highlights the need to understand the problems inherent in the system, including lack of readiness of users and less developed infrastructure which are essential prerequisite of any e-government exercise. It can be summarized that any change has to be continuous and an attempt to bring radical change can be effective only when environment is characterized by controllable factors. When it is a question to address more than 100 crore people, it can be a radical change. All the socio-economic-legal-political-technological aspects have to be incorporated. It is expected that the conceptual model presented in the paper may provide some insight into a more successful application of e-government, which is the need of the day.

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