

# A LONGITUDINAL LOOK AT E-GOVERNMENT IN PRACTICE

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## ABSTRACT

*As e-Government continues to grow with ever increasing applications and capabilities, local government entities are finding themselves faced with unexpected and unique challenges. Given the anticipated challenges of security and risk in public sector applications, there remain Information Technology (IT) specific concerns that surface as domains continue to emerge. This paper looks specifically at the state of seven larger e-government IT shops and their experiences for the five years from 2000 through 2005.*

**Keywords:** E-Government, Electronic Government, Digital Government, Digital Democracy

## INTRODUCTION

The rise of e-commerce has challenged companies to alter their ways of doing business. Consumers have been empowered as never before and the balance between supplier and consumers has unalterably shifted. The same can be said for public entities and their constituents [1, 2]. Governments are challenged to adopt new Internet and Intranet technologies and provide services at new and more open levels [4]. The rate of expected expansion is unprecedented in governmental affairs; and entities at the state level dwarf corporations within the state and at the local level almost all businesses and services within their boundaries [5, 8]. All this occurs on taxpayer dollars.

The following examines the challenges and experiences of seven local governmental entities for the years 2000 through 2005: three counties and four municipalities. This examination includes the broad areas of activities conducted digitally over the Internet:

- (i) *Execution* of government activities, especially *delivery* of services
- (ii) *Access* to government information and processes
- (iii) *Participation* in government by citizens and organization

Most of these applications share the goal of creating a 'citizen centric' government. This spans everything from online records management, license

management, property appraisal records, and tax records to the possibilities of online citizen participation and voting.

The President's e-Government Task Force has established five strategies for developing e-Government activities [9]:

- (i) Government to Citizen
- (ii) Government to Business
- (iii) Government to Government
- (iv) Internal Efficiency and Effectiveness
- (v) Cross Cutting Initiatives

Many states have also established e-Government applications. One of the most straight forward and clear-cut is perhaps the Framework and Strategy document for the State of Alabama [www.Alabama.gov]. While including the five items listed above, the strategy also includes such items as Improved Image, Increased Economic Development, and Enhanced Educational development. These processes are fairly representative of directions and goals for governmental entities.

The question then becomes more one of e-Government management and execution. This topic is addressed in the light of Information Technology (IT) experiences. What has been the impact on IT?

## THE SCENARIO

Data were originally collected for seven governmental entities for the year 2000 [3] and then compared with those collected for the year 2005. These entities include three counties and four municipalities. Their Internet sites were examined individually for each of the stages presented below: publishing, interaction, transaction and integration. The results were rated on the levels of service actually provided through the Internet sites.

Population growth has been so fast that it is almost impossible to collect accurate data. For example, one municipality listed a population of 102,000 for the year 2000. The University of Florida Bureau of Economic Development listed its population in April of 2005 as 140,195. As of January 2006, the population had unofficially surpassed 150,000. And,

the average rate of population growth for this time frame for all of the entities studied is near 30%.

Current population sizes for the entities studied [C = county, M = municipality], again UF data as of April 2005.

C <sup>1</sup>	549,442	M <sup>1</sup>	140,195
C <sup>2</sup>	317,788	M <sup>2</sup>	61,412
C <sup>3</sup>	154,030	M <sup>3</sup>	22,490
		M <sup>4</sup>	16,255

Several of the counties have smaller municipalities, which are not listed here. However, the result is a very rapid rate of population growth over a large land area.

With the rapid population growth has come a rapid increase in property values as (new) homes are in sharp demand. For example, in M<sup>1</sup>, off-water homes have increased in dollars during the time frame from 40,000 to over 275,000 and on-water homes (including canals, inlets, etc.) have increased from 80,000 to over 750,000. With the addition of ever-increasing impact fees, the revenues of these governmental entities has greatly increased as property taxes have risen in relation to property values. There has not been a corresponding decrease in mileage rates! At the same time, the unemployment rate, for example in C<sup>1</sup> as of January 2006, was at 2.3%, or what is considered 'full employment.'

The net result is that these counties and municipalities, in face of individual administrative growth and e-Government to Business demands, have *sufficient financial resources* to meet whatever challenges e-Government might bring. It is then not a matter of cost, rather one of providing services.

### GROWTH IN SERVICES

With financial growth one might expect an increase in e-Government services, and indeed this has been the case. From 2000 through 2005, there has been a dramatic increase in employing the stages of sophistication and functionality that are often used to demonstrate the growth of e-Government.

Stage One: Publishing: simply publishing information on the Web and Web-based intranets.

Stage Two: Interaction: users interact with the system, updating addresses, etc.

Stage Three: Transaction: real-time transactions such as paying parking tickets, etc.

Stage Four: Integration: leveraging internal process with external process such as sharing data across systems, etc.

Figure 1 illustrates the expansion over these levels for the years 2000 through 2005. The progress can be summarized as presented in Figures 1 and 2 together. As can be seen from Figures 1 and 2, while all the governmental entities have expanded their e-Government services, there is an upper limit below integration. This is both a positive and negative development.

The development is positive simply because the services rendered have been found to be wide spread, well done, and comprehensive. These have occurred over a wide range of activities beyond simple publishing, from the clerk's offices and record services to tax services, appraisal services, maintenance services, etc. In fact, almost all services are available at some level, including more complex services such as permitting and procurement management. This significant increase in the level of services is not only impressive in scope but also in presentation. Most services can be tailored from proprietary software and are relatively easy to implement.

The negative impact of a lack of integration is perhaps surprising given the availability of financial and application resources. It may not be surprising when put on a human scale. Simply put, the governmental entities do not talk to one another when it comes to e-Government integration. Information is jealously guarded. A delinquent child can get lost in the systems between the school district, the city police, the county sheriff's office and social services. Yet, several of these entities may encounter the child, and by working together the child might be afforded more immediate help.

In one of the counties, county records, tax records, appraisal records, law enforcement records, etc. are so distinct that there is no sharing of data. For example, when a death certificate is filed with the clerk's office, tax records and voting records may not be updated with some unusual and sometimes disturbing results for the citizens involved.

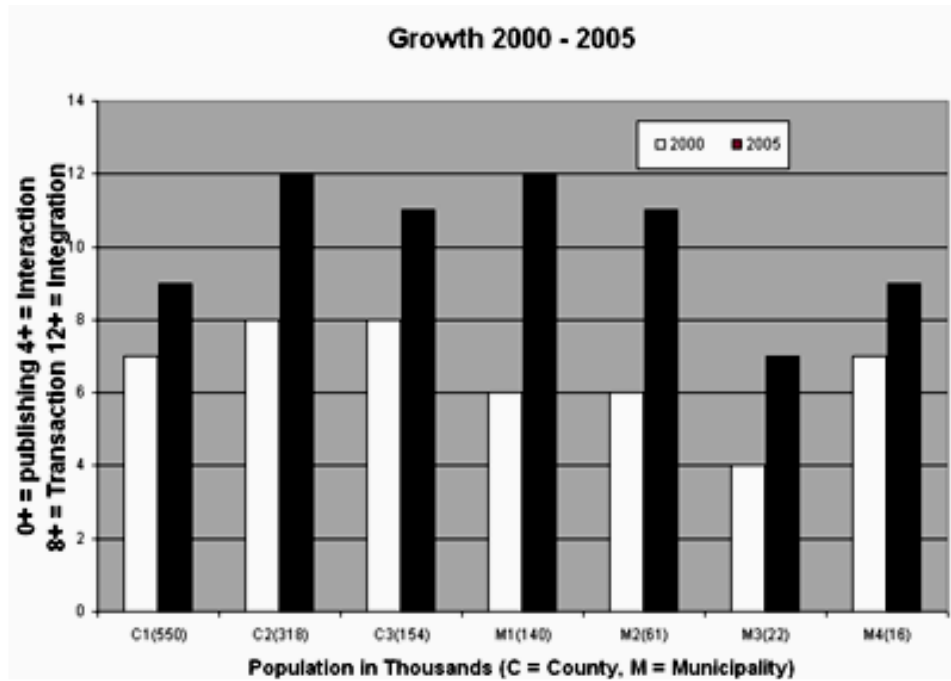


Figure 1. Growth in Population from 2000 to 2005

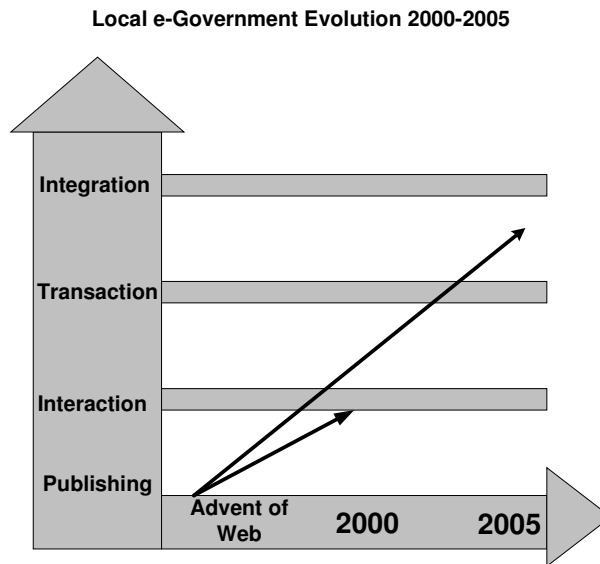


Figure 2. Growth in e-Government from 2000 to 2005

One of the thorniest issues is that of online voting. Given that the city council for M1 has been known to spend lengthy council time worrying that the city web site will not have links that lead to links that lead to pornography web sites, it is easy to understand

how much currency a request for online voting would receive. Yet, online voting may not be that far away – by necessity. At present the supervisor of elections in C1 claims to be unable to provide municipal voting for M1 during the expected November polling dates.

M1's elections are held in late spring with the result that voter turn out in the last election was below 20%. This has brought claims of a lack of representative democracy.

### THE IMPACT ON IT

The impact of the growth in population has, of course, impacted the various IT shops. From the above, it is easy to understand a difficulty in dealing with political posturing on pornography, selfishness in data sharing, and problems of finding secure data management routines for voting. The first is just part of the job. It happens everywhere. The second is problematic and will most likely eventually be resolved, as citizens demand better services; and the third will most likely resolve itself when higher-level agencies such as the California Internet Voting Task Force provide direction and opportunities.

What may be surprising is the simple fact that in these governmental entities, software and hardware funding has not been lacking. For example, sophisticated property appraisal web sites are the norm. These are often presented as sunk costs and the impact of ongoing maintenance is not discussed. As the figures above indicate, the pieces are in place to permit growth in applications.

What are not in place are the staff pieces. If one is amused by the posturing on the city council on some vague virtual link to a pornography web site, an attempt to hire someone outside the strict job parameters can be equally as amusing. But the effect on IT can be devastating. Along with the UF population data is the data for median incomes. The median household income for M1 is \$43,410. Starting salaries, including benefits, for M1 for a Computer Analyst for the Internet is \$43,000 and Computer Network Specialist is \$39,000. This is hardly reflecting of the career and job skills needed for advanced Internet applications.

Not only do such salaries, when compared with industry, fall short for a basic Internet developer, when one considers ADO and .NET skills, they are woefully insufficient. The basic scenario is that someone moves into the area, takes what job is available and then job hops up the ladder from agency to agency and then to industry—sometimes three rungs within a year. Up to 65% move in this manner a year. Pay grades within the e-Government

entities may reflect pay grades in public domains, but they are extremely limited for personal financial stability, personal development and professional growth. As stultifying as it may be, the exception is when security, benefits and pensions provide a more stable work environment.

### CONCLUSION

From the above, it can be seen that the e-Government entities described above have undergone rapid growth in the levels of services offered. This is due in part to the availability of resources, user expectations (if C1 has it, why not C2?), and a desire to provide improved and increasing services in face in rapidly increasing demand. At the same time, the attainment of data and service integration across boundaries is far from realized. This is exacerbated by an inability (or hesitation) to restructure rewards for those who must provide these more advanced services.

[Orv Curry, Cheryl Neal, and Amanda Smith also contributed to this paper.]

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