New Public Management and IT: A Mexican Case Study

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New Public Management and IT: A Mexican Case Study

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ABSTRACT
Information technology is one of the main features of the New Public Management (NPM). This characteristic promotes government organizational changes. The purpose of this paper is to explore the relationship between IT and the New Public Management. Through an e-government theoretical approach we researched data that supports the following hypothesis: Internal transformation processes are influenced by the use of information technology in the government (e-government). In order to provide empirical evidence we analyzed a case study of the Yucatan State by the means of a series of semi-structured expert interviews and data collection. We demonstrate how e-government influences the organizational changes in this state. The article is divided into five sections: The first one addresses the problem; second section describes the theoretical framework; the third one describes implications for the Yucatan case during practice; fourth section establishes some implications for research; and the last section provides conclusions and future research.

Keywords
IT government, IT policy, new public management, local studies, e-government, information technology, Public policy.

INTRODUCTION
In the last two decades Public Management has suffered various changes as a result of its legitimating crisis (Gil-Garcia and Luna Reyes, 2006). Changes in Public Management have generated a group of ideas – public-choice theory, principal-agent theory, neoclassical public administration, public policy analysis - which is known nowadays as New Public Management (NPM) (Groot and Budding, 2008). This is complemented with the new challenges imposed by citizens (Dunleavy et.al., 2006) and the enhancement of the internet commercial era. This promotes new ways of organizations – social networks – among citizens (Tapscott and Williams, 2006).

Many actions supported by the idea of New Public Management have been used to modify the processes taking advantage of the every day more common use of internet among citizens. These modified processes help to reduce time and costs for both, government and citizens. For example, modified tax collections processes. Citizens don’t have to go physically to the government offices saving time and the government saves paperwork, staff, etc.

However the use of technology in public management implies changes that haven’t happened previously. The evolution of the NPM influenced by the electronic government is one of the main issues that this research tries to solve, leading us to the main objective of this article which is to explore some possible answers to the question: How has the NPM been impacted by the use of information technology?

In order to provide some possible answers to this complex question we have selected a study case methodology. We choose the State of Yucatan in México because its government has developed information technology strategies in recent years with great success and obtained international recognition – Prize of Digital Cities, State Portal Prize.

This article will provide a general framework about NPM multidisciplinary field of research in the literary review. It will also analyze the e-government conceptual problems and finally it will provide some arguments that show the embedded relationship between e-government technology and NPM. The following section will provide evidence using a case study of a Mexican State – Yucatán – that support this conclusions. Finally we will address some implications for future research and conclusions.
THEORETICAL FRAMEWORK

This section has been divided into three subsections: the first one establishes a theoretical framework of the New Public Management; the second section states the electronic government concept; and finally, the third section establishes the relationship between both concepts by exploring the information technology used in the government.

New Public Management

New Public Management is a reform movement in public management that began in the 80’s with the purpose of modernizing the public sector (Groot and Budding, 2008). This multidisciplinary field provides useful elements to understand motivations of policy reform agendas and analytical framework to develop our understanding of the public sector transformation (Scott and Golden, 2007). Some of its main features are: citizen sovereign as customer; accountability of public officers, subcontracting services, organizational performance measure, a shift to promoting greater competition in the public sector agencies and stress on the need to use private sector management tools the employee encouragement structures, the use of economic market ideas (Guerrero, 1998).

Hood (1991) develops the NPM term in his paper, and there are some authors that support this reform movement in the public management, such as Osborne and Gaebler (1992), Gruening (2001), Holmes (2001), Martínez-Vilchis (2005). On the other hand, there are also the detractors – Dunleavy et. al., 2006 - who establish that the New Public Management is just the Public Administration with a different name or a different approach that surpasses already its goals and Guerrero (1998) who mentions that NPM is nothing new, it is a refurbished version of public management with ancient concepts and new applications from private enterprises. Debate still remains without any concrete agreement, but for the purpose of this research, we analyze NPM linked with technology.

E-government

E-government has been considered a multidisciplinary research field. There is not a consensus definition of this field because of its fast and continuous evolution (Groot and Budding, 2008). West and Berman (2001) states that electronic government “… refers to the delivery of information and services online through the internet” that implies web usage – Internet – to deliver government information and services to the citizens.

Araujo and Carmen (2004) understands e-government as: “the way in which the government employs the new technologies to offer the people a better access to the information and the government services, to improve the quality of public services and to provide more opportunities to participate in the democratic institution and the processes”.

Gil-Garcia and Luna (2003) integrate the concept and understand electronic government from different perspectives, more on the administrative or organizational side and provide and evolution of the concept. On the other hand, Holmes’ (2001) concept is the closest one for our study and completes the concepts of West and Berman:

“Electronic government is the use of information technology, in particular intern, to deliver public services in a much more convenient, customer oriented, cost effective, and altogether different and better way”.

Finally, we also consider that the expansion of the popularity of the e-government “is determined by a frame of three factors: technology evolution, adaptation of new capacities in the local government and the legitimating of the same political systems” (Ficarra, 2004).

IT and the New Public Management (NPM)

New Public Management is linked with e-government through technology. Four main arguments support this statement. First, nowadays the use of TICs is a determinant characteristic in the New Public Management since Internet access is a commercial and massive product. Besides the use of computer from citizens is a way of life and a future trend in the following years (Tapscott and Williams, 2006).

Second, Criado (2004), states that technology in the government makes the use of public resources transparent and guarantees the accountability of the public service, and this two elements – accountability and transparency – belong to the NPM management reform. Also, Barzelay (2003) states that NPM promotes decentralization and changes in the bureaucratic organizations of the government and this is possible by using technology.
Third, Niehaves (2007) states that decentralization reforms – provided by e-government technology – open the innovation potential for local governments, and provides evidence with the Japanese Government Case to support this argument. Complementary to this position, Bonina (2005) points out that innovation of e-government is not the incorporation of these technologies to the public assignment, but in the possibility of widening communication challenges between the authorities and citizens giving a new sense to the democratic character of the public life.

Fourth, the coordination of different government areas, information sharing and structure interrelation among other agencies of the government will need e-government technology to improve communication and information flows (Luna-Reyes et al., 2006). These are other elements of the New Public Management.

Summarizing these arguments, we can say that NPM and e-governments are linked because: (1) Citizens massive use of internet and communication devices – handhelds, cell-phones – force government to build a relationship using this technology; (2) Technology improves accountability and transparency of government information; (3) Use of technology enhances decentralization reforms and, at the same time, promotes innovation on governments; and (4) E-government technology improves information flows and technology among different government agencies.

Main obstacles of new technology implementations in Public Management are: lack of intercommunicated administrative corps with the same technology; the excessive cost to cover software and hardware acquisition to modernize the administrative services; existence of serious difficulties to maintain the government updated in technology; insufficient updating of Internet portals in regards to the information of all changes performed by government; and the lack of continuous training of human resources of the IT department (Ficarra, 2004).

**IMPLICATIONS FOR THE PRACTICE: THE YUCATAN CASE**

In order to provide a context for the Yucatan State case study, it is necessary to review what has been done about electronic government in Mexico. This section is divided into three subsections: a short review of the Mexican electronic government initiatives; methodology and finally, the impact of IT in the NPM.

**E-government in Mexico**

Since Ernesto Zedillo’s administration (1994-2000), Mexico decided to incorporate information technologies to the public sphere as part of the administrative regulative reform from the OECD; however, it is with Vicente Fox’s government (2000-2006) that the Electronic Mexico (e-Mexico) National System is created with the objective of integrating the whole country with internet connections and generate more transparency in public information.

The electronic government initiative in Mexico can be illustrated with three cases: COMPRANET, a program that is used to give more transparency to government acquisitions, migrating its processes to online formats and transactions. DECLARANET, a program used to make tax declaration of public officers easier and to promote accountability and transparency. The third case is called SAT (tax administration service) which develops procedures for tax payments online. According to the last report of January-August 2006: 22,165,883 transactions were made online; 13.4% more than in the same period the year before, and considering other figures, the tendency has always been positive (Becerra, 2007).

Besides these process-oriented reforms in Mexican public administration, a new presidential office for Government Innovation was created with the mission of continuous improvements in the “delivery services, citizen participation and the way of governing through the transformation of external and internal relations using technology, Internet and new communication technologies”.

An additional social internet program is e-Mexico (www.e-mexico.gob.mx). Its main objective is to lead the country to an Information Society through the development of three sectors: connectivity, contents and systems. In order to achieve this, tele-centers have been distributed along the whole country with free Internet access. In 2000, according to e-Mexico data, Mexico had 2.8 million of Internet users. In 2006, at the end of the program and due to the increase of community connectivity, a total of 20.2 million of Internet users was achieved. This difference was named as the “e-Mexico effect”.

Said in numbers, in 2000, only 250 cities had Internet access, in 2003, 2,443 municipalities in the country were covered with the service. The places with public internet connection were 2,776 in 2000 and it increased to 32,326 in 2006. These data
provide some evidence about the important effect of connectivity in the country and the use of the IT as public policy. (E-
mexico, 2007)

Nevertheless, the indicator of the Information Society (by its abbreviations in Spanish ISI) states that Mexico got an inter-
annual increase of only 1.3% points. This means, the weakest in Latin America during 2006, which represents the smallest 
increase for the country in the last two and a half years. In the variable of ICT of the ISI, Mexico got a punctuation of 2.74 
and an evolution of 6.3% that sets the country under the Latin America average that is 2.86 (Becerra, 2007).

Methodology

The State of Yucatan is located in the southeast part of Mexico and has 1’818,948 inhabitants. It is divided in 106 
municipalities. Its main activities are commerce, restaurants and hotels and its impact on the GDP is of 4,758,258 (millions 
of pesos) according to official data. This state was selected for this particular study because it has achieved several prizes for 
innovation, IT infrastructure and government planning development with informatics. Additionally, this state is very far 
from Mexico City, and far away from the US border, so, influence of government centralization or border cultural influence 
does not affect its development.

We followed a case study design for this research in order to provide evidence to support our argument, and because it is an 
ongoing research to be followed with other states in Mexico with different characteristics. Gerring (2004) pointed out that a 
correct way to study some empirical behavior is the study case. This is the reason why we choose a single case so far; besides 
that the long distances and geographic complexity of Mexico require more resources and more time to plan how to 
reach more cases.

We developed five semi-structured interviews with senior officials, experts and the General Director of the TI department of 
Yucatan. The most profitable interview was the last one which was held at the last part of the governor’s term.. The other 
interviews were designed to confirm or to refer to some particular data collection to be analyzed. Interviews were held in 
the last trimester of 2006 and February of 2007.

One of the problems we are facing is the lack of historical data to support some arguments and the organizational memory 
that has only been registered for the last five years. However, the gathered transformation information is enough to support 
our point of view, at least in this particular case.

Yucatan: IT development in Public Management

The introduction strategy of IT in the Public Management of Yucatan was made through four governing areas: 1) 
Infrastructure and telecommunications; 2) System development; 3) Organization of IT’s personnel, and 4) Information 
Systems. This is supported in our fourth argument: “E-government technology improves information flows and technology 
among different government agencies”.

Based on these four governing areas, a strategic planning was developed, which originated projects, processes and integration 
systems for the informatics areas. The electronic government administration of Yucatan is centered in the main director that 
concentrates three main directions: General Informatics Direction, Systems Development Direction and Informatics Service 
Support Direction.

Data bases of the e-government system are made in unique patterns so that they allow to link all the online information with 
the public resources and the budget system. This was developed in such a way that they have restrictions. For example: 
personnel cannot be hired if there is not enough budget pre-designated for them in the system. Another important example is 
related to the public officials’ directory, which shows attributions, salary tabulator and the budget for each agency. This 
database system organization supports our second argument: Technology improves accountability and transparency of 
government information”.

In the operative section, the electronic government system implemented in Yucatán has an internal planning system. It is 
used for the evaluation and the assessment of goals which display information and alerts on electronic dashboards. This 
information is updated every day and related to the established state plan that is elaborated every six years.

This internal planning system covers the operative part because it can monitor how each department head spends money and 
accomplishes goals and objectives that were established in the program. According to data provided by Víctor Julián
Morales Rivas, General Director of Information Technologies, the total of internet users in the government of the State of Yucatán is 5,479 public officials that are registered in the state net, 3,412 of them have an electronic mail and 1,500 only have access to the Internet. The government system has eight thousand email accounts in order to serve the public officials.

Related to customer service, a first census was taken of the fifty most frequently used processes by citizens. All of them were analyzed in order to define which could possibly be placed on-line. After that, a cashier system was designed and located in public places around the state. In this self-service cashier system, twenty out of thirty-six processes are made and currently offered by electronic government system. Another way for approaching citizens’ services has been the Electronic Service Unit (ESU). These government franchises use information technologies through modules with Internet connection or mobile phones.

The ESU customer service units are located in malls and in strategic localities in the Yucatan State in order to cover towns that are about 50 kilometers away. This promotes citizens not needing to come into the state capital Mérida. Table 1 shows the increase of tax collection once this operational change was done by the Yucatan Government.

<table>
<thead>
<tr>
<th>Elements</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processes</td>
<td>5,966</td>
<td>122,733</td>
<td>260,224</td>
<td>93,959</td>
</tr>
<tr>
<td>Tax Collection (millions of pesos)</td>
<td>1.5</td>
<td>23.5</td>
<td>75.7</td>
<td>36.3</td>
</tr>
</tbody>
</table>

* Data from February 2007

Table 1  ESU Tax Collection

On the other hand, a government web page was designed by the informatics direction personnel according to the services or procedures needed. Since that moment, internal processes can be done on-line through the customer service, ESU modules or a free phone number. For all cases, the system is homogeneously displayed and shares the same database information, register, processes, update status and requirements for the users. Table 2 shows the increase of hits to the web page and the amount of millions of pesos collected using the site.

<table>
<thead>
<tr>
<th>Variable</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Hit</td>
<td>12,806</td>
<td>32,798</td>
<td>108,357</td>
<td>30,144</td>
</tr>
<tr>
<td>Number of users which Pay</td>
<td>4,665</td>
<td>11,680</td>
<td>30,518</td>
<td>13182</td>
</tr>
<tr>
<td>Tax payment (millions pesos)</td>
<td>13.1</td>
<td>22.8</td>
<td>57</td>
<td>29.9</td>
</tr>
</tbody>
</table>

* Data from February 2007

Table 2  On-line Collection

It is possible to look up different programs in the government system such as the property public register, on-line plate renewal program, on-line traffic offences, on-line driving licenses, official land register system, and real state control. According to the data gathered from the interviews, 482,000 processes have been made collecting more than 137 million pesos. Collection by the ESU customer service, on-line and ESU cashiers represents more than 20 percent of the state collection, according to data of 2007.
Implications for Research

Previous data implies that our first argument, the use of technology is part of massive entrance of internet to normal citizens’ life, is correct. Many citizens have started using government ESU and online transaction. Information flows more quickly and the efficient use of technology will help increase tax collection – argument three. Nevertheless, there is still the need to do more research in this area in order to understand if this process has a causal relationship between technology and citizens’ behavior. An additional element to be researched in the Yucatan Case is what Scott and Golden (2007) argue about New Public Management, the need of adding value to the electronic government. In this example, the Yucatan Case, the added value is observed when the processes are linked among them in order to improve accountability and offer transparency in their actions.

The second and the fourth arguments are proven with the linked databases which share personnel information and are linked to the budget and government expenses. This interaction between accountability and information flows also needs a deep research in order to understand changes and ways to reduce corruption and to improve government transparency. Supporting this research idea, Victor Julián Morales Rivas, General Director of Information Technologies, said that they faced four important difficulties along this transformation process: 1) Political resistance; 2) Financial problems; 3) Legal restrictions; and 4) Technical problems.

The political resistance is related to the public official protagonist who leads the Secretariats and other high rank officials. The public officer explains: “… it is very difficult that each secretariat guides a project, many of the things to be done must be performed by the general direction who is precisely the leader of the project” Other problems arise such as inter-agency cooperation and political ambitions of officials who have influenced this reform.

Related to the second difficulty legal restrictions which the official mentioned:

“… the on-line payment service has been offered since 2004, but since this year (2007), it has been offered to be covered in six months without any interest charges. Additionally, the printed version of the payment with the fiscal seal was no possible because it was not legal”.

Regarding technical problems, standards were established for the buying of equipment –acquisitions policies – and the cost-benefit was discussed, taking this policy to the budgets. Regarding acquisition considered by the people has a technical problem. Another challenge is precisely the IT department personnel. It is necessary to modify the customer service work schedule in order to provide 24 hour support, in an area where there is much resistance to a change. This problem needs solutions and more detailed research to understand its impact on the IT and NPM reform in local governments.

Another finding in the Yucatan case is the influence of political decision making in the reform process, promoted by the NPM. The General Director efforts for generating an e-government policy were focused on two main areas: operation and users. In the first one, the transformation process is observed to homologate their own design system, as well as to create new communication channels - institutional e-mails – and the establishment of personnel data bases linked among them for control and planning.

In the users’ area, the ESU customer services was created as franchises inside malls in order to bring the services the government offers, closer to citizens. Mobile phone ESU service and ESU free phone numbers increase the communication channels with citizens and government. These changes produce an adjustment in government processes, but also impact citizens when they increase gradually tax collection and the number of citizens that use government services.

Both areas show that there is a bi-directional relation between electronic government as a generator or impulse of the New Public Management reforms on public administration – at least in the Yucatan State - at the same time the use of IT into the public Management is forcing public administrations – local, federal and counties - to make changes in the way of attending the citizen and its internal efficiency and improves government officials accountability.

However this research has strong limitations. The most important one is that the provided evidence comes from a single state, since Mexico has 32 states. We need to analyze and discuss NPM and e-government influence in the rest of the country. Secondly, data collection problems – officials are not very open to share information. They mainly shared success information, but did not talk about failures. They provided many numbers, but just few challenges. This needs to be changed and to find out more detailed information that allows long term comparison.

CONCLUSION
Despite the evidence of the Yucatan Case, there is not enough data to support that the NPM is strongly influenced by the e-government technology. Both are complementary and help each other to interact and achieve its goals. However, it is important to study the transformations and changes in the public administration using the e-government. Future research about this combined field – NPM and e-government - proposes at least three topics. First, to establish a clear measurement between the New Public Management and the Electronic Government through quantitative and qualitative indicators which will allow us to observe a more direct relationship between both concepts. Second, to observe the impact between each other. How much does the electronic government influence the NPM? How much does the NPM influence the e-government? Are both complementary? Finally, to find out solutions that improve public management with a healthy relationship between e-government and NPM.

ACKNOWLEDGMENT

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