E-GOVERNMENT AND LOCAL GOOD GOVERNANCE: A PILOT PROJECT IN FEZ, MOROCCO[1]

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ABSTRACT

This paper presents a research project working towards building a sustainable pilot E-Government system for the ancient city of Fez in the developing country of Morocco. Specifically, this article goes through the range of understandings related to concepts of governance, good governance, and e-government to identify ways to put in practice these notions and facilitate systematic assessment of outcomes and results of the project implementation. The article presents a methodology (Outcome Analysis) and identifies indicators for enabling a project Outcome Analysis as a measurement of the project's contribution to the improvement of good governance. Such a systematic assessment aims to contribute to the generation of knowledge and dissemination of lessons learned concerning the implications of e-Government implementation for good governance.

Keywords: Governance, Good Governance, ICT, E-Government, Public Administration, Service Delivery, Outcomes, Indicators, Automation, Systematic Assessment Method.

1. INTRODUCTION

The Fez e-government project (eFez), financed by the International Development Research Center (IDRC) has been directed towards implementing and deploying a pilot e-government system for the ancient city of Fez in the developing country of Morocco. Specifically, the project has generated many outputs intending to automate one of the most actively used citizen-oriented services in Morocco: the provision of birth certificates (BC) delivered through government offices known as "Bureaux d'Etat Civil" (BEC).

BECs are government offices that keep records of citizens' life events, including birth, marriage, divorce, changing one's name, and death. Filing such records makes the BEC the only institution capable and authorized to provide citizens with certificates authenticating their respective life events as might be required for a variety of personal, formal and administrative procedures e.g. to seek employment in the formal business sector, applying for social services, applying for a passport and so on. As with most public administrations in

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1 Results analysed in this article are drawn from the unpublished eFES Final Report submitted to the IDRC on July 2006.

developing countries, the BEC has operated in an archaic mode[2] as evidenced by the complete absence of ICT use at any stage of the process of managing citizens' information or service requests.

The BEC is currently "archaic" in the sense that its service delivery is completely manual and paper-based. eFez succeeded in automating both the back and front offices of the project (BEC) site by changing the workflow from archaic-manual service delivery to automated service delivery, a highly innovative and significant achievement within the Moroccan (developing country) context.

The rationale for undertaking a project of automation such as this in this context was the strong belief that the introduction of the technologies and modes of operation provided by an eGovernment implementation could contribute to an overall achievement of good governance practices in the Moroccan context.

2.   THE E-FEZ PROJECT IN CONTEXT[3]

Morocco's ICT related context has led an increasing number of Morocco's development practitioners and decision makers to voice concerns and worries. Why is state transformation via ICT so slow in Morocco? How to stop the widening digital divide between Morocco's central government and its local governments and between Morocco and the developed countries? How to initiate and accelerate ICT diffusion in local governments via e-government system deployments? How might ICT diffusion in Morocco's local governments foster human development, in general, and governance quality, in particular? Could ICT diffusion via e-government deployments contribute in achieving *Good Governance*?

In July 2004, the research team of the ICT4D (i.e. ICT for Development) Laboratory at Al Akhawayn University in Ifrane opted to contribute to Morocco's ICT related concerns and undertake a real life pilot e-government project in the ancient city of Fez (eFez), in collaboration with Canadian researchers. The initial phase of the project was completed in July 2006[4]. In addition, the focus of eFez was not limited to simply designing, developing, implementing, and deploying ICT related outputs; as well, the researchers undertook to track and investigate the status of the project's outputs in meeting the predefined goals and anticipated changes.

The project had among its goals to build an e-Government system that provides value to the local community and that responds to local needs, is widely accessible, highly usable, and generally acceptable for all members of the local community, including the most under-privileged of local social groups: those who are illiterate. The resulting system was the product of a participatory approach coupled with iterative processes of adjusting and readjusting the system's elements. Specifically, shortly after the system's deployment in November 2005, BEC personnel abandoned the manual way of work to adopt BEC automated and streamlined processes in serving citizens. Further, after a period of on-going adjustments the online/kiosk delivery channels was made available to citizens (in the pilot site) in March 2006 and they began developing the habit of electronically requesting/receiving the required without direct interaction with BEC employees.

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2 Kettani, D., Gurstein, M., Elmahdi, A. 'Etat Civil Division' Conference Proceedings, The Community Informatics Research Network (CIRN 2005), Cape Town, August 24-26 2005.
3 Adapted from the unpublished eFES Final Report submitted to the IDRC on July 2006.
4 The project was awarded the national "eMtiaz 2006" prize as the best e-government project in Morocco.

The eFez implementation successfully accomplished the project objectives, and in the process generated a number of research results of significance with respect to local governance conditions and to Morocco's national concerns. The eFez technology deployment succeeded in building a functioning e-Government system in the Fez local government. In fact, eFez was the first example of ICT introduction and use in the context of Fez's existing archaic structure of municipal service delivery--an integrated system electronically enabling one of the widely and actively used citizen oriented services: "Etat Civil" services; that is. eFez provided the Fez local community with electronic channels facilitating access to BEC services. The local community now has an e-Government portal and a related kiosk allowing citizens to have access to government information. This enables citizens to electronically request/receive BEC services anywhere and anytime.

This citizen friendly public service delivery was only possible as a result of the project transforming the BEC back office from a purely paper based process into a digitized and electronic set of databases and communication links. Specifically, eFez automated the BEC back office through an extensive process of computerization of citizens' paper based records. Not only was citizens' information transformed into a digital format, but the project also automated the administrative procedures (i.e. workflow) for processing citizens' requests for BEC services. In this way, the application allowed BEC personnel to instantly retrieve citizens' information and deliver hard copies in print format. This workflow automation was only possible after the installation of the necessary IT infrastructure that included, among other things, wiring, database server configuration, DNS, DHCP and firewall configuration, desktop installation and configuration - none of which had previously been available in the BEC office.

Furthermore, the eFez project used a variety of methods - observation, interviews, surveys, automated data capture, among others--to investigate and track the changes produced as a result of the workflow and service transformation and the implications of these changes. As an action research project the study included documenting and observing the service delivery before and after the project deployment in order to systematically assess deployment related changes and outcomes. Specifically, eFez elaborated what it calls an "Outcome Analysis methodology" as an approach to identifying measurable indicators that enable a project to track and investigate technology induced changes over time.

By means of this approach to systematic assessment, eFez was able to determine that the implemented e-Government system influenced the quality of BEC organizational functioning, the relations of the BEC with the local community as a service delivery agency, local policy making, and circumstances of local governance. Within the context of the Outcome Analysis methodology eFez was able to systematically gather empirical evidence on the effects of local e-Government deployment on local good governance. Having access to these results allowed the project in turn to communicate concrete empirical evidence concerning the effects of the project and in this way to raise awareness, and inform and influence policy makers at the country's national and local levels with regards to the benefits of e-Government and the need to facilitate its diffusion. The eFez Outcome Assessment also identified the considerable significance of the BEC's services for Morocco's citizens. The assessment revealed that the eFez electronically enabled set of services were ones that touched the daily lives of citizens from all walks of life as they enhanced the efficiency of access to documents needed to gain access to social services, such as education, income allowances, to seek employment in the formal sector, and for inheritance, and travel.

The Outcome Analysis methodology not only generated knowledge and provided feedback on the service experience from the user perspective, it also proved to be very

effective in guiding the project implementation and deployment progress. The periodic assessment and continuous monitoring provided information on the projects progress in deploying ICT related outputs acceptable, accessible, and usable to the different stakeholders. Feedback showing failures in meeting these requirements was a continuous force driving the team to intervene, adjust and readjust the project's outputs.

The project also investigated the extent to which the deployment influenced local governance as in the following diagram:
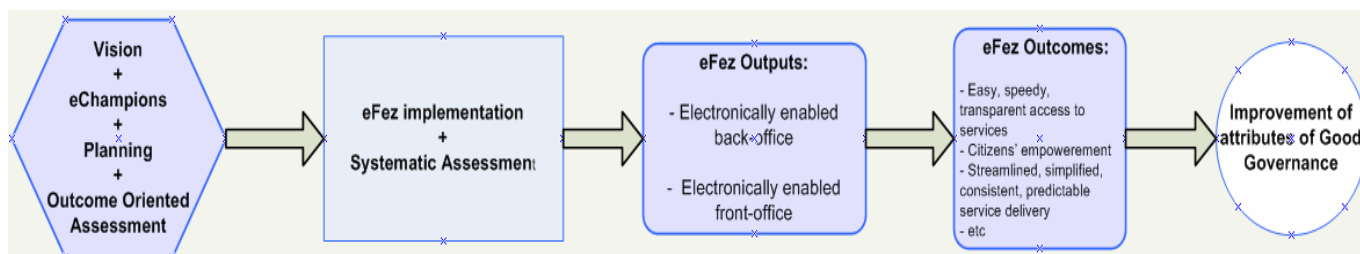

Diagram 1: eFez Outcome Oriented Progress Assessment

As is discussed below, the Outcome Analysis methodology aimed in part to build a formal model for measuring the influence of the eGovernment system on eGovernance. Different outcome categories were identified related to:

- citizens
- local administration,
- legal and regulatory issues, and
- the governance process (reported on in this paper)

Measurable indicators were identified to guide the processes of before and after (deployment) measurement. Tracking the measurable indicators identified values before after the project deployment after the project deployment and thus provided empirical evidence on the effects of eFez outcomes on the attributes of good governance.

3.   THE eFEZ THEORETICAL FRAMEWORK

3.1   Governance and Good Governance

Elsewhere we have discussed the "set of assumptions and conceptual linkages connecting governance with good governance and good governance with e-government, within the context of public administration in a developing country context" which provide the theoretical underpinning of the eFez Outcome Analysis approach[5].

As otherwise noted the definitions that we cite from the UNDP and World Bank concerning good governance refers mainly to an improved quality of governance; how governance should take place. Additionally these two international institutions share a common perception of the nature of good governance as encompassing such attributes as openness, accountability, participation, and the rule of law (Haldenwang, (2004, p.420).

There has been an historical evolution in the understanding of the concept of good governance. The notion first appeared in the 20th century in the context of discussions among business analysts and economists as a way of highlighting structures and strategies of corporate management within a context of increasing productivity and profits (IDRC, 2005,

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5 Kettani, D., Gurstein, M., Elmahdi, A. 'Governance, Good Governance & E-Government in a Developing World Context' [under review]

p. 8). In the late 1980's, the notion was extended to discussions in the area of social and economic development as a way of focusing on the role of government in these areas. Good governance mainly was presented by the World Bank in the context of being a requirement at the national level which would enable and facilitate the success of economic development reforms (Haldenwang, 2004, p.419). The UNDP followed in embracing the notion by the 1990's. It further extended the idea of good governance in such a way as to suggest a path which would enable countries to achieve human development.

What explains the ascendancy of good governance is the long term public administration reforms. Toffler (cited in Denthardt and Grubbs, 2003, p.18) advances a certain chronological order/typology in the evolution of "human organizations": "First-wave pre-industrial organizations" built to serve the pre-industrial agricultural societies in their harvesting activities; "Second-wave industrial organizations" developed centralized, hierarchical, bureaucratic mechanisms operating with uniformity principles in order to serve growing urban populations, emerging as a result of the industrial revolution; and "Third-wave decentralized organizations", evolved from bureaucracy into more flexible structures to address the needs of post-industrial societies. This means that, over the last three decades, public administration underwent rapid transformative changes, shifting away from the "traditional administration" model resting on bureaucracy to what is known as "New Public Management" model (known also as "reinventing Government" (Osborne, and Gaebler, 1992).

New Public Management (NPM) rests on the conviction that there is no reason for management in public and private sectors not to be alike. In fact, it argues that the public administration needs to adopt private sector principles to sustain itself and continue relevant to the evolving "post-modern" life. This suggests public sector administration to follow management model and related practices already established in the private sector (Heeks, 1999; Felts and Jos, 2000; Peters, 2003; Denthardt and Grubbs, 2003). NPM has roots in what are known as "the Westminster-system countries (Australia, New Zealand, the United Kingdom and Canada) and the United States, which may rightly be considered as the foremost exponents of NPM" (UN, 2001). Shortly after NPM started being implemented in these Anglo-Saxon countries, the NPM reform agenda became a global trend. International donors (mainly the World Bank and the IMF) induced NPM reform implementation via the Structural Adjustment Programs they offered to developing countries during 1980s.

NPM was believed to be universally applicable (Olsen and Peters, 1996). Therefore, developing countries, in Africa for instance, were exposed to the NPM reforms in a time they were still in "state-building" phase (Hyden, 1995). The Asian economic crisis proved NPM reforms to be universally inapplicable. The only explanation the World Bank advanced to justify the failure of Asia's open adoption of NPM reforms was "poor governance". This brought governance to spotlight. Donors started realizing that public sector reforms and their intended development goals cannot occur without what is known now as "good governance". Donors learned that "structural reform without the concomitant set of institutions to support such reform is likely to fail" (389). Respectively, reforms made a significant shift towards governance; and "good governance" became key element in development studies and a main driver for "the building of institutional capacity" (Jayasuriya & Rosser, 2001; World Bank, 1991; UN, 2001). In this respect, while academic debate still continues on "governance" and how good it should be, international development agencies appear to be leading the "good governance" discourse (Bovaird & Löffler, 2002).

3.2   Attributes of Good Governance

Most usefully for our purposes, the UNDP presents a set of attributes (along with definitions) of *good governance* (i.e. the components that would make up a potential scale of good governance) as in the table below:

1) Participation	"All men and women should have a voice in decision-making, either directly or through legitimate intermediate institutions that represent their interests. Such broad participation is built on freedom of association and speech, as well as capacities to participate constructively"
2) Rule of law	"Legal frameworks should be fair and enforced impartially, particularly the laws on human rights"
3) Transparency	"Transparency is built on the free flow of information. Processes, institutions and information are directly accessible to those concerned with them, and enough information is provided to understand and monitor them"
4) Responsiveness	"Institutions and processes try to serve all stakeholders"
5) Consensus orientation	"Good governance mediates differing interests to reach a broad consensus on what is in the best interest of the group and, where possible, on policies and procedures"
6) Equity	"All men and women have opportunities to improve or maintain their well-being"
7) Effectiveness and efficiency	"Processes and institutions produce results that meet needs while making the best use of resources"
8) Accountability	"Decision- makers in government, the private sector and civil society organisations are accountable to the public, as well as to institutional stakeholders. This accountability differs depending on the organisation and whether the decision is internal or external to an organization"
9) Strategic vision	"Leaders and the public have a broad and long-term perspective on good governance and human development, along with a sense of what is needed for such development. There is also an understanding of the historical, cultural and social complexities in which that perspective is grounded"

(Source: Table created by authors using direct quotes from UNDP (1997))

Table 1: The UNDP's (1997) Nine Underlying Attributes of Good Governance

From the above, good governance can be seen (according to the UNDP at least) as requiring transparent/open, accountable, efficient and effective, and responsive governmental structures which operate according to principles of equity and that abide by promulgated laws and/or regulations while enabling the involvement and empowerment of citizens so as to

actively participate in a country's affairs in a way which facilitates and is responsive to social consensus and a shared strategic vision strategic as to the country's development. The focus here is "get institutions right first"; the underlying premise is the view of "better run public institutions as the most important instrument for fostering economic growth and reducing poverty" (Derick & Goldsmith, 2005). The main driver is on "the building of institutional capacity" in effort to move away from "poor" or "bad" governance towards infusing and internalizing "good governance" principles, which are mainly normative judgements (Jaya Soriya & Rosser, 2001; World Bank, 1991, UNDP, 1997).

3.3   e-Government and e-Governance

Public sector reform agenda in developing countries and its shift towards a governance model became more concerned with "institutional building" known also as "capacity reinforcement". Capacity building pursues a two-fold approach: reforming and improving the structures associated with public administration; and developing personnel capable of effectively operating and running the organizational structures of public administration. Yet, since globalization (and its concomitant technological expansion) has been shaping public sector reforms, "Capacity-reinforcement must therefore be understood in broad strategic terms as a long-term endeavour, indeed a continual task of shaping, redefining and revamping institutions with the help of evolving technologies and refining human competencies in this light" (UN, 2001: 100-114). This suggests public sector reforms and its related capacity building integrate new technologies as enabling tools. In fact, Heeks (1999) explain this by noting that "reinventing government is a continuation of existing new public management reforms, but reinventing government in the information age should mean two things that are different:

- First, a much greater (i.e. more overt) role for information and information systems in the processes of change;
- Second, a much greater (i.e. more widely employed) role for information technology in the processes of change" (16)

In this sense, globalization and its information age is bringing about "IT-enabled public sector reform": integrating technology as an extension influencing and enabling NPM reforms and related governance principles (Heeks, 1999; UN, 2001). Consequently, a number of "IT-based concepts" have been increasingly used: e-government, and e-governance (UN, 2001: 118).

Backus defines e-governance as "the application of electronic means in (1) the interaction between government and citizens and government and businesses, as well as (2) in internal *government operations* to simplify and improve democratic, government and business aspects of Governance" (2001). It consists of thee components: "Improving government processes: e-Administration; Connecting citizens: e-Citizens and e-Services; and Building interactions with and within civil society: e-Society" (Heeks, 2001). In this sense, e-governance has two complementary aspects: political (focusing on enabling democratic participatory processes via citizens' engagement) and technical (focusing on government operations and processes) (Bhatnagar, 2004). Addressing government technical issues makes e-government "as a subset of e-governance" (Bhatnagar, 2004: 21). e-government is defined as "a process of reform in the way governments work, shares information and delivers services to external and internal clients" (Bhatnagar, 2004: 22). In this regard, e-government is when a government entity uses Information and Communication Technologies (ICTs), as part of its reform initiatives, in serving citizens and meeting their informational and transactional needs

The United Nations defines e-Government as "utilizing the internet and the world-wide-web for delivering government information and services to citizens" (UN, 2001, p.1). In this regard, e-government is when a government institution uses Information and Communication Technologies (ICTs) for three functions: serving citizens and meeting their informational and transactional needs. The expansion and extension of ICTs worldwide has included its introduction to and diffusion within public administrations. Such diffusion has led to varying degrees of the electronic enabling of the three functions of governments, which could be said to reflect a trend toward "state transformation" (Finger, 2005, p.4). As well, ICT applications and use has revolutionized government's service delivery function. Finger indicates that this function is "where ICTs have, so far, made the most spectacular inroads" (2004, p.6). For the two remaining State functions, ICT use is limited. But even there, there has been an ICT enabled emergence of e-Participation/ e-Democracy within the policy-making area and the emergence of e-Regulation within the regulatory function. (2004, p.7)

3.4   eGovernment/eGovernance Maturity Model

E-governance (e-democracy and e-government) is found to follow an evolutionary maturity model. Backus presents an overview of this model (2001). By early 1990s, e-governance initiatives started with creating web-based presence through which a government entity electronically delivers and disseminates information to the public. The "information" stage was then followed by mid 1990s with "interaction" phase, enabling citizens to communicate with a government entity via email and to initiate a transaction via downloading related forms. The transaction then needs to be finalized and completed at the office counter, via fee payment. Currently, e-governance initiatives have advanced in maturity and sophistication; they have arrived at the third stage, known as "transaction". Transactions can be initiated, fully completed and finalized online; without need for physically visiting the government office. It is an advanced stage as it requires regulatory changes and amendments to legally allow online payment and digital certification. The fourth emerging stage is known as: transformation, "in which all information systems are integrated and the public can get G2C and G2B services at one (virtual) counter. One single point of contact for all services is the ultimate goal." This is a challenging stage as it requires government internal re-engineering to enable advanced coordination between and among different government departments (Backus, 2001). This four-stage maturity model has been criticized as it views "online transaction to be the "nirvana" of e-government, yet nirvana might actually be the proactive completion of the transaction within government or even its elimination" (Janssen 2003 cited in Heeks 2006). The model describes e-governance experiences as they have emerged and evolved in the industrialized developed countries.

Again as elsewhere noted (Kettani et al., 2005b) The World Bank (b) (2006) defines e-government as:

> *"the use of information and communications technologies (ICT) to improve the efficiency, effectiveness, transparency and accountability of government. E-Government can be seen simply as moving citizen services online, but in its broadest sense it refers to the technology-enabled transformation of government - governments' best hope to reduce costs, whilst promoting economic development, increasing transparency in government, improving service delivery and public administration, and facilitating the advancement of an information society."* (World Bank, 2006b)

In other words, e-government is a means for the realization of good governance because it changes both the back office (government internal operations and relations) and the front office (government relations with citizens and other external stakeholders) in a way

that makes the different components of good governance a reality. This is because e-government owes its influence to "Information technology [that] carries the prospect of major reforms in governance and public administration through more efficient and effective public management; more accessible and better information for the public; better service delivery; and building partnership for interactive and participative governance" (Bertucci and Alberta, 2003: 28). In fact, Heeks (2001) reveals that certain E-government initiatives in developing countries, including Tanzania, South Africa, and China show that technology implementation brought:

Efficiency gains:
- *Governance that is cheaper*: producing the same outputs at lower total cost.
- *Governance that does more*: producing more outputs at the same total cost.
- *Governance that is quicker*: producing the same outputs at the same total cost in less time.

Effectiveness gains:
- *Governance that works better*: producing the same outputs at the same total cost in the same time, but to a higher quality standard.
- *Governance that is innovative:* producing new outputs.

This can be explained with the fact that "ICTs and eGovernment" are "among the innovative tools for realizing improved capabilities ….Used in support of good governance, eGovernment has tremendous transformative potential. It can significantly change the way government approaches its mandate, solves development problems, and interacts with citizens and with business. It can give rise to a new paradigm of governance: one that places citizens at its center, responds to their needs and expectations, and is transparent, accountable, and participatory" (Sisk, 2003). It clearly appears that e-governance (including e-government as a subset) "is the ICT-enabled route to achieving good governance" (Heeks, 2001).

Realizing and recognizing this potential, e-government has become part of the developmental agenda of the range of multilateral development oriented institutions as for example, the World Bank in 1995 set up the Information for Development Program (INFODEV) while the UN created the United Nations Online Network in Public Administration and Finance (UNPAN) in 2003 (Haldenwang, 2004, p. 421).

4.   THE EFEZ METHODOLOGY FOR ASSESSING GOOD GOVERNANCE

The eFez project is a technology implementation and deployment project undertaken within a broad context of the transformation of local governance. As well eFez is an *action research project* that is assessing the results, outcomes, and effects of an e-government installation on e-governance and overall on the transformation of archaic municipal service delivery. Specifically, eFez has adopted a "Results-based management (RBM)" approach[6] which involves and requires project assessment. Additionally, RBM requires that "development goals and outcomes (are) systematically measured and improved" (UNDP, 2002, p.7) by for example studying project results or "outcomes"[7].

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6 "a management strategy or approach by which an organization ensures that its processes, products and services contribute to the achievement of clearly stated results." (UNDP, 2002, p.19-20)
7 "a continual and systematic process of collecting and analyzing data to measure the performance of … interventions towards achievement of outcomes.. To conduct effective outcome monitoring,… need to establish

Consistent with the RBM approach, the eFez project paid special attention to changes that were the result of its implementation. The research associated with the project focused on assessing the results achieved and generated by the project outputs as a result of the deployment. As the World Bank notes in a recent document, (since) "there is no single best evaluation methodology; the approach must be adapted to the specific context, the evaluation questions and priorities, and the available resources" (World Bank, 2004c, p.22) In this instance we elaborated and refined on what is being called the Outcome Analysis Methodology as a means to investigate the relationship between the e-Fez project implementation (i.e. automating certain areas of municipal level service delivery) and good governance. In the case of eFez a methodology was elaborated and refined. This was termed: the Outcome Analysis Methodology in order to investigate the relationship between the eFez project implementation (i.e. automating service delivery) and good governance. In this methodology, the identified project outcomes were linked directly to attributes of good governance. Specifically, the UNDP list of good governance attributes was used (because of its inclusive and comprehensive character). Based on the UNDP definitions of these attributes, the methodology generated related definitions tailored and adapted to the project action research and its characteristics. With these project working definitions of attributes of good governance, the researchers were able to track eFez outcomes influencing these attributes.

Linking the outcomes of the project automating service delivery in this way, to attributes of good governance suggests that the project might be seen to be successful in the realization of its broad objectives which is to implement a project manifesting the identified attributes of "good governance" i.e. increased transparency, effectiveness and efficiency, participation, equity, rule of law, accountability and responsiveness (Kettani et al., 2005b).

To assess and measure these outcomes in a systematic way, the project identified and elaborated appropriate indicators. Such indicators enabled the project to assess changes in governance related to the eFez implementation. Specifically, before the project implementation, the archaic existing system of service delivery was observed, investigated and analyzed in order to gather what the UNDP (2002) calls "baseline data". With the project implementation, the automation of service delivery becomes enabled. Thus, the resulting service delivery was observed and analyzed in order to map the emerging changes. At this stage, fieldwork was directed to attempt to answer the question concerning how the service delivery changed after the project implementation. In other words, fieldwork tracked the identified indicators before the system deployment and after the system deployment. The findings revealed that the identified indicators have values before the project implementation different from the values (sometimes opposite values) after the project implementation.[8]

In this methodology, we linked the project to attributes of good governance. Specifically, we used the UNDP list of good governance attributes because of its inclusive and comprehensive character (IDRC, 2005). Based on the UNDP definitions of these attributes, the methodology generated related working definitions tailored and adapted to the project's activities and outcomes. Based on these project specific working definitions of the attributes of good governance, we have been able to track those eFez outcomes which are influencing these attributes.

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baseline data, select outcome indicators of performance, and design mechanisms that include planned actions such as field visits, stakeholder meetings and systematic analysis or reports." (UNDP, 2002, p. 20)
8 op.cit.

5.   eFEZ INFLUENCE ON SERVICE DELIVERY

5.1   Manual Service Delivery

To appreciate and recognize the eFez contribution and influence, it is necessary to understand the manual service delivery existing before the project and the automated service delivery introduced and established by eFez.

The manual service delivery of services like birth certificates consists of many sub-processes. The manual delivery process moves through the following task related stages:

a.   The citizen should first approach a BEC employee at the reception desk in order to submit his/her request for a birth certificate and the needed number of copies. To submit this request, the citizen should show the employee an old birth certificate or his/her family record book since they specify the references of the requested birth certificate.
b.   This employee writes down the certificate references on an empty certificate form. These references consist of:
    i.   the registration year of the certificate, and
    ii. the certificate serial (identification) number
c.   This employee gives these certificate references to a second employee who is in charge of looking for the BEC record book matching the certificate references provided by the citizen.
d.   Then, the second employee needs to place the empty certificate form on the BEC record book page listing the citizens' life events information.
e.   The second employee needs finally to pass the record book to a third employee who is in charge of filling out the forms of birth certificates
f.   Once the form is completed, the third employee passes the certificate to the BEC officer for signature
g.   The signed birth certificate form goes back to the first employee at the reception desk to be attached with a 2 dirham stamp (for each copy) paid by the citizen.

From the above task related stages of the manual service delivery, it is clear that

a.   A citizen needed to submit a birth certificate request; then, paid the stamps in order to pick up the requested copies of the needed birth certificate processed and signed
b.   The BEC employee needed to receive the citizen's request and process it via looking for the correspondent BEC record book, then, exactly copied the appropriate information to complete as many copies of birth certificate as requested by the citizen; and finally received citizen's stamp payments
c.   The BEC officer signed the processed copies of birth certificate in order to provide formal authorization and validity

5.2   eFez Automated Service Delivery

The eFez project modernized BEC internal operations related to BC service delivery specifically in the Agdal office. Now, the automated service delivery is replacing the manual service delivery. The project digitized and stored citizens' recorded life events' information in a database and developed a system enabling instant retrieval of information as needed. E-Fez project succeeded in introducing the unprecedented use of BEC electronically enabled back office as well as electronically enabled front office, which is supported by three different channels delivering Birth Certificates to local community: employee desk, touch screen kiosk, and online via eFez portal.

5.2.1   *Employee Desk Request Mode*

The service delivery runs as the following:

- A citizen : approaches a BEC employee (in charge of birth certificates (BC)) and provides his/her needed BC references (year of registration and serial number of BC)
- the employee : enters the BC references to the BEC application database to make a query; once information is retrieved and displayed, he/she prints out the number of needed copies in couple of seconds; then, she receives citizen's stamp payment for the printed copies of BC
- the citizen then takes the BC to the BEC officer for signature

What have been changed in actors' tasks?

- Citizens' tasks are the same: approaching the employee and providing BC references
- BEC employee's tasks are reduced from 5 tedious and time consuming tasks to only 3 minimal tasks: a couple of mouse clicks to enter the BC references to the BEC application database, print out the number of needed copies, and receiving stamp payments. The employee's most tedious task (copying the needed information as many times as requested by each citizen) is eliminated and substituted with querying the BEC citizens' database to retrieve and print out requested information in 3 mouse clicks.
- BEC officer's tasks do not change, except for the unprecedented possibility of checking the accuracy of information with a couple of mouse clicks, as opposed to consulting the BEC Record book.

5.2.2   *Touch Screen Kiosk and Online Request Modes*

The automated delivery flows as follows:
- A citizen approaches BEC kiosk or eFez related portal (instead of employees), follows the step by step kiosk/online request with couple of clicking to insert his/her needed BC references (year of registration and serial number of BC), and print out the number of needed copies in couple of seconds, pays the employee stamps, and takes the BC copies to the BEC officer for signature

What have been changed in actors' tasks?

- Citizen's tasks have changed: he/she uses the touch screen kiosk or the related portal to conduct BC request: a couple of clicks to enter the BC references to the BEC application database and print out the number of needed copies. The innovation is that citizens are able to request and process their requests by themselves.
- BEC employee's tasks are reduced from 5 tedious tasks to only 1 task: receiving stamp payments.

BEC officer's task does not change: signing copies of BC for formal authorization, except for the unprecedented possibility of checking the accuracy of information via PC (as opposed to consulting the BEC Record book).

6.   eFez Automated Service Delivery Implications for Good Governance

Conducting limited and focused intervention to modify the method of service delivery has had many implications for the identified attributes of good governance. We have discussed in depth elsewhere (Kettani et al., 2005b) the specific ways in which we operationally defined

each of the aspects of the definition of good governance and in the following we will simply summarize this discussion.

6.1   Transparency

"With the automated service delivery, the sub processes of making the BC request, processing the request, and printing the processed BC are all merged into one activity carried out on a real time basis. The major and most noticeable consequence of this has been to enable citizens to monitor and "track" the progress of their requested service. This in turn has secured the principle of: first-come-first-served, which had usually not been respected in the previous manual and opaque service delivery system. In this sense, the automated service delivery enabled *transparent* relations between the administration and citizens.

6.2   Efficiency and Effectiveness

"With the automated service delivery, we observed that requesting and receiving BC copies was dramatically simplified. This enabled citizens to make optimal use of their personal time" resources.

6.3   Equity

With automated service delivery, citizens are automatically being served in an equitable fashion since they are all free to individually access the system and obtain immediate results.

6.4   Rule of Law

The automated service delivery eliminated the need and the opportunity to violate the law through *automatically* ensuring equal treatment.

6.5   Responsiveness

The automated service delivery is by design predictable and instantly responsive to citizens' needs at their convenience.

6.6   Accountability

Automated BC service delivery simplified and routinized the system with the direct result of this routinization being visible, transparent, and consistent operations and service delivery. System consistency made standards available against which employees could be held accountable.

7.   E-FEZ AUTOMATED SERVICE DELIVERY AND GOVERNANCE IMPROVEMENT

From the above discussion, it would appear that automating citizen-oriented service delivery has generated certain outcomes that affected at least certain of the attributes of *good governance*. Table 2 (Kettani et al., 2007) below summarizes the good governance related results and outcomes of eFez automated service delivery.

Governance Attributes	Measured Indicator	Value before automated system deployment	Value after automated system deployment
Transparency	**Visibility of workflows for citizens via automated service delivery**	**No** Since the BEC back-office is completely manual, sub processes of making BC request, processing the request, and filling out the needed copies of BC are carried out in separated way (and sometimes with different employees). The citizen cannot monitor/ see the processing progress of his BC. (e.g. the possibility of length/possible reasons for a delay in a processing are neither accessible nor visible)	**Yes** Since the BEC back-office is electronically enabled, sub processes of making BC request, processing the request, and printing the processed BC are merged in one process carried out on a real time basis. This secures the principle of: first-come-first-served
Effectiveness and efficiency (as a citizen user)	**Efficiency: optimal use of resources for citizens to request & obtain BC**	**No** requesting and obtaining BC is costly for citizens: - extended waiting time - several trips to BEC - need to tip (or use social connections)	**Yes** Citizens making time/money/effort savings in requesting and obtaining BC: - no waiting time - one trip to BEC - no trip
Effectiveness and efficiency (as tax payer)	**Efficiency and effectiveness of using scarce public resources**	**No** To deliver BC, BEC needed 3 full time employees (when demand on BC is low and moderate) When demand on BC is high (during summer and early Fall period: from June to September): ▪ All BEC employees (10) stop processing their respective tasks in order to process BC requests Furthermore, they take BC requests home to be processed (which is illegal)	**None: (casual calls on employee time with the elimination of 3 full time dedicated employees)** ▪ No BC full time employee (any of the employee can instantly process BC requests while doing her other BEC related manual tasks) ▪ With the kiosk: no employee is needed to process the requests
Equity	**Citizens served in equitable manner**	**No** Usually queuing/waiting creates motives and conditions for bribery incidents. Citizens find themselves obliged to tip the employee in charge in order to be served, especially when they are in a hurry to meet tight deadlines of submitting paper work	**Yes** - ICT eliminated the need for citizen to tip in order to be served - all citizens are served on a timely and in a similarly professional manner (regardless of social class)

		No	Yes
Rule of law	**Laws are applied impartially**	**No** Equity is violated; and violations are perceived as normal: Many violations of law as people paid for special privileges (queue jumping)	**Yes** Eliminating value and opportunity for tipping reinforces the rule of law:
Responsiveness (i.e. citizens are empowered to legally control the service delivery to their advantage). Process of **dis-intermediation**: elimination of middle person in service delivery	**Services are responsive to Citizens' requirements**	**No** Citizens were not able to control the process of service delivery as it affected them.(with possible negative consequences on the service delivery arising from issues occurring in the workflow)	**Yes** Citizens through the kiosk/online service delivery actively intervene to make service delivery, responsive to their requirements which eliminates possibilities of negative consequences arising from difficulties in the workflow
	Dependency on bureaucracy: **Dependence of citizens on the employees good will**	**Yes** Citizens were at the mercy of employees to get served	**No** Citizens through the kiosk/online service delivery are not at the mercy of employees
Accountability (the process of routinization of the BEC process is a process of creating standards against which the individuals can be held accountable; when the system is opaque, it is not possible to hold individuals accountable)	Existence of standards to hold individuals accountable	**No** No standards because of the opaque and inconsistent system	**Yes** Visible/ transparent/ consistent system with implicit standards available against which to hold BEC accountable
Participation	Not Applicable		
Consensus orientation	Not Applicable		
Strategic vision	Not Applicable		

Table 2: *Good Governance* Related Results and Outcomes of the eFez Automated Service Delivery

From the above table, the eFez experience shows that focused intervention in, and modification of citizen-oriented service delivery through ICT use had the effect of generating changes in certain of the attributes of good governance.

8.   CONCLUSION

eFez is an example of how one of the most actively used citizens' oriented services in the developing country of Morocco was successfully implemented.. The project had the effect of enabling a citizen-friendly service characterized by transparent, empowering, efficient and effective access to services on an equal basis, and providing a means to ensure accountability and impartial application of the law and in this way contributing overall to local "good governance" in Morocco. In this it can potentially provide a useful model for the way in which e-government implementations in developing countries can contribute to the fundamental and perhaps most significant processes of realizing institutions of *good governance* within these societies while at the same time responding effectively to local needs for improving the overall operations and efficiencies of government. By extending and elaborating on these foundations and through the on-going familiarization of governments at all levels with the opportunities presented by ICT Morocco (and other LDC)'s public administrations, will be enabled to achieve concrete gains including in citizens' everyday lives and as well as in the capacity of governance institutions to respond to the growing needs of their constituents.

9.   ACKNOWLEDGMENTS

10.   REFERENCES

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