The Implementation of New Technology Solutions and their Impact on User Satisfaction in Public Administration

Radivojevic Mladen
(Corresponding Author)
Government of Republic of Srpska
Bosnia and Herzegovina, 78000 Banja Luka
University for Business Studies, Faculty of Information Technology
Bosnia and Herzegovina, Karadjordjeva 27, 78000 Banja Luka
E-mail: radivojevicmladen60@gmail.com

Nada Mirjanic-Gluvic
Municipalities Gradiska
Bosnia and Herzegovina, 78400 Gradiska
University for Business Studies, Faculty of Information Technology
Bosnia and Herzegovina, Vidovdanska 1A, 78400 Gradiska
E-mail: ngluvic@gmail.com

Abstract

The paper discusses the necessity of a unique linking of all segments of the public administration and electronic, mobile and intelligent business in her serving. For the first time we point out that in the implementation of new technologies of the public administration we should not speak separately of e-Government, m-Government, i-Government and e-Service and m-Service but to introduce new unique notions such as: e-m-i-Government and e-m-Service. We especially emphasize the necessity of a unique approach in the application and the implementation of new models of electronic, mobile and intelligent business. We believe that the time is ripe for the new technological solutions should be considered unique and that they are no longer considered separately. In this paper we present a new and different perspective on the use of new technologies in the work of public administration and the serch for, giving and receiving of services.

Keywords: e-m-i-Government, e-m-Service, public administration, better service.

Introduction

Service solutions are no longer an optional part of the strategy of the public administration but its most essential part. In order for the innovative service solutions to be created for e-m-i-Government, first it is necessary to answer the following questions: Which business solutions can contribute the serving to be unique and unforgettable? Although it is not easy, to be the leader you must offer to the users a new satisfaction

and a better service. In making the assessment of its business process you need to ask if they satisfy the needs of the user, not just today but in the near and distant future.

What abilities and skills give birth to the new activities of the user? This question helps to define the abilities necessary to satisfy the priorities of the user. This decision determines what the user sees and with what the user comes across during the interaction with the solutions of e-Government, m-Government, i-Government (e-m-i-Government). How to structure the administration to become more efficient? To which extent the public administration is itself a service, and to what extent the service is relocated to the service partners for the service cycle to be reduced? How you deliver your service?

1. e-m-i-Government is more than Technology

Today, the totality of e-m-i-Government we sense through its three aspects:

1. e-m-i-Government is a new approach and a system for the access to the services, data, information and knowledge of all citizens, legal entities and businesses, community groups and institutions and professionals (journalists, historians, sociologists, anthropologists, etc.) There will be contained the services and information which the public administration wants to place itself but also those that the government should make available even if it is not in the current political interest.

2. The new e-m-i-Government is a new mechanism for deciding WHAT public administration, state or local should do. The impact on the decisions extends to many more subjects, the service process becomes more visible and more available to the public and less susceptible to the narrow party interests.

3. It ensures improved service delivery to the customers (citizens and businesses) and building the necessary infrastructure for performing these tasks.

There are three dominant factors that lead the way of the new economic and technological revolution: the shift in the service chain of self-service and the personalization, the appearance of web and mobile services and rapid technological development. These are just some of the reasons why the current and common way of serving in the public administration necessary changes. To succeed in this new environment the public administration must knowingly enter the next stage of the development: a period of permanent changes of the service solutions for e-m-i-Government and e-m-Service. In the new age it is no longer primarily a contest between the services but between technologies. It will increasingly monitor the influence and relationship of electronic (e), mobile (m) i intelligent service (i). The true competition consists in the care for the survival of the traditional service solutions in a service environment with the growing dominance of business intelligence and e-m-Service. The challenge facing the present public administration is in the creation, implementation and in the lasting verification of successful business solutions for e-m-i-Government. How to reshape the traditional business solutions into the solutions for e-m-i-Government and e-m-Service. e-m-i-Government can be a blessing or a curse that depends on how you look at it. A good part of the administrative bodies is not sufficiently active and far-sighted to make good decisions when it is concerned the focus of their attention.

The success of e-m-i-Government depends on how well the public administration makes decisions while the implementation of business intelligence and e-m-Service pave their own feet and not trampling with others.

2. Redesign of the Process and e-m-i-Government

A good part of the project of e-m-i-Government or implementation of business intelligence requires some form of reengineering of service processes. The effective implementation of the new technology depends on the existing optimized service processes. Reengineering the service processes includes the following main activities: determining the basic service processes, identifying users that these processes serve and their expectations and creating detailed high-level diagrams that shows how these processes work. The following table shows the components of these tasks:

Table: Strategy for implementing changes

Determine The basic service e-m-Processes	• Determine the major processes that provide the service. Set yourself in the user's position. • Extend processes across functional boundaries. • To ask questions, "What / If" (eg. What will happen if we change the manner of commission of customer's requirements?)

Define The effects for e-m- Processes and users	• Determine the main points of agreement with the user for each process. • Determine the effects associated with each service process • Always ask yourself: "Are the ultimate solutions relevant? Does the user ask for something else? What prevents us to meet or exceed the user's expectations?

Create A detailed map of all the processes	• Determine the main activities and the elements of each process • Determine all key activities and key inputs for: information, data, knowledge or services. Always keep in mind the question : Which of these are crucial to the process? • Identify all the key consequences of each activity. The entire process is replicated into a high-level map.

Transormation of the administrative body under the influence of new technologies and especially business intelligence is a painful process. It is easy to go astray on a side road, move away from the main tasks, go off the track due to the necessary adjustments. Therefore, changes must be accepted by all,f rom employees who work in the public administration and those who use its services. To be able to implement the changes it should:

• Act fast.
• Bring together groups that can manage changes and that they can enforce the changes.
• Create and communicate a vision of change.
• Employees and users of their services to encourage to behave in accordance with the vision.

- Plan improvements and create short-term successes.
- Every change to promote, and do not stop with the changes.

Successful transformation strategy of administrative bodies assumes rapid and innovative changes. The strategy of changes is a top management job in the administration. This can not do anyone instead of them or for them. It also indicates where lies primary responsibility for the failure and success. Strategic planning is not always possible to reconcile with the traditional understanding of planning (long-term, predictability, stability). For a modern administration it is not a question of whether you should or shouldn't make changes but what changes should be implemented prior to and in what way.

Accelerated changes that we are now witnessing the administrative bodies receive differently. In these changes some people will rely on the past, others will enter changes with ensecurity and with fear, some will enter with confidence having a range of plans and goals that will perhaps turn out to be unfit for the new era. Those who like risk will enter without thinking, relying on luck and fate. However, there are those that can be safely said to be successful in the new era and that will be able to shape the future. At the head of these administrative bodies are leaders who promote and develop an entirely new concept of thinking and acting based on e-m-i-Government, e-m-Service and the implementation of business intelligence.

Into the changes that the public administration must carry out also must be installed more responsibility for providing direct services to the citizens. Responsibility and cooperation are one of the critical factors of computerization. Inertness, incompetence, lack of knowledge and resources on the lower levels of administration often give arguments for imposing solutions of higher levels even when the jurisdiction of the law is explicitly at the lower levels of administration. Imposed solutions can become a practice, so that there is a block in the process of computerization due to the bottle necks at higher levels. On the other hand, lower levels of administration are not sometimes willing to co-operate with the higher levels even in the cases when they themselves don't have the resources to solve specific problems and when such cooperation would be of benefit to them.

3. Integration of Administrative Bodies

The integration of public administration and the user is the main objective of service chain management. It can be seen the development of the model in which the public administration is in focus to the model in which the user is in focus.

The largest part of the strategy that stands behind the integration of administrative bodies is focused on reducing costs, better service and easier service.

Service chains which operate on the principle of serve-and-demand have magical effects thanks to the miracles of integration. For successful design of efficient service chains, quickly constructed, well-susceptible and flexible in which will be embedded business intelligence we need experienced and skilled managerial staff.

Lack of integration between planning and operation of the service chain is expressed in the following ways:

- Unpredictable level of service for a user,
- Absence of vision of future requirements and their impact on the service,
- Too many terms in serving.

Poorly integrated infrastructure of the service chain of the public administration creates the same problems as its absence. Poor integration of the system means reduced flexibility and reduced control. The ultimate success of the administration depends of its ability to collect organize and analyse data, and their spreading along the service chain appropriately. To ensure the integration between the participants in the service chain the administration must install application to support the business to meet the needs of the planning and operation of the service chain.

Besides the integration of the public administration both horizontally and vertically, it is necessary to integrate technological solutions for e-m-Service and business.

3.1 Service Oriented towards the User

The most visible aspect of e-m-i-Government and what you most identify with e-m-i-Government is the improvement of service delivery to the customers (citizens and businesses) and building the necessary infrastructure to carry out these tasks. Citizens often see the services of the public administration as a very slow and time-consuming, inconvenient, burdensome and complex. Requirements of users are consistent.They have always appreciated the services of the public administration that are quick, simple, effective, tailor-made, safe, reliable.

What's the difference now? The users are much more sophisticated and have much higher expectations. In today's digital society citizens expect from the public administration the same quality of the service as they receive online from the private sector. Citizens expect that the public administration acts as a successful business organizations. The truth is that the public administration doesn't have to fight for their service users and it simply doesn't have the competition, and her position is essentially different from the market system.

Reasons for significant investment in new technologies are meeting the needs of both parties – citizens and public administration. Citizens-users get the most. Quickly and without the delay they can do their jobs without standing in endless lines, get timely service and accurate information or to do the job for which it is sometimes necessary multi day visitation of various government institutions. It is also important to mention the fact that this way of managing the state structures is closer to the citizen and he becomes a participant in the management of state structures.

From the standpoint of the public administration the benefit is double – saving and happy citizens. This enables the public administration to relieve pressure on the counters and to cheapen their services. In addition, people generally have bad experience in dealing with the administration and any change that effects the creation of good relationship with the citizens gives a picture of something happening in favor of the citizens. It should be borne in mind that every time we facilitate citizens to get services we raise their level of expectations.
A mature e-m-i-Government is developing an approach that rather "empowers" citizens rather than to simply "serve" by giving them the right and the opportunity to participate in the process and not just passively use the services. They move from service facing the administration to the service facing the citizens.

4. e-m-i-Government e-m-Service

Today the wholeness of e-m-i-Government we do not portend through the ultimate collection of projects that must be executed, but primarily through its three aspects:

- Source of information and knowledge.
- Expansion of the field of the action of the democracy.

- Improving service delivery.

The task of e-m-i-Government is not simply to collect and process the data, but also the creation and distribution of essential elements of information and knowledge. The new concept of e-m-i-Governments and e-m-Service should provide:

- One-time and accurate collection of all relevant data and information at the point of their creation;
- Storage of the collected data and information to the moment of their use;
- Circulation of data, information and knowledge which should enable the right data, right information and right knowledge to find themselves in the right place at the right time;
- Timely processing and timely reporting;
- Making optimal decisions based on the knowledge;
- Use of data and information by predetermined procedures and access rights.

The aim of establishing e-m-i-Government - is that the organizational procedures by using the latest technology enable an efficient system of collection, processing and use of data, information and knowledge of all participants. It must be provided the same level of efficiency in coordination among all stakeholders in order to achieve at least the following objectives:

- improvement of work of the public administration,
- improvement of technical and technological basis,
- ensuring quality performance of tasks and activities,
- timely and quality delivery legally defined obligations,
- increasing the level of information of all stakeholders, especially the perpetrator.

The introduction of e-m-i-Government and e-m-Service should not be limited to automate the current state and the current way of doing services processes but need to offer a new solution based on the real needs of which fulfillment provide modern technological achievements.

4.1 Characteristic of the New Concept

- There must be a number of different communication channels that allow access to public services and that are elected by the citizens and businesses according to their simplicity and accessability.
- Public services should be organized according to the needs of their users,ie. the life and work situations of citizens and businesses and not according to the internal organization of administration bodies.
- Services of the public administration must be fully integrated with each other rather than an isolated units.
- Users requirements are admitted to the reception areas (counters) and are handled transparantly in the background regardless of the number of different bodies involved in the process and the number of different access channels.
- Citizens and businesses need minimal documentation to submitt the application and to satisfy their needs. Any other relevant information if they are in the possession of an administration are given by communication within the public administration using integrated services (service chain).

A new concept of e-m-i-Government and e-m-Service requires that new technology is not only used as a tool to solve problems but to the same extent be the driving force for the reform and renewal of the public administration. Therefore, the goal of introducing e-m-i-

Government must not only be the providing the standard services by using new technologies. The main goal is the radical transformation of the way of functioning of the public administration by using the immense potential of the new technology offered today. Along with the introduction of new technologies it must be approached to the substantial modification of the models of work. Computerization of the existing model would only solidify his position and extend their service and the goal of automation is to just change the essence of public administration, to make it simple, open, efficient and oriented towards citizens.

The quality of work of administrative bodies now depends on how successfully they use the knowledge of employees and how quickly employees can learn and adopt something new. Constantly generating new ideas and creating innovative services is a feature of the successful administrative bodies and this should be part of their business strategy. Such administrations encourage innovative servicing and this is achieved by creating innovative teams and generating new ideas. Innovation does not come quickly and in a short time, so senior management does not expect great results right away but direct the development of the system and set the policy.

e-m-i-Government and e-m-Service is a very complex an expensive way of doing business. The first step is to identify the leaders of the implementation of business intelligence (BI) in e-m-Government and seeking of the administration or administrative organization that sets itself innovative questions that reshape the rules of service delivery. Once the public administration responds to strategic issues that should set itself, the result will get a revolution in serving. By altering questions innovators change the rules of the game for all participants. Innovative administrative bodies are trying to reshape the direction of current service activities, including the user (by setting it to focus) in a service process, using the advantages of new technological opportunities. This approach will provide the user the satisfaction (delight) and the public administration more efficient and cheaper service activities.

Well-conceived and implemented digitalization of service processes can alter the relationship between the providers and the users of services. Setting new questions not only to produce new answers but again forms a complete range of services. The question "become intelligent" is not a luxury but a basic need. This is not the way to secure a fine shift of the frontier of the services activities but learning how to become intelligent and at the same time ensure a high level of quality.

With the development of new technology comes the affirmation of qualitative, intangible parameters such as ideas, innovation, intellectual capital, knowledge, connection with the users and their satisfaction with the quality of service. The advantages provided by the use of new technologies are reflected in an easier and simpler sharing of knowledge within and outside the public administration.

5. Implementation Challenges in e-m-i-Government, e-m-Service

Security and privacy of data about the citizens and users of services: due to the high sensitivity of data managed, their exchange and processing in an environment which is not resolved concerning the safety measures may lead into question the realization but also the purpose of e-m-Service transformation. While on the one hand the citizens are offered public benefits in the form of increased efficiency and effectiveness as well as the possibility of their serious participation in public affairs on the other hand it can lead to unimaginable risks of illegal and undemocratic invasion of privacy. In this regard, the right to access public information, which is necessary for effective cooperation between different bodies in sharing personal data of citizens.

The discrepancy in the use of new technologies: the transformation could lead to the deepening of the digital divide if they do not take account of those citizens who do not wish or are not able to use the new technology. Paradoxically, the digital services of the public administration are not provided to the persons entitled to claim the most: the poor, the less educated, people with particularly sensitive limits and other special needs, and so on. These are the very groups that have difficulties in accessing the new devices and digital services.
Public administration must increase the number of services that will offer online and must adapt them to the needs of the users. Online providers of services will defeat conventional management especially in the selection of services. Service users prefer sites where they are offered everything under one roof. This guarantees solutions that offer great choice of services in an easy way. The most successful online portals collect vast amounts of data and information on the services and make them available to users whenever they need them. When the broadband access to internet is everywhere sufficiently widespread the video content will become available to a larger number of services, visually the trend of better information at the moment of obtaining the services is spreading.

Unlike traditional administration, the administration which is going to operate by the principle of e-m-Service and is implementing business intelligence into it will eventually be in a position to personalize the activities of providing services to each individual user.

The trend which now has the most chance in service delivery is going to be shapen around the form of mixed structure, a mixture between online and offline model of business. It will in the future contain within itself the practice of physical and online business. This form will allow the administrative bodies who operate in the traditional manner reorientation on online business while maintaining a certain classical part of business. This will allow a quick answer to the increasing demands of service users.

Choosing the wrong strategy in the implementation of the solution can result in high costs, poor quality of service, dissatisfaction of the user and the issues of efficiency of the service chain.

This is the time of a shift towards the integrated solutions, personalizations and self-service. Service users are rapidly transitioning from individual solutions to integrated solutions. They increasingly require solutions in one place and "under one roof". Administrations in this model of providing services must offer a larger number of services per transaction, more comfortable and cheaper service. To solve the problem of "choice" the users are looking for intergrated solutions and self-service, because it makes the process of searching and getting the services easier.

References

[1]   H. Liautaud, *e-Business Intelligence*, (2006), TIVA Tiskara Varaždin.
[2]   M. Radivojević, *Od Elektronskog Poslovanja do Poslovne Inteligencije u Javnoj Upravi*, (2012), JU Službeni Glasnik Republike Srpske, Banja Luka.
[3]   M. Radivojević, *Povezivanjem Novih Tehnologija i Svih Segmenata Javne Uprave do Efikasnije Usluge*, (2013), 57 Konferencija ETRAN, Zlatibor.
[4]   M. Radivojević, Business intelligence as a force of better business competitiveness in Bosnia and Herzegovina, *International Jurnal of Innovations in Business*, *London*, *IJIB*, 1(6) (December) (2012), 493-523.
[5]   M. Radivojević, *Jedinstveni Dokument Menadžment Sistem Javne Uprave Kao Korak Prema "Javnoj Upravi Koja Uči"*, (2010), 8 Europska Konferencija o Poslovnim Procesima, Zagreb.
[6]   P.H. Specht, The impact of it on organizational performace in the public sector, In *Handbook of Public Information*, (2008), Marcel Dekker Inc, NY.