Using Information Technology in Business Process Re-Engineering: Case Study of Tax Administration Croatia

Hak, Mario; Andrlić, Berislav; Šostar, Marko

Source / Izvornik: **Proceedings of the 3rd International Conference on Recent Trends and Applications in Computer Science and Information Technology, 2018, 160 - 166**

Conference paper / Rad u zborniku

Publication status / Verzija rada: **Published version / Objavljena verzija rada (izdavačev PDF)**

Permanent link / Trajna poveznica: https://urn.nsk.hr/urn:nbn:hr:112:358437

Rights / Prava: Public Domain Dedication/Prenošenje u javno dobro

Download date / Datum preuzimanja: **2025-01-06**

VELEUČILIŠTE U POŽEGI
STUDIA SUPERIORA POSEGANA

Repository / Repozitorij:

Repository of Polytechnic in Pozega - Polytechnic in Pozega Graduate Thesis Repository

DIGITALNI AKADEMSKI ARHIVI I REPOZITORIJI

Using Information Technology in Business Process Re-Engineering: Case Study of Tax Administration Croatia

Mario Hak, PhD
Tax Office Pozega
34000 Pozega, Zupanijska 14
hak.mario@gmail.com

Berislav Andrlic, PhD
Polytechnic in Pozega
34000 Pozega, Vukovarska 17
bandrlic@vup.hr

Marko Sostar, PhD
EU Office of Pozega Town
34000 Pozega, Holy Trinity Square
marko.rada@gmail.com

CEUR-WS.org/Vol-2280/paper-23.pdf

Abstract

Efficiency has long played a central role in the contested terrain of public administration values. The theoretical part of this paper explains the role and importance of organizational theory at the micro and macro level. The new public management movement was only the latest demand that public organizations promote efficiency by adopting new information technology. This paper analyzes the existing business processes and explores how to determine the optimal model of business processes in the Tax Administration using information technology. The goal of this model of bussines is to increase business efficiency and reflecting on all users of the Tax Administration.

Key words: information technology, business process, customer relationship management

1. Introduction

The goal of this research and information model of bussines is to increase business efficiency and reflecting on all users of the Tax Administration. These facts indicate that there are many opportunities for the development of business process reengineering in government institutions, such as Ministry of finance of the Republic of Croatia. The Tax Administration is the administrative organization within the Ministry of Finance whose basic task is to implement tax regulations and regulations concerning the payment of obligatory contributions. Strategic approach is based on relationship with customers (tax payers). The aim of Tax Administration of Croatia is to become tax payer service adjusted with their obligations.

In any attempt to make improvements to processes, it must be possible to measure performance, otherwise there is no way of knowing whether, or proving that, there has been an improvement. During the research, a number of possible key performance indicators were identified. Key performance indicators are measures by which the performances of organizations, business units, and their divisions, departments and employees can be periodically assessed, compared and benchmarked using information technology and Internet.

At the organization level, key performance indicators can be used for reviewing and will be useful for tracking, in the future, the effectiveness of any proposed changes to the business processes in the Croatian Tax Administration. Key performance indicators are defined as part of a hierarchical functioning and decision-making process.

The main part of the paper deals with explaining the benefits of the proposed changes which can help the Croatian Tax Administration to improve its effectiveness and efficiency and achieve its goals and information strategy. The changes have been divided into two groups, firstly those which have been the result of the reengineering process, and secondly those which have been suggested based on international best practice and the tax experts experience. Not all the changes involve changes to the processes themselves. The changes proposed from the reengineering process have been divided into four different domains: Croatian Tax Administration organisational changes, legislative changes, workflow changes and general changes.

2. Customer Relationship Management in Public Administration

Managing customer relationships as one of the business process management models has become an inevitable part of modern business. This strategy of economic organizations has also shifted to public administration, which also places the users of the public administration at the center of their business. Customer relationship management has the foundation in an integrated managed market, producing quality products and services, selling it to end-users. He is trying to deprive consumers of being loyal. This strategy provides the ability and the means to provide customers with content and service satisfaction and to become a loyal customer. The introduction of a customer

relationship strategy provides organizations with business efficiency and competitive advantage over other organizations. This strategy must be fully involved in all phases of the organization's business to enable customers to deliver the best product or service. The concept currently referred to as the concept of customer relationship management has gone through a relatively long evolutionary path where three distinct points can be distinguished: [Pan03]

- concept of call centers
- concept of contact centers
- contact center concept as part of a client relationship management system

With the appearance of the phone, the first phase of the current sales channel in management and marketing is developing in such a way that the telephone becomes the basis of communication between the seller and the customer. By the onset of the phone, this communication was conducted through catalogs and direct personal sales. In the foreground, sellers used the phone as a communication and later the customers were increasingly looking for backlinks with the sellers. As a result, organizations are developing call centers as contact centers and as the main link between the seller and the buyer. With the emergence of the Internet and new forms of communication, businesses realize that the importance of the telephony as the primary media over time decreases and that it will increasingly replace Internet services such as e-mails, text and speech chatting, mobile communication, etc. Due to the very low costs of using the Internet and the simplicity of traditional call centers pass through this way of communication. The call center model goes into the contact center model, in a way that the classical call center adds multimedia communication capabilities, primarily those offered by the Internet. The most important reason for such transformation is to increase customer satisfaction by improving the quality of services they provide to them before, during and after making a purchase. The latest evolutionary phase gives a new place and the role of contact center in the information system. The contact center also remains in information systems - a place where contact with clients is avoided using various communication channels, but its aspiration is to make it a place to establish lasting and high-quality relationships with customers. The Contact Center gets more and more features of an intelligent system that is constantly improving in communication with clients. However, the absence of such a standardized customer management system can result in missed business opportunities.

As a guideline idea, it is argued that customer relationship management is a business strategy that affects the organization as a whole including all its parts, such as marketing, informatic departments, distribution, finance, production and development, human resources, management etc. Looking at the strategic level on customer relationship management, it can be said that this is a strategic process of identifying (selecting) clients that the company can deliver in the most profitable way, creating interaction between itself and selected clients to improve the company's current and future value for the client. [Kum05]

For the needs of customer relationship managent research, it is necessary to determine the term terminology of the client concept. The definition includes buyers, suppliers, partners, investors, employees, and other business process participants. Each of these groups has specific needs. Clients must be able to find out about products and services and be able to make a purchase. It is important to note the need to monitor each customer's activities. having in mind 80% of revenue comes from 20% of your clients- (Pareto Principle). [Gil03] The idea of marketing development aimed at establishing customer relationships, whether end-users or industrial customers, can be seen as a logical continuation of a flow in which the concept of marketing changes from a purely business function to the point that marketing represents culture, customs and the spirit of one enterprise.

These new business concepts are commonly used in today's modern business. If we look at business from an enterprise point of view, it strives to develop good relationships with potential and already existing clients of companies who come into contact with employees. However, good customer relationships do not occur spontaneously - they require long-term application of the appropriate methods and business processes that will enable the company to establish control, that is, to help them manage these relationships.

3. Harmonizing Organizational Structure and Informatic Business Processes

The reorganization process can not be implemented without structural changes in business processes. Which

business process model will be selected for a particular organization depends largely on the current status of the organization, depends on the organization's goals and on the resources the organization has. In order to achieve optimal business processes, the organization has at its disposal a wide range of opportunities for removing bottlenecks, IT innovations, specializations, robotics, and the complete and detailed reorganization of the entire department of the organization.

In order to remove weak processes, it is essential to provide a good structuring of business processes from the introduction itself, through the run-up to monitoring after the introduction. If weaknesses in certain business processes are observed during the monitoring process, it is necessary to remove the errors and reduce them to a minimum. When faults occur and when their faults are removed, business process optimization can be accessed throughout the organization. The ultimate goal must be to get optimal business processes with the lowest possible costs with the best possible results. Therefore, this process must be carried out by the greatest experts, ie leadership must engage external experts if they are not themselves capable of implementing the process.

The business process is striving for optimization and improvement to develop innovative products and services that will enable savings in resources and additional revenue. Reorganization is described as a thorough redefinition and rational redesign of business processes to achieve drastic improvements in the most important business components (costs, quality, speed). This is actually a totally new informatic business process that is tailored to the wishes of the clients. This product or service in the organization gets quality that gives new and added value to the buyer, giving the organization a loyal customer and additional profits.

4. Research Methodology

Having agreed the processes which should be considered for reengineering, workshops were arranged with the relevant members of staff in the Croatian Tax Administration, in order to discuss how these processes can be improved. As a result of these workshops, and in combination with the Consultants' knowledge of best practice in these areas and experience of the tax experts, a number of proposals for change have been made. These are described in this paper, one section for those changes proposed as a result of the workshops, and therefore more specific to the actual existing processes, and a second section giving details of possible changes that could be implemented in the ta administration, based on best practice and relevant experience. The introduction of new basic business processes should include, for instance, the establishment of Business Process Management. Such system which will ensure that there is 'continual improvement' of processes and maintain the process documentation in line with the processes, if they change; and the revision of laws and policies in order to enable the proposed changes. The plan for how these changes can actually be implemented in the tax administration will be described in detail in the Implementation Plan, which is a deliverable from the next phase of the research.

The purpose of the Business Process Reengineering phase of the project was to decide how certain selected processes in the tax administration can be improved, in order to assist the tax administrtion in achieving their business goals and strategy. As explained in the Introduction above, the process areas that were considered during this phase were: Registration (identification of taxpayers), Tax Assessment and Processing of tax returns, Taxpayer Services, Tax Audit, Distraint/Enforced collection, Disputes Resolution and Risk Management.. Risk Management has been described in the report as a new process which does not currently exist in the tax administration in Croatia. Improvements to the core operational and headquarter functional process areas were considered at all levels - headquarter, regional and local.

The methodology that was used for reengineering the selected processes was similar to that used during the process management phase, namely workshops were held by the Consultant, with participation from tax administration staff; mainly those who had been present at the workshops. An initial workshop was held in order to define the exact scope of the reengineering phase, and to present the that approach based on the spectrum of taxpayer attitudes to compliance, as mentioned above (based on the European Comission proposal).[Oec09]

This was then followed by a series of 'rollout' workshops with the aim of detailing the schedule and BPR methodology to be used in the reengineering workshops. Again the business approach was explained and an overview given of best practices and trends.

The participants also defined the related Key Performance Indicators that currently exist, which can be used for measuring, in some way, the efficiency or effectiveness of the processes. The specific business processes that were covered by each taxation flow were defined and a schedule of workshops agreed to cover each of these processes.

Figure 1. Business process in public administration in Croatia

During this research, the importance key performance indicators has also been discussed. In any attempt to make improvements to processes, it must be possible to measure performance, otherwise there is no way of knowing whether, or proving that, there has been an improvement. During the workshops, a number of possible indicators were identified, e.g. statistics that exist in reports, but these are often not used for measuring performance, because they are not always accurate. Also, in some departments there are some 'unofficial' performance figures collected (by individuals working in the department, rather than officially organised collection of data). However, the identified statistics will not be sufficient for measuring the effectiveness of the proposed changes.

5. Role of Key Performance Indicators in Business Process Management: Results of Study

Key performance indicators are measures by which the performances of organizations, business units, and their divisions, departments and employees can be periodically assessed, compared and benchmarked.

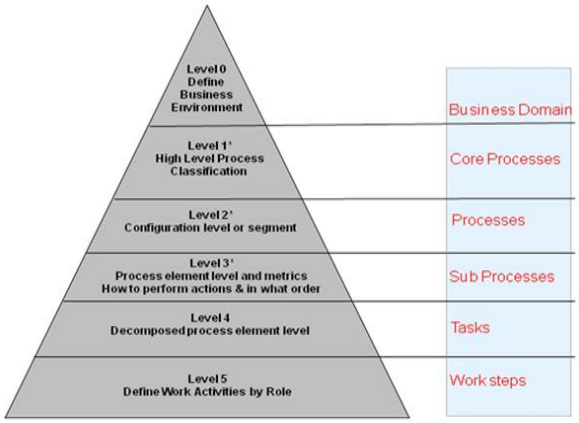

Figure 2. Indicators in Tax Administration Croatia

At the organization level, indicators can be used for reviewing and will be useful for tracking, in the future, the effectiveness of any proposed changes to the business processes in the tax administration. Indicators are defined as part of a hierarchical functioning and decision-making process. The hierarchy of business process components is described in the chart below. The performance indication is possible at each level of the process hierarchy. The higher level of indicators could be calculated based on lower level ones.

The possible procedure of implementation and utilization of indicators is briefly outlined below.

- The strategy of the organization is first formulated including the definition of business, managerial and operational tasks.
- Objectives are defined for each strategy aspect.
- Indicators are determined for each objective.
    - Indicators should be acceptable, understood, meaningful and measurable.
    - If necessary, actual values of indicators that are required for comparison with target values

during periodic performance review must be available.
    - Indicators should be meaningful so that the fulfilment of their targets actively contributes to organizational improvement. The change in the value of the indicators should clearly show the result of the reengineering.
- The necessary inter-dependencies between strategies. For example, the strategies of the taxpayer perspective are aligned with the strategies of the Ministry of Finance and the tax administration staff.
- The indicators must have a hierarchy. Measures selected for each objective must have a well defined relationship with the measures of the "higher" objectives, and this fact must be kept firmly in mind while defining them.
- Usually numerical targets are set for each indicator. These may be in terms of: single value, upper limit, lower limit, range of values, percentage of a specific quantity/value, etc.

During the BPR workshops in the tax administration in Pozega during 2018, some of the statistics, which are currently gathered and could be possibly used as key indicators, were recognized on various levels, but mainly on the operative level. This section provides a brief summary of these indicators.

Table 1. Indicators of Tax Administration Croatia

Related process	***Related key indicators***
• F1-P03 "Use Register data" • F1-P04 "Update Register data"	• Extent of completed additional data in new attributes of the Register of taxpayers
• F2-P01 - Mandatory tax registration • F2-P02 - Tax assessment - Registration of the Income Tax	• Track the number of applications • Surveys for measure of taxpayer's satisfaction • Tax return processing time
• F3-P01 "Setting up and updating websites" • F3-P02 "Electronic taxpayer services (eTax) – new service set up"	• Availability of information • Simplicity of finding information • Number of visits to the website • Number of complaints/compliments sent via the website
• F3-P04 "Preparation of responses to citizens' requests and placement of appropriate content on Website"	• Number of complaints received (on the web page or by the Contact Centre) • Survey results • Number of calls received in the Contact Centre
• F1-P03 "Use Register data" • F1-P04 "Update Register data"	• Extent of completed additional data in new attributes of the Register of taxpayers
• F4-P01 "Annual audit plan" • F4-P03 "Preparation of tax audit"	• Percentage of audit with discovered irregularities in relation to total implemented audit • Newly assessed tax obligations during audit • Percentage of "Other requests" in relation to total number of requests
• F6-P01 "Minor offence proceedings" • F6-P02 "Administrative appeals proceedings" • F6-P03 "Precautionary measures with Reconsideration of a	• Number of adopted decisions within one year • Number of adopted decisions by leader of proceedings in the division on a yearly basis • Increased quality of implementation of minor offence proceedings • Harmonization of work of minor offence proceedings

precautionary measure”	
• All distraint procedures which include the retrieval of data from external sources	• Number of initiated distraint proceedings • Total number of issued decisions on distraint • Number of initiated distraint proceedings • Number of registered securing of property • more efficient collection • success of distraint proceedings
• All business processes of the minor offence proceedings	• Satisfaction of employees with Bachelor’s degrees in the Minor offence proceedings division • Possibility that young, highly educated lawyers will leave the division • Number of cases that go into limitation in the administrative and minor offence proceedings on the first and second instance • Number of cases in which files cannot be delivered • Number of cases in which files are attempted to be delivered for a second (and for each further time)

This list of indicators should be considered just as a starting point for the business process evaluation in the tax administration. Over time, it is expected that this list will be extended and updated by tax administration experts.

As a result of the work done during the business process analysis and reengineering workshops, authors have identified a number of possible areas where the tax administration could effectively improve their way of working using Internet technology. These suggested changes can be divided into these different domains:

1. Establish a new set of the informatic-based solutions to connect the data bases of the tax administration and other bodies of the state and public administration (e.g. MoI, State Attorney's Office, etc.) which would enable controlled and secure data access to the (Information System of Tax Administration) system of the tax administration, without the intervention of employees.
2. Implement informatic connectivity with other state and public administration bodies which would enable tax administration employees controlled and secure data access to the other bodies’ databases, without the need for involvement of the other bodies’ staff
3. Standardize tax administration clerks’ workplaces (according to their roles) and plan to equip them with an appropriate informatic tools. Obtain adequate informatic equipment at all levels of tax administration (Local, Regional, Central) including desktop computers, laptop computers, servers, network equipment, printers, scanners, mobile Internet connection devices etc. that are prerequisites for executing the task of tax administration at the expected level of quality.
4. Establish the adequate processes regarding the maintenance and setting up of obtained informatic equipment (e.g. internet access rules, repairing printers, speed of internet connection, etc.) to support tax administration staff business tasks
5. Plan, obtain and implement adequate Document Management System to increase the level of working with unstructured data within the tax administration
6. Adding new services to available e-Tax solution (according to the existing Croatian e-government strategy) [Gov15] will increase the number of tax payers that currently use e-Tax services. Also, it will further relieve tax administration resources that are used for manual data entry and processing of tax returns that have not yet been implemented by e-Tax services.
7. Publish, in a timely manner, an Excel version of the Income Tax Return form on the tax administration web page, so that filling the tax return will be simpler for taxpayers., until there is an available e-Tax form for income tax. Furthermore, that solution requires development of the Tax return “metadata” system to collect, validate and process data from the submitted Excel forms.
8. Analyze possibility of establishing a Tax Return Data Warehouse to enable easy Tax return processing in the tax administration and to increase the quality and

transparency of tax assessment and management of taxpayers' accounts.

In the future, electronic payment features could be enhanced. Although the e-payment function in Croatia has already been developed to a certain extent and taxpayers have some electronic options for paying their tax obligations, the e-payment function of the tax administration still needs further analysis to enable taxpayers easier, safer and more secure paying of tax obligations to the tax administration.

6. Conclusion

Accordingly, in paper the suggested changes were presented within domains such as informatic organizational changes, legislative changes, workflow changes and general changes using information technology in business process of public administration. These changes would lead to increase efficiency of process in Tax Administration of Croatia and improvement of relations with tax payers. Connectivity assumes that customer needs are fulfilled as customers want it, as customers want and at the time they want it to become a key source of competitive edge for the enterprise or government institution which turns into new concept called e-government.

References

[Gov15] The Government of the Republic of Croatia: Electronic government strategy of the Republic of Croatia for the period from 2009 to 2015,

[Gil03] Giligan, C., Wilson, R.M.S.: Strategic Marketing Planning, Butterworth- Heinemann, UK, 2003., p. 264.

[Kum05]Kumar, V., Werner, J.R.: Customer Relationship Management a Databased Approach, John Wiley & Sons, Inc., USA, 2005., p. 5.

[Lev02] Levi, M. H.: The Business Process (Quiet) Revolution: Transformation to Process Organization, Interfacing Technologies Corporation, 2002, p. 45.

[Oec09] OECD (Organisation for Economic Co-operation and Development) Forum on Tax Administration: Compliance Sub-Group – 'Managing and Improving Compliance: Recent Developments in Compliance Risk Treatments' March 2009

[Pan03] Panian, Ž.: Customer relationship management in e-business, Sinergija, Zagreb, 2003., p. 116

[Sri99] Srića, V: Menagerial informatics, M.E.P., Consult, Delfin, HITA Business academy, Zagreb, 1999, p. 1-9

[Tax18] Tax Administration Croatia-Branch Office Pozega, Customer relationship management in Tax Administration Croatia, 2018, internal research