

Information Systems, AC a Tool for Management Control of Municipal Public Services in Mexico

Israel Patiño Galván
J. Jesús Ceja Pizano

Publication resulting from scientific research and technology,
with the sole aim of spreading the knowledge generated nonprofits.



SciencePG

Science Publishing Group

**Information Systems, AC
a Tool for Management
Control of Municipal
Public Services in Mexico**

Israel Patiño Galván

J. Jesús Ceja Pizano



Science Publishing Group

548 Fashion Avenue
New York, NY 10018
www.sciencepublishinggroup.com

Published by Science Publishing Group 2015

Copyright © Israel Patiño Galván 2015

Copyright © J. Jesús Ceja Pizano 2015

All rights reserved.

First Edition

ISBN: 978-1-940366-32-6

This work is licensed under the Creative Commons
Attribution-NonCommercial 3.0 Unported License. To view a copy of
this license, visit

<http://creativecommons.org/licenses/by-nc/3.0/>



or send a letter to:
Creative Commons
171 Second Street, Suite 300
San Francisco, California 94105
USA

To order additional copies of this book, please contact:

Science Publishing Group
book@sciencepublishinggroup.com
www.sciencepublishinggroup.com

Printed and bound in India

The development of this work
is dedicated with love and respect to: Ambar
Yotzin, Gloria Galván,
Angel Hazel, Paquito, Fer, Esme, Yose, Paco,
Laura and Mary

Abstract

Nowadays the incorporation of the information systems in the public environment, depends for the success integration to a great extent on the analysis of needs that the corresponding authorities, since it is not a question of incorporating the technology as part of the technological world, rather to integrate as part of an investigation that manages to maximize the utilization of this one in altars of resting among other things to the management of municipality publics services in México. In addition, the Management control of municipality public services has acquired great relevancy, owed the increase of her Inhabitants, and in consequence in the increase in the coverage of the above mentioned services, in the volume of information and in the administrative – operative processes that implies attending the demand of the citizen. For this reason, the ideas and solutions that are proposed on the field of investigation, the ones that propose the use of Information Systems as an alternative tool, for helping the management control in the attention, follow up and finishing of municipality publics service. On one hand, it is the impulse in the incorporation of Information Systems and integration the municipal authorities and citizen, in order to stimulate the Feedback between the actors and de information system.

Keywords

Information Systems, Management Control, Municipality Public Services, Citizen, Municipal Authorities

Introduction

The incorporation of information systems for management control of public services in Mexico has been very limited, as there have been no studies necessary for incorporation. Coupled with the lack of will and researches, substantiate the technological incorporation. A pessimistic view of the prospects are for the incorporation of information systems, it is definitely in decline as progress and evolve away from the use of these information technologies, it seems wasteful in economic and human resources. An optimistic view is that they have many opportunities for improvement, from needs analysis, technology selection, projections. It is noteworthy that the human factor that operates these systems also requires technologic training, mainly to provide ideas and also take advantage of the benefits offered by information systems. On the other hand, control management of municipally is a process that is set in the offices and agencies of the local government to ensure compliance with local government and to ensure compliance with the plans and programs of work, assess its performance, detect deviations and propose corrective action, thereby strengthening decision-making of the government (INAP, 1986). On the other hand, a public service is a technical service provided to the public by a public organization regularly for meet public needs (Fernandez, 2002). Finally, an information system is a formal set of processes that operate on a collection of data structured according to the needs of the company, collects, produces and distributes information selectively required for the operation of the company and management activities and corresponding control, supporting at least in part, the decision-making processes necessary to perform business functions of the company in accordance with its strategy (Andreu, Ricart & Valor, 1991). Under these definitions, Mexico has started in local government, in incorporation of information systems.

Contents

Abstract	V
Keywords.....	V
Introduction	VI
Chapter 1 The Municipality Public Services in Mexico.....	1
1.1 Context of Municipal Utilities in Mexico.....	3
1.1.1 Classification of the Public Services	4
1.1.2 Public Services in the <i>prehispanic</i> Era	7
1.1.3 Public Services in Colonial Era.....	9
1.1.4 Public Services in the Independent Mexico	9
1.1.5 Municipal Public Services According the Constitution of 1917	10
Charper 2 Context the Models Management Control in Municipalities of Mexico Through Information Systems	13
2.1 Models Management Control in Municipalities of Mexico through Information Systems	15
Chapter 3 Materials and Methods	21
3.1 Materials and Research Methods.....	23
3.2 Scientific Research Methodology.....	24
Charper 4 Proposal of Information Systems like a Tool for Management Control of Municipal Public Services in Mexico	27
4.1 Proposal of Information System	29
4.2 Feasibility Analysis	30
4.2.1 Technical Feasibility	32
4.2.2 Economic Viability.....	37
4.2.3 Operative Viability	38
4.3 Technological Tools	41

4.4 Information Security.....	42
4.5 Development Techniques	48
4.6 Diagrams of the Information System.....	51
4.6.1 Diagram of Use Cases	51
4.6.2 RelationalDatabaseDiagram	55
4.6.3 Diagram of Database of Star for the Data Mining.....	59
4.7 Implementation Schedule	64
Discussion	71
Conclusion	73
References	77

Table Index

Table 1 Request of municipally public services.	18
Table 2 Technological infrastructure of the Directorate General of the State System of Computing, State of Mexico.	33
Table 3 Minimum requirements of Hardware and Software.	34
Table 4 Estimate rough of annual increase hard disk.	35
Table 5 Impact of viability to show how system components affect the process objectives.	39
Table 6 Impact of the viability of components system to corporate objectives.	40
Table 7 Services and security mechanisms.....	44
Table 8 Comparison between general methodologies.	49
Table 9 Detailed comparison between methodologies.	49
Table 10 Schedule of activities of the stages of objectives oriented Lifecycle in relation to research.	65

Figure Index

Figure 1 Management control for the care and monitoring of municipal utilities, in the municipality of Quer évaro, Quer évaro State.....	16
Figure 2 Management control for the care and monitoring of municipal utilities of Nezahualcoyotl, Ecatepec, Tec ámac and Coacalco State of Mexico.	17
Figure 3 Strategy of the research.	24
Figure 4 Implementing and integration of the information system.	29
Figure 5 Illustration client– server.	35
Figure 6 Diagram of the security services.	47
Figure 7 General diagram of case of use of municipal public services.	53
Figure 8 Modelentity– relation.	57
Figure 9 Relational model.	58
Figure 10 Subdiagramto the Access control.	59
Figure 11 Business Dimensional Lifecycle.	60
Figure 12 Star diagram.	63
Figure 13 Proposed diagram of an Information System for Management Control of Municipal Public Services in Mexico.....	70

