ADVANCES ON INFORMATION PROCESSING AND MANAGEMENT

CONFERENCE ORGANIZERS INSTITUTES

The International Conference on Integrated Information is supported by the following Institutes:

Emerald Group Publishing Limited Technological educational Institute of Athens, Greece University of Peloponnese, Greece National And Kapodistrian University of Athens, Greece Mednet Hellas, The Greek Medical Network 2nd AMICUS Workshop

To learn more about I-DAS, including the Book Series, please visit the webpage http://www.i-das.org/

INTEGRATED INFORMATION

International Conference on Integrated Information

Kos, Greece September, 29 – October, 3 2011

EDITORS

Georgios A. Giannakopoulos Technological Educational Institute of Athens, Greece

> Damianos P. Sakas University of Peloponnese, Greece

All papers have been peer-reviewed



Piraeus, Greece, 2011

Editors

Georgios A. Giannakopoulos

Technological Educational Institute of Athens Faculty of Management and Economics Department of Library Science and Information Systems Address: Aghiou Spyridonos Street, 12210, Egaleo E-mail: gian@teiath.gr

Damianos P. Sakas

University of Peloponnese Faculty of Science and Technology Department of Computer Science and Technology Address: End of Karaiskaki St., 22100, Tripolis, Greece E-mail: <u>D.Sakas@uop.gr</u>

The copyrights will be owned by the authors under the Creative Commons Attribution-Non Commercial license (<u>http://creativecommons.org/licenses/by-nc/3.0/</u>), which permits unrestricted use, distribution, and reproduction in any non commercial medium, provided the original work is properly cited.

ISSN:

Printed in the Greece, EU

CONTENTS

PREFACE: Proceedings of the International Conference on Integrated Information (IC-INFO 2011)	1
Georgios A. Giannakopoulos, Damianos P. Sakas	
Conference Details	3
Keynote Speaker	5
SYMPOSIUM ON INFORMATION AND KNOWLEDGE MANAGEMENT Prof. Christos Skourlas	6
Towards the Preservation and Availability of Historical Books and Manuscripts: A Case Study Eleni Galiotou	8
An Extensive Experimental Study on the Cluster-based Reference set Reduction for Speeding-up the k-nn Classifier Stefanos Ougiaroglou, Georgios Evangelidis and Dimitris A. Dervos	12
Exploiting the Search Culture Modulated by the Documentation Retrieval Applications Nikitas N. Karanikolas and Christos Skourlas	16
Information and Knowledge Organization: The Case of the TEI of Athens Anastasios Tsolakidis, Manolis Chalaris and Ioannis Chalaris	22
Providing Access to Students with Disabilities and Learning Difficulties in Higher Education through a Secure Wireless framework Catherine Marinagi and Christos Skourlas	26
Improving Query Efficiency in High Dimensional Point Indexes Evangelos Outsios and Georgios Evangelidis	30
Text Segmentation Using Named Entity Recognition and co-Reference Resolution in Greek Texts Pavlina Fragkou	34
KINISIS, a Graphical XQuery Language Euclid Keramopoulos, Achilleas Pliakas, Konstantinos Tsekos and Ignatios Deligiannis	42
Dimensionality Curse, Concentration Phenomenon and the KDB-tree Nikolaos Kouiroukidis and Georgios Evangelidi	46

Applying Balanced Scorecard Strategic Management in Higher Education Manolis Chalaris, Anastasios Tsolakidis and Ioannis Chalaris	50
A Web Portal Model for NGOs' Knowledge Management Zuhal Tanrikulu	54
The Digital Archives System and Application Optimized for the Tradition Knowledge Archives	58
Jeon Hong. Chan, In Deok. Hwang, Jae Hak. Park, Hyeok. Sim, U won. Gwon and Soon Cheol. Park	
A Semi-automatic Emerging Technology Trend Classifier Using SCOPUS and PATSTAT	62
Seonho Kim, Woondong Yeo, Byong-Youl Coh, Waqas Rasheed, Jaewoo Kang	
Presenting a Framework for Knowledge Management within a Web Enabled Living Lab Lizette de Jager and Albertus AK Buitendag and Potjie (JS) van der Walt	66
4TH SYMPOSIUM ON BUSINESS AND MANAGEMENT AND DYNAMIC SIMULATION MODELS SUPPORTING MANAGEMENT STRATEGIES Dr. Damianos Sakas	71
New Political Communication Practices: No Budget Events Management. The New Challenge	73
Evangelia N. Markaki, Damianios P. Sakas and Theodore Chadjipantelis	
Free Software – Open Source Software. A Powerful Tool for Developing Creativity in the Hands of the Student	78
Nasiopoulos K. Dimitrios, Damianos P. Sakas, Konstantinos Masselos	
Open Source Web Applications. How it Spread Through the Internet and their Contribution to Education.	82
Nasiopoulos K. Dimitrios, Damianos P. Sakas, Konstantinos Masselos	
Culture in Modern Times in the Frame of Luhmann's System Theory Anastasia J. Chournazidis	85
Managing Scientific Journals: A Cultural Viewpoint Marina C. Terzi, Damianos P. Sakas, and Ioannis Seimenis	87
A Conceptual Framework for Analyzing Knowledge-based Entrepreneurship Nikos S. Kanellos	92

SESSION ON INFORMATION HISTORY: PERSPECTIVES, METHODS AND CURRENT TOPICS	96
Prof. Laszlo Karvalics	
Emerging Research Fields in Information History Laszlo Z. Karvalics	98
Information Management through Elementary Data Clusters: New Observations on Pridianum-Type Roman Statistical Documents Gergő Gellérfi	102
Information and Secrecy on the Silk Road. Methods of Encryption of Legal Documents in Inner Asia (3th-4th century) Szabolcs Felföldi	106
The Role of Information and Disinformation in the Establishment of the Mongolian Empire: A Re-examination of the 13th century Mongolian History from the Viewpoint of Information History Márton Gergő Vér	110
Early Warning Systems and the Hospitallers in the Eastern Mediterranean Zsolt Hunyadi	114
Information Management as Establishment Dutch Navigational Knowledge on Japan, 1608-1641 Gabor Szommer	118
Files Everywhere - Register and Training of Men for Military and Civil Purpose in Prussia in the early 18th century Marton Holczer	123
SYMPOSIUM ON INTEGRATED INFORMATION: THEORY, POLICIES, TOOLS Prof. Georgios Giannakopoulos	126
Approaching Information as an Integrated Field: Educating Information Professionals Georgios Giannakopoulos, Daphne Kyriaki Manesi and Sryridon Zervos	128
Special Libraries as Knowledge Management Centers Eva Semertzaki	132
Digital Libraries' Developers and their Suitability: A Case Study Maria Monopoli	136

A Preliminary Study for the Creation of a Greek Citation index in the Humanities and the Social Sciences (GCI – H&SS)	140
Daphne Kyriaki-Manessi and Evi Sachini	
Archiving as an Information Science. Evidence from a Survey Carried out on a Sample of Greek Students	144
Georgios Giannakopoulos and Ioannis Koumantakis	
Transition Process of E-records Management and Archiving System in Universities: Ankara University	147
S. Özlem Bayram and Fahrettin Ozdemirci	
Government Information: Access and Greece's Efforts for Access Aikaterini Yiannoukakou	150
School Archives and their Potentials in Teaching: Aspects of Greek Reality Sonia Geladaki and Panagiota Papadimitriou	156
Research on School Libraries in Greece and Suggestions on its Further Development Georgios D. Bikos	160
Building Digital Collections for Archeological Sites: Metadata Requirements and CIDOC CRM Extension	164
Georgios S. Gkrous and Mara Nikolaidou	
Museological Claims to Autonomous Knowledge: Rethinking the Conceptual Mode of Display and its Claims to Knowledge	169
Assimina Kaniari and Georgios Giannakopoulos	
Use of Library Loan Records for Book Recommendation Keita Tsuji, Erika Kuroo, Sho Sato, Ui Ikeuchi, Atsushi Ikeuchi, Fuyuki Yoshikane and Hiroshi Itsumura	172
Developing a National Database on Librarianship and Information Science. The Case of E-VIVA, the Hellenic Fulltext Database	176
Filippos Ch. Tsimpoglou, Vasiliki V. Koukounidou and Eleni K. Sakka	
Integrated Access to Cultural Heritage Information Pieces in Iran Astan-Quds Razavi's Organization of Libraries, Museums and Documents Center: A Theory of Unionization Disparate Information Assets over Imam Reza's Zarih	181
Ms. Mitra Zarei and Ms. Maliheh Farrokhnia	
Attitudes of University Librarians and Information Scientists towards the Draft Code of	185

Library Ethics to Present a Model for Final Library Ethical Codes	
Mahsoomeh Latifi, Fatemeh Zandian and Hasan Siamian	
SESSION ON OPEN ACCESS REPOSITORIES: SELF-ARCHIVING, METADATA, CONTENT POLICIES, USAGE	188
Dr. Alexandros Koulouris	
Geographical Collections in Greek Academic Libraries: Current Situation and Perspectives Ifigenia Vardakosta and Sarantos Kapidakis	189
Information Seeking Behavior: Factors that Affect the Behavior of Greek Astronomers Hara Brindesi and Sarantos Kapidakis	194
Aggregating Metadata for Europeana: The Greek Paradigm Alexandros Koulouris, Vangelis Banos and Emmanouel Garoufallou	198
Integrating a Repository with Research Output and Publications: The Case of the National Technical University of Athens Dionysis Kokkinos	202
Implementation of Workflows as Finite State Machines in a National Doctoral Dissertations Archive Nikos Houssos, Dimitris Zavaliadis, Kostas Stamatis and Panagiotis Stathopoulos	205
Practices of "Local" Repositories of Legally Protected Immovable Monuments. A Global Scheme for 'Designation – Significance' Information Michail Agathos and Sarantos Kapidakis	209
Integration of Metadata in BWMETA-2.0.0 Format Katarzyna Zamlynska, Jakub Jurkiewicz and Lukasz Bolikowski	213
SESSION ON EVIDENCE-BASED INFORMATION IN CLINICAL PRACTICE Dr. Evangelia Lappa	216
Applicability of Data Mining Algorithms on Clinical Datasets Wilfred, Bonney	218
Changing Roles of Health Librarians with Open Access Repositories Christine Urquhar and Assimina Vlachaki	221
From Medical Records to Health Knowledge Management Systems: The Coding to Health Sector	225

Evangelia C. Lappa and Georgios A. Giannakopoulos

The Survey of Skill, Attitude and Use of Computer and Internet among Faculty Members Hasan Siamian, Azita Bala Ghafari, Kobra Aligolbandi, Mohammad Vahedi and Gholam Ali Golafshani Jooybari	229
Trends in Scholarly Communication among Biomedical Scientists in Greece Assimina Vlachaki and Christine Urquhart	232
SESSION ON ELECTRONIC PUBLISHING: A DEVELOPING LANDSCAPE Dr. Dimitris Kouis	236
E-Journal and Open Access Journal Publishing in the Humanities: Preliminary Results from a Survey among Byzantine Studies Scholars Victoria Tsoukala and Evi Sachini	238
Preliminary Results on a Printed VS Electronic Text Books Assessment Through Questionnaire Dimitrios A. Kouis and Kanella Pouli	242
An Interpretation of Aristotelian Logic According to George Boole Markos N. Dendrinos	246
SESSION ON INFORMATION CONTENT PRESERVATION AS OUTCOME OF CONSERVATION OF CULTURAL HERITAGE: ETHICS, METHODOLOGY AND TOOLS	251
Prof. George Panagiaris and Dr. Spiros Zervos	
Intrinsic Data Obfuscation as the Result of Book and Paper Conservation Interventions Spiros Zervos, Alexandros Koulouris and Georgios Giannakopoulos	254
Mass Deacidification: Preserving More than Written Information Michael Ramin, Evelyn Eisenhauer and Markus Reist	258
Information Literacy of Library Users: A Case Study of Mazandaran Public Library Users, Iran Hussein Mahdizadeh and Hasan Siamian	260
The Narratives of Paper in The Archives of the New Independent Greek State (Mid 19th c.) Ourania Kanakari and Maria Giannikou	264
From Macro to Micro and from Micro to Nano: The Evolution of the Information Content Preservation of Biological Wet Specimen Collections Nikolaos Maniatis and Georgios Panagiaris	268

Digital images: A valuable scholar's tool or misleading material? Patricia Engel	272
Attitudes of University Librarians and Information Scientists Towards the Draft Code of Library Ethics to Present a Model for Final Library Ethical Codes Mahsoomeh Latifi, Fatemeh Zandianand and Hasan Siamian	277
Investigation of the Degradation Mechanisms of Organic Materials: From Accelerated Ageing to Chemometric Studies	280
Ekaterini Malea, Effie Papageorgiou and Georgios Panagiaris	
SESSION ON DIVERGENCE AND CONVERGENCE: INFORMATION WORK IN DIGITAL CULTURAL MEMORY INSTITUTIONS Dr. Susan Myburgh	285
Extending Convergence and Divergence in Cultural Memory Institutions: The Old Slave Lodge in the New South Africa Archie L Dick	287
The Transfer of Knowledge from Large Organizations to Small: Experiences from a Research Project on Digitization in Wales Clare Wood-Fisher, Richard Gough, Sarah Higgins, Menna Morgan, Amy Staniforth and Lucy Tedd	289
The Usage of Reference Management Software (Rms) in an Academic Environment : A Survey at Tallinn University Enrico Francese	293
Varialog : How to Locate Words in a French Renaissance Virtual Library Marie-Hélène Lay	297
The Urge to Merge: A Theoretical Approach Susan Myburgh	301
SYMPOSIUM ON ADVANCES INFORMATION FOR STRATEGIC MANAGEMENT Professor Nikolaos Konstantopoulos	304
Empowerment in the Tax Office of Greece Antonios E. Giokas and Nikolaos P. Antonakas	306
Building Absorptive Capacity Through Internal Corporate Venturing Ioannis M. Sotiriou and Alexandros I. Alexandrakis	310

The Monitoring Information System (M.I.S.) - An information and Management System for Projects Co-financed Under the National Strategic Reference Framework (NSRF) and the Community support framework (CSF)	314
Catherina G. Siampou, Eleni G. Fassou and Athanassios P. Panagiotopoulos	
Corruption in Tax Administration: The Entrepreneurs View Point	318
Nikolaos P. Antonakas, Antonios E. Giokas and Nikolaos Konstantopoulos	
Conflicts between the IT Manager and the Software House after the Strategic Choice of Outsourcing of the Information Processes in Maritime Companies.	322
Anthi Z. Vaxevanou, Nikolaos Konstantopoulos, Damianos P. Sakas	
Contemporary Forms of Ordering Between the Supply Department and Ship Chandler Companies in the Shipping Industry	325
Anthi Z. Vaxevanou, Nikolaos Konstantopoulos, Damianos P. Sakas	
Strategies Implemented and Sources Used for the Acquisition of Information on Foreign Markets	329
Myropi Garri, Nikolaos Konstantopoulos and Michail G. Bekiaris	
The Effect of High Performance Working Systems on Informative Technology in Enterprises after Organisation Changes such as Mergers & Acquisitions	333
Nikolaos Konstantopoulos and Yiannis Triantafyllopoulos	
Personnel's Absorptive Capacity as a Guiding Concept for Effective Performance in Informative Technology	337
Nikolaos Konstantopoulos and Yiannis Triantafyllopoulos	
SESSION ON CONTEMPORARY ISSUES IN MANAGEMENT: ORGANISATIONAL BEHAVIOUR, INFORMATION TECHNOLOG, EDUCATION & HOSPITAL LEADERSHIP	341
Dr. Panagiotis Trivellas	
Investigating the Importance of Sustainable Development for Hotel SMES Panagiotis Reklitis and Anestis Fotiadis	343
Strategic Alignment of ERP, CRM and E-business: A Value Creation Catherine C. Marinagi and Christos K. Akrivos	347
The Impact of Occupational Stress on Performance in Health Care Panagiotis Trivellas Panagiotis Reklitis and Charalambos Platis	351

The Impact of Emotional Intelligence on Job Outcomes and Turnover Intention in Health Care	356
Panagiotis Trivellas Vassilis Gerogiannis and Sofia Svarna	
SYMPOSIUM ON BUSINESS MANAGEMENT AND COMMUNICATION STRATEGIES SUPPORTING DECISION MAKING PROCESS IN TOURISM SECTOR	360
Dr. Panagiota Dionysopoulou	
The Human Factor as a Mediator to the Total Quality in the Tourism Companies. The impact of Employees' Motivation to Quality Improvements	362
Christos K. Akrivos and Panagiotis Reklitis	
Tourist Destination Marketing and Management Using Advanced ICTS Technologies Anastasia Argyropoulou, Panagiota Dionyssopoulou, Georgios Miaoulis	365
G.N.T.O. (Greek National Tourism Organization) Communication Strategy in Advertising Campaigns 1991-2006	370
George Stafylakis and Panagiota Dionyssopoulou	
GENERAL PAPERS	375
The role of Environmental Education within the Framework of the Environmental	376
Policy of a Regional Municipality	
Vassiliki Delitheou and Dimitra Thanasia	
Issues of Social Cohesion: A case study from the Greek Urban Scenery Evgenia Tousi	380
Merging Activity and Employee Performance: The Greek Banking System Panagiotis Liargovas and Spyridon Repousis	384
Sustainable Development and Corporate Social Responsibility in Higher Education: Some	387
Evidence from Greece	
Anastasios Sepetis and Fotios Rizos	
Exploring the Effects of Organizational Culture on Collaborative vs. Competitive	
Knowledge Sharing Behaviors	395
Hanan Abdulla Mohammed Al Mehairi and Norhayati Zakaria	

Preface: Proceedings of the International Conference on Integrated Information (IC-ININFO 2011)

GEORGIOS A. GIANNAKOPOULOS

Department of Library Science and Information Systems, Technological Educational Institute of Athens, Aghiou Spyridonos, Egaleo, 12210, Greece

DAMIANOS P. SAKAS

Department of Computer and Technology Science, University of Peloponnese, Praxitelous 89-91, Piraeus, 18532, Greece

Aims and Scope of the Conference

The International Conference on Integrated Information 2011 took place in Kos Island, Greece, between September, 29 and October, 3, 2011. IC-ININFO is an international interdisciplinary conference covering research and development in the field of information management and integration.

The conference aims at creating a forum for further discussion for an Integrated Information Field incorporating a series of issues and/or related organizations that manage information in their everyday operations. Therefore, the call for papers is addressed to scholars and/ or professionals of the fields of Library and Archives Science (including digital libraries and electronic archives), Museum and Gallery Studies, Information Science, Documentation, Information Management, Records Management, Knowledge Management, Data management and Copyright experts the latter with an emphasis on Electronic Publications. Furthermore, papers focusing on issues of Cultural Heritage Management and Conservation Management are also be welcomed along with papers regarding the Management of Nonprofit Organizations such as libraries, archives and museums.

One of the primary objectives of the IC-ININFO will be the investigation of information-based managerial change in organizations. Driven by the fast-paced advances in the Information field, this change is characterized in terms of its impact on organizations that manage information in their everyday operations.

Grouping emerging technologies in the Information field together in a close examination of practices, problems and trends, IC-ININFO and its emphases on integration and management will present the state of the art in the field. Addressed jointly to the academic and practitioner, it will provide a forum for a number of perspectives based on either theoretical analyses or empirical case studies that will foster dialogue and exchange of ideas.

Topics of general Interest

Library Science, Archives Science, Museum and Gallery Studies, Information Science, Documentation, Digital Libraries, Electronic Archives, Information Management, Records / Document Management, Knowledge Management, Data Management, Copyright, Electronic Publications, Cultural Heritage Management, Conservation Management, Management of Nonprofit Organizations, History of Information, History of Collections, Health Information

Symposia

The Conference offered a number of sessions under its patronage, providing a concise overview of the most current issues and hands-on experience in information-related fields.

- Symposium on Integrated information: Theory, Policies, Tools
- 4th Symposium on Business and Management and Dynamic Simulation Models supporting management strategies

- Session on Open Access Rrepositories: Self-archiving, Metadata, Content policies, Usage
- Session on Evidence-Based Information in Clinical Practice
- Session on Business Management and Communication Strategies supporting Decision Making Process in Tourism Sector
- Session on Electronic Publishing: A Developing Landscape
- Session on Information and Knowledge Management
- Session on Information Content Preservation as Outcome of Conservation of Cultural Heritage: Ethics, Methodology and Tools
- Session on Advances Information for Strategic Management
- Session on Information History: Perspectives, Methods and Current Topics
- Session on Divergence and Convergence: Information Work in Digital Cultural Memory Institutions
- Session on Contemporary issues in Management: Organisational Behaviour, Information Technology, Education & Hospital leadership.

The wide range of aspects that the sessions covered, highlighted future trends in the Information Science.

Paper Peer Review

More than 300 papers had been submitted for consideration in IC-ININFO 2011. From them, 91 were selected for presentation, after peer review in a double blind review process. The accepted papers were presented at IC-ININFO 2011.

Thanks

We would like to thank all members that participated in any way in the IC-ININFO 2011 Conference and especially:

- The famous publishing house Emerald for its communication sponsorship.
- The co-organizing Universities and Institutes for their support and development of a high-quality Conference scientific level and profile.
- The members of the Scientific Committee that honored the Conference with their presence and provided a significant contribution to the review of papers as well as for their indications for the improvement of the Conference.
- All members of the Organizing Committee for their help, support and spirit participation before, during and after the Conference.
- The Session Organizers for their willing to organize sessions of high importance and for their editorial work, contributing in the development of valued services to the Conference.
- PhDc Marina Terzi for her excellent editorial work, contributing in the production of the Conference proceedings.

CONFERENCE DETAILS

Chairs

Georgios A. Giannakopoulos, Technological Educational Institute of Athens, Greece Damianos P. Sakas, University of Peloponnese, Greece

Co-Chairs

Daphne Kyriaki – Manesi, Technological Educational Institute of Athens, Greece Dimitrios Vlachos, University of Peloponnese, Greece

Scientific Committee

Amanda Spink, Queensland University of Technology Andreas Bagias, European Court Andreas Rauber, Vienna University of Technology Astrid van Wesenbeeck, SPARC Europe Christine Urguhart, Aberystwyth University Christos Schizas, University of Cyprus Christos Skourlas, Technological Educational Institute of Athens Claire Farago, University of Colorado at Boulder Claus-Peter Klas, FernUniversität in Hagen Costas Vassilakis, University of Peloponnese, Dimitris Dervos, Technological Educational Institute of Thessaloniki Eelco Ferwerda, OAPEN Elena Garcia Barriocanal, University of Alcalá Emmanouel Garoufallou, Technological Educational Institute of Thessaloniki Filippos Tsimpoglou, University of Cyprus Fillia Makedon, University of Texas at Arlington George Korres, University of Newcastle Georgios Evangelidis, University of Macedonia Georgios Panagiaris, Technological Educational Institute of Athens Johan Oomen, Netherlands Institute for Sound and Vision José Aldana, University of Malaga Konstantinos Masselos, University of Peloponnese Luciana Duranti, The University of British Columbia Markos N. Dendrinos, Technological Institute of Athens Milena Dobreva, University of Strathclyde Prodromos Tsiavos, London School of Economics and Political Science Sándor Darányi, University of Borås Sarantos Kapidakis, Ionian University Sirje Virkus, Tallinn University Spiros Zervos, Technological Educational Institute of Athens Susan Myburgh, University of South Australia Theodoros Pitsios, University of Athens, Faculty of Medicine

Organizing Committee

Alexandros Koulouris (Chair), Technological Educational Institute of Athens Christos Christopoulos, SCEV Scientific Events Ltd Marina Terzi, University of the Aegean, Greece Evangelia Markaki, Aristotle University of Thessaloniki Assimina Kaniari, Athens School of Fine Arts Evangelia Lappa, General Hospital Attikis K.A.T. Dimitris Kouis, Greek Ministry of Education, Lifelong Learning and Religious Affairs Dionysis Kokkinos, National Technical University of Athens

KEYNOTE SPEAKER



Professor Amanda Spink

Professor Amanda Spink has published over 340 scholarly journal articles, refereed conference papers and book chapters, and 6 books. Many of her journal articles are published in the Journal of the American Society for Information Science and Technology, Information Processing and Management, and the Journal of Documentation. She is Editor of the Emerald journal Aslib Proceedings. Amanda's research has been published at many conferences including ASIST, IEEE ITCC, CAIS, Internet Computing, ACM SIGIR, and ISIC Conferences. Her recent books include Information Behavior: An Evolutionary Instinct and Web Search: Multidisciplinary Perspectives, both published by Springer. Amanda's research focuses on theoretical and empirical studies of information behavior, including the evolutionary and developmental foundations. The National Science Foundation, the American Library Association, Andrew R. Mellon Foundation, Amazon.com, Vivisimo. Com, Infospace.com, NEC, IBM, Excite.com, AlltheWeb.com, AltaVista.com, FAST, and Lockheed Martin have sponsored her research. In 2008 Professor Spink had the second highest H-index citation score in her field from 1998 to 2008 [Norris, M. (2008)]. Ranking Fellow Scholars and their H-Index: Preliminary Survey Results. Loughborough University, Dept of Information Science Report].

Government Information: Access and Greece's Efforts for Access

Aikaterini Yiannoukakou

PhD Candidate of Applied Information Department, University of Macedonia, 54006, Thessaloniki, Greece.

kgian(at)uom.gr

Librarian, General State Archives – Historical Archive of Macedonia, 54645, Thessaloniki, Greece.iamresearch(at)gak.thess.sch.gr

Abstract: Eventhough governments worldwide is considered to be the biggest producer of information, it is not uncommon that the entities cannot have access to the information that concern them or further they are obliged to submit the same information repeatedly to different public organizations. However, the access to the information held by public administration is an institutional right of the entities. Nonetheless, governments have not always been willing to grant access to government information based on a variety of reasons to forbid the access, with national security to be the most common one. However, the re-use and dissemination of government information across government agencies and between agencies and the public is the cornerstone of electronic government. Under that scope, many countries have proceeded the last 20 years in adopting national policies for the use and access of government information. Greece has delayed in that field to be synchronised the European Union's recommendations. However the last five years, there has been efforts to move forward and close the gap with the rest Member-States by issuing a number of legislative and regulatory documents such as the Law 3448/2010 on the reuse of public sector information, the Law 3861/2010 on the obligatory publication of the legislative and regulatory documents produced by all governmental, administrative and local government agencies via Diavgeia", the Law 3979/2011 on electronic the Greek e-Government government, and Interoperability Framework. The access to government information is a precondition to offer fast, transparent, reliable and qualitative services aiming to protect and promote the citizens' basic democratic rights.

Keywords: Government information, Access, Electronic government, Legislation, Greece.

I. INTRODUCTION

It is more than apparent to everyone that we are living to the information era, where information is considered an asset; the access to which is a major issue for each interested entity either if it is an individual or an enterprise or the public administration itself, because it affects the very existence and nature of every entity. Under this scope, government agencies hold and manage both data and information for the citizens regarding taxation, health data, social welfare files and many others. However, even though public administration is the biggest producer of information worldwide, it is not uncommon that the subjects cannot have access to the information that concern them or further they are obliged to submit the same information repeatedly to different public organizations.

When we, as citizens, encounter the term "government information" simultaneously several questions pop in mind; questions such as "what constitutes government information?, where and how is being produced?, who produces and/or manages it?, who can use it?, who can access it?, under which circumstances it can be used or accessed?".

Additionally, most of us by hearing the term "government information" associatively think about confidential, top secret, non-accessible information which is locked safe in deep buried basements, and kept away from indiscreetly eyes. Although, this notion is partly true, the vast amount of the so called government information is –or should be— open and accessible to the public as it "...*is an inherent right or part of the social contract between government and the governed to hold government accountable to its citizenry*" (Hernon, 1991).

Government information is public resource and a public commodity, albeit one that has different characteristics from durable goods and other information resources, of inappreciably importance for both the governments and the governed ones (Strates, 2004):

- Forms the basis for the execution of government's operations, namely it offers authentic and reliable documentation of the administrative acts of any public organization
- Increases the accountability and transparency of public officials and government as a whole, as citizenry has better knowledge and, therefore, control of the activities of its governmental representatives
- Encloses an inherent economic value, as it contributes to the economic development, as none entrepreneurial activity can be accomplished without accurate information on specific subjects and fields
- Serves as the means to the communication between government and citizens by formulating the framework of the rights and obligations of both parts
- Strengthens democracy by forming better informed and active citizens, who are more

involved into the decision-making processes and exercise better control

• Serves as the "written" memory of public administration as it depicts the history and the general context that public administration has been evolved throughout the years and enables researchers to impartially review and evaluate the decisions of a government based on objective and reliable resources

In other words, government information is the information created, maintained, managed and held by the organisations of public administration when performing their operational tasks. This automatically means that most of the information refers either to the operation of the organisations themselves or to the communication between an individual with public organisations.

II. TYPES OF GOVERNMENT INFORMATION

Especially during the communication of an entity – namely an individual representing itself for own causes or representing a business/organization under an official cause—, the entity is being asked to submit information that firstly identifies itself, and secondly designates the cause and the scope of the communication initiation. This information is being stored electronically or manually, used and maintained by the agency to which has been submitted, and is being represented to the outcome, namely the document issued by the agency based on the information provided by the entity and the stated purpose that it is intended for.

Government information may be presented by the form of legislative acts being published to an official government body –i.e. Official Gazette—, by the form of informative leaflets published in order to inform citizens or to assist them to their communication with the public services, or government documents being created, disseminated and maintained by the responsible government bodies in order to document their activities and the conducted business (Strates, 2004).

According to Cuillier and Piotrowski (2009), there are four main ways to access government information: 1) proactive dissemination by agencies, 2) requester release, where information from agencies is provided on request not proactively, 3) leaks from whistleblower (e.g. WikiLeaks), and 4) open public meetings where information is discussed and released in a public venue. However, regardless of how the information is being accessed, the crucial point is for government information to be accessed without any imposed restriction by bureaucracy, geography, ability to pay, or format (Hernon, 1991).

Further, we should acknowledge that there are type of information that can be access by the public, and information that should not be publicly accessibly at all or it should be accessed under specific circumstances or authorized persons. Nevertheless, these exceptions refer to specific occasions and should have a limited implementation.

There are two types of government information; the administrative and the non-administrative information. The first category of administrative government information relates the function and the daily operation of the government itself and the public administration in general by forming the framework, legislative and regulatory, that governs and rules the way government does its business. Examples of administrative government information are (Allen, 1992; European Commission, 1998):

- Legislation
- Jurisprudence
- Regulations
- Census data
- Financial information
- Trade statistics
- Administrative documents (such as decisions, circulars, proceedings, certifications etc.)

On the other hand, the non-administrative government information relates to information collected by government organizations while executing their operations, and mainly refers to entities of the outside world –e.g. enterprises—and doesn't have immediate relation with the statutory operations of the government. Examples are the enterprises registries, the geospatial data and so on (Allen, 1992; European Commission 1998).

At this point, it should be underlined that a document produced by a public organization as an answer to a request of a citizen and bares data that concerns the citizen as an entity –for instance, a birth certificate or a driver's license— does not constitute government information, but instead is considered to be a private document and it is restricted of public access.

III. ACCESS TO GOVERNMENT INFORMATION

The access to the information held by public administration is an institutional right of the entities, which constitute a precondition for the proper exercise of their civic rights, whereon the democratic governance. Moreover, the access to information bares economic profits for the public administration as well as to whoever deals with the public administration. From administrative point of view, the reuse of the public information may lead to faster and more efficient administration (Allen, 1992, Hernon, 1991; DeSanti, 1993; European Commission, 1998).

Therefore, an imperative need for a managed and guided access to government information through a policy framework, which will respond to both ethical and managerial issues of information uses and dissemination, accrues. The access must follow certain principles that more or less govern every type of such information as integrity, preservation. and confidentiality, reproduction redistribution (Hernon, 1991). However, government information bares unique characteristics due on its very nature and content.

United States having a great tradition in government librarianship, and consequently in issuing guidelines concerning the access and use of government information as well as a long history in freedom of information legislation –i.e. Freedom of Information Act in 1960s— is the leader in formulating policy frameworks on the subject, and also the librarians and information professionals have given a number of struggles against governmental interventions and policies to restrict the access to government information. Regardless of the some differentiations and diverse approaches of each association or body, there are several key points common to every approach. Firstly, government information should be available on equal and timely basis; namely that there should be no discrimination on who can access the information, and moreover, the information should be updated and timely. Secondly, no media or format of distribution should be excluded from access. That means that government information should be available in versatile channels of communication such as print, electronic, online and/or telephone (Hernon, 1991).

Another important aspect resides on the assurance that no monopolistic control should be exercised over the information by any public or private party during the dissemination process (Hernon, 1994). It is possible that the private sector might invest on government information by exploiting it as a product and providing new information products and resources. This type of government information dissemination should be complementary to the access provided by the public organisations themselves, not to replace it in any way (Allen, 1992).

Further, no techniques or policies of licensing and copyright of information must be employed at any governmental level -central, regional or local. The information created or collected by government agencies should not be subjected to principles of private copyright, as in this case the free flow of information will be prohibited (Hernon, 1994; Allen, 1992). This does not automatically mean that should not be a classification to who is accessing which type of information. On the contrary, it secures the unprohibited access to government information and, at the same time, it reinforces the justifications when the access to government information must be restricted due to a number of reasons as national security, personal data protection, statistical confidentiality principle and so on.

Finally, a very controversial subject is whether the access or the dissemination of government information should be charged. The truth is that public organisations have seen their budgets being cut significantly over the period of the last 30 years. According to Allen (1992), the sale of government information is a possible source to balance the lost revenue. Of course Allen refers to the sale of government information to the private sector in order to provide with new information products, mainly in electronic formats. However, there is an issue whether a citizen should pay for acquiring government information. Even though this is a policy decision of each government, the cost of acquiring government information should strictly reflect the marginal cost of dissemination.

At this point, we should denote that the advent of electronic government has revolutionised the access to government information under the assumption that public administration has the appropriate infrastructure to provide online free access.

IV. GOVERNMENT INFORMATION & E-GOVERNMENT

The Information & Communication Technologies (ICTs) form the means which enables the storage, editing, transfer, dissemination and publication of the information of public sector, whereas the development and implementation of integrated information systems is the cornerstone for the reuse of public information, a fact considered fundamental for the transition towards Electronic Government.

One of the oldest and most common problems of public sector worldwide is the redundant information on the same entity that held by different agencies for the same or akin causes. The reuse and the dissemination of information between public services is a fundamental issue for electronic government, and one of the biggest challenges to be dealt with.

E-government has radically changed the way public organizations conduct business both in the back- and the front-office, which consequently influenced the production, storage, transmission and accessibility of government produced information. The electronic means of dissemination and the web access to government information via one-stop government portals have shift the interest mainly towards who can access what and to which level along with discussions on authentication, privacy protection and security.

E-government aims to cut red tape, simplify procedures and make possible the online transacting between agencies and citizens by submitting applications, issuing certificates, paying taxes, or find information. E-government guarantees access to a vast range of government information from legislation to budget information and from information on how to issue a certificate to online viewing of municipal meetings by the conform of the computer's screen, ipad or iphone without the need to visit a governmental body or a public organization. By posting online government documents, a sense of knowledge is provided to the citizens on how their government does business with a way unimaginable a decade ago. As Bertot mentions (2009) "...the current digital environment allows public agencies to not only deliver information to individuals, but also integrate levels of service that allow for direct contact with specific individuals or bureaus in an agency, financial transactions, and even social networking".

After a long time of limitations in accessing government information, the tendency worldwide calls for an open and increased access to government information as can be verified to the President's Obama "Open Government Directive" and the European Union's "Annex 2 Towards _ Interoperability for European Public Services". Governments have realized that increased access to government information forms better informed and more politically active citizenry, which automatically translates to a greater control of public officials and increased transparency and accountability; thus a more democratic and participative governance.

V. BARRIERS IN ACCESSING GOVERNMENT INFORMATION

Governments throughout history have intentionally or unintentionally impeded access to government information by posing several obstacles being indifferent to whether accessing government information is the core of a democratic regime.

The allegation of governments that they restrict access to government information on grounds of national security, defense or public security is one of the most common used justifications. One of the most prominent examples is the Reagan's Administration issuing the Moratorium "Less Access to Less Information by and about the U.S. Government" in 1986 aiming to restrict and privatize government information (Cooke & Heanue, 1987). The most impressive aspect of the implementation of this Act was that the FBI had the power to visit the libraries and ask for the patrons' circulation records, whereas it has been reported in the press that FBI had actually opened the files of persons that criticized the Agency's involvement in libraries (Allen, 1992). The second attempt was made when Bush Administration passed the Patriot Act in October 2011 in order to respond to the 9/11 attack and the increased fear of terrorism in the US. However, the Act dramatically reduced the restrictions on law enforcement agencies' ability to search telephone, e-mail communications, medical, financial, and other records.

On the contrary, the adopted legislation ought to be supportive and enabling the access to government information of every government level and in any possible format, not to impose extra obstacles in its effort to set limits. For example, Greece just in 2010 legislated on the free access to legal government documents. Up to then, the citizenry had to pay in order to receive a print copy of a law or other legal document, or further the access to electronic copies was only available via subscription databases.

Similar to the legislative barrier is data protection and privacy issues especially when we are referring to government information access in the era of egovernment. The data protection and privacy legislation and regulation should safeguard persons who either request government information -both in print and electronic format-or those that government information is held for (Hernon, 1991) by maintaining a balance between the protection of personal data (i.e. medical, employment, social welfare or taxation data) and free movement of such data (European Commission, 1998). The Directive 95/46/EC issued by European Commission in October 1995 institutes binding rules for both the public and the private sector in order to retain the balance between the access to government information and the protection of personal data.

Further, as mentioned above no copyright and patent policies or legislation should ban the access to government information in any time and under any circumstances. Governments cannot have ownership for the documents they produce, mainly because the content of the documents concerns the public either in the sense of governance –e.g. a new law, a proposed change in budget planning or a new road construction- or in the sense of the government's accountability -e.g. a report on the public officials activities, an account of an agency's budget and so on. The government documents contain fundamental information on a government's activities, which is vital for citizens to be informed and exercise control on their government, meaning to perform their basic democratic Copyrighting government right. information incommodes the free flow of ideas, accedes government official the authority to decide who can have access to information (Allen, 1992), reduces the government's accountability and transparency and, ultimately undermines the democracy as a whole.

Government information is dispersed in central, regional and local level. Each of these authorities has agencies that collect and store information on their citizenry for different reasons and purposes. The most common phenomenon is each agency to have its own information system, usually a customized or in-house one that most times is incompatible with other information systems of other agencies, even with those with similar operations. This means that agencies cannot exchange information and a citizen in order to complete a task may be obliged to go to several different agencies to get the necessary information himself. Additionally to that is the lack of resources for equal dissemination of government information, which translates to a national wide network capable to disseminate government information to all citizens regardless of distance, geography, education level, medium or format (Allen, 1992). The advent of egovernment promises to rectify these inequalities by providing immediate and accurate access to government information via the governmental web portals. However, there must be provisions to maintain the "traditional" services for people unwilling or unskilled to use the e-government services.

Last but not least, is the "the inherent nature of bureaucracies to be secretive" as successfully was stated by the great sociologist Max Weber in the early 1920s (Cuillier and Piotrowski, 2009). Public administrations worldwide tend to present themselves as a closed and secretive clique that knows best and should not be obliged to share this knowledge with the public. This attitude is nourished by a number of factors, some of them having to do with politics and others with the perception of the public officials that there is no necessity or legitimate reason to be accountable about their activities to the public. Especially when referring to politics, there are plenty paradigms on how governments tried to prohibit access to government information throughout the history of mankind starting from the authoritarian regimes, the activity of national intelligent services, the Cold War era, the recent anti-terrorist laws. The secrecy of public administration must be confronted and outgrown as people all over the world request and demand increased participation and more transparency, especially under the current economic circumstances and the decline of the global political system.

VI. GOVERNMENT ACCESS IN GREECE

European Union has since 1998 released the "Green Paper on Public Sector Information in the Information Society" in 1998, which analysed the importance of public information in all its forms as well as the importance for uninterrupted and coherent access to this type of information. This Green Paper formed the basis for a number of initiatives that followed, especially within the Information Society program, which led to the "Directive 2003/93/EC on the re-use of public sector information" issued on the 17th November 2003. The Directive lays a general framework for the conditions governing the reuse of public sector documents and provides definitions of the basic terms aiming to harmonize national legislations of the Member States. Also, it aims to reinforce the pan-european information exchange in order to ensure fair, proportionate and nondiscriminatory conditions for the re-use of such information in conjuction with the "Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and of the free movement of such data".

Under this scope, Greece was forced to publish its first law on the "Re-use of Public Sector Information", i.e. Law 3448/2006 which harmonises Greek legislation with the Directive 2003/98/EC by recommending to public services and organisations to reuse the information they produce and hold both for commercial and non-commercial purposes. The 14 articles of the Law designate the legislative and policy framework by determining the application field (Article 3), providing definitions of the main concepts (Article 4), and giving emphasis on the electronic dissemination of documents (Article 6). Notably Article 4 §3 defines the "document for further use" as all administrative documents -as defined earlier in this article-without excluding the private ones that are kept to the agencies' archives as evidence of their administrative history in any format or medium. The implementation of the Law presupposed the implementation of the Laws 2690/1999 on Administrative Procedures and 2472/1997 on the Protection of Personal Data.

Some years earlier, Greek Parliament had enacted the Law 2690/1999 for the "Sanction of Administrative Procedures' Codification", which defined what constitutes "administrative document" for the Greek public sector. The Article 5 §1 defines "administrative document" as any document prepared by public organizations such as reports, surveys, proceedings, statistical data, circulars, responses of administration to requests, decisions and opinions, and grants free access to them. Also, the same Article in §2 explicitly states that access to private documents -i.e. the documents held by public organizations and bare personal data of an given entity-is granted only to the individual with any legitimate right to do so after submitting an application and demonstrating the exercise of its legitimate right. Further §3 of the same Article clarifies that the access to documents is forbidden in case a document concerns the private or

family life of a third party, or in case of detriment of confidentiality as specified in special provisions.

Since 2009, the new elected government of George Papandreou has shown its decisiveness to move Greece towards e-government and the use of digital media in public administration. Nevertheless, Papandreou himself is a dedicated user of new technologies and the social media as Twitter. After his election as Prime Minister forced the launch of the government portal "OpenGov" <www.opengov.gr>, where all the proposed legal, statutory and regulatory initiatives, Greek government is willing to take, are being published for open and public consultation for a prearranged amount of time. Every citizen eponymously or anonymously can express its opinion on the proposed changes and offer some other points of views or ideas on the subject.

In line with this practice, the Law 3861/2010 on the obligatory publication of the legislative and regulatory by documents produced all governmental, administrative and local government agencies via the program "Diavgeia", which in greek means "transparency", was published in July 2010. The Law within its 10 Articles describes all the kinds of documents that should be published (Article 2), the responsibilities of each agency for the publication (Article 3), the procedure of the documents' uploading (Article 6) as well as it makes provision on matters of personal data protection and confidentiality (Article 5). Further. Article 7 grants free access to all issues of the Official Government Gazette via the website of National Printing Office <www.et.gr>, when the access to most of them was under subscription up to then. This is the first Law that actually takes a step forward and towards an open and unrestricted access to all government information with a special provision for the electronic dissemination of information.

Finally, in June 2011 the first law on electronic government was published, i.e. the Law 3979/2011. This is the first integrated legislative attempt of Greek State to institutionalise in a single text all components –administrative, social, political, policy, technical, ethical— that affect the seamless and equivalent access to government information and services with the use of ICTs and the Internet. The Law is constituted from 30 Articles, which make provisions for the most crucial administrative issues regarding egovernment, creating a context that determines the responsibilities and rights of all sides involved as well as a defined framework on e-government within which both public administration and operators can legally perform their electronic transactions.

Especially for the access to government information, Articles 5 and 6 refer to the information obligations of public administration regarding the publishing, availability, accessibility, accuracy and updating of government information. In particular, Article 5 refers to the obligation of each public agency to maintain website, while in §4 is explicitly mentioned that "...[the websites] are places of free and unrestricted access unless otherwise is stated by the agency itself for reasons of governmental confidentiality or confidentiality that is being protected under the provision of law". Further, Article 6 §1 assigns to the public agencies the responsibility to publicize and make available the information that come under their jurisdiction and operation, whereas §2 and §3 emphasize on the use of ICTs and electronic means of dissemination and processing with special reference to the Greek National Government Portal, "Hermis" <www.ermis.gov.gr>. Moreover, Article 9 expands Article 5 of the Law 2690/1999 on the right to access government information, and reinforces it with the use of ICTs for availability, access and dissemination of such information.

Finally, the Greek e-Government Interoperability Framework (e-GIF) is a policy framework determining the principles of e-government services architecture in Greek public administration, and aims to support the development and provision of e-government services to all levels of administration –central, regional and local— by establishing concrete conceptual and technical guidelines on how e-government services must be developed, implemented and maintained, enabling the interoperability between systems, procedures and data as well as the availability and accessibility of information.

VII. CONCLUSIONS

The issue of access to government information is of crucial importance in regard for governments to better serve its citizenry by offering fast, transparent, reliable, cohesive and qualitative services aiming to protect and promote the citizens' basic democratic rights. Of course, there are limits to which information should be open and accessible, as there must be exceptions for information relating to personal data, health data or information on national security measures. However, the exclusion of specific type of information from the uninterrupted and continuing access for all citizens should be explicitly limited, and for no reason should be any kind of malpractice or abuse of the exceptional provisions. Government information is an invaluable asset for both all parties involved, which have special characteristics due to its complex nature. However, the principles of information life-cycle apply along with a number of other considerations that refer specifically on government information. Governments have finally started to release the importance of the information produced and held by their own agencies, and thus have started to be more open concerning the access to it. E-government has a primary role to play towards this end as it has revolutionized the way governments and citizens communicate and interact, and consequently has enhanced the access to government information via governmental websites and integrated information systems. The essence of accessing government information is that an informed citizen is always a more involved, active and demanding one, which would be the key for pushing governments worldwide to be more accountable and straightforward, and thus to improve our leadership and our status of living.

REFERENCES

- Allen, K.B., "Access to government information," Gov. Inf. Quart., 9, 67-80 (1992).
- Bertot, J.C. P.T. Jaeger, J.A. Shuler, et al., "Reconciling government documents and egovernment,", *Gov. Inf. Quart.*, **26**, 433-436 (2009).
- Birkinshaw, P., "Freedom of information and open government," *Gov. Inf. Quart.*, **14**, 27-49 (1997).
- Cooke, E.D. and A.A. Heanue, "The right to know, the need to act," *Gov. Inf. Quart.*, **4**, 343-347 (1987).
- Cuillier, D. and S.J. Piotrowski, "Internet informationseeking and its relation to support for access to government record," *Gov. Inf. Quart.*, **26**, 441-449 (2009).
- DeSanti, V.M., "On public access to electronic information," *Gov. Inf. Quart.*, **8**, 101-104 (1991).
- DeSanti, V.M., "A policy framework on the dissemination of government electronic information," *Gov. Inf. Quart.*, **10**, 255-260 (1993).
- European Parliament, Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data, L 281/31 (1995).
- European Parliament, Directive 2003/98/EC on the reuse of public sector information, L 345/90 (2003).
- European Commission, Green Paper on Public Sector Information in the Information Society, COM(1998)585.
- Hemon, P., "Government information policy principles," *Gov. Inf. Quart.*, **8**, 393-399 (1991).
- Gil-Garcia, R.J., S.A. Chun and M. Janssen, "Government information sharing and intergration," *Inf. Pol.*, **14**, 1-10 (2009).
- The Greek e-Government Interoperability Framework <<u>http://www.e-</u>

gif.gov.gr/portal/page/portal/egif/>.

- Jaeger, P.T. and J.C. Bertot, "Transparency and technological change," *Gov. Inf. Quart.*, **27**, 371-376 (2010).
- Johnson, D.W., "The electronic information candy store," J. Pol. Mark., **1.1**, 101-102 (2002).
- Kirby, M.D., "Access to information and privacy," Gov. Inf. Quart., 3, 333-344 (1986).
- Law 2690/1999: Official Gazette A' 45/09.03.1999.
- Law 3448/2006: Official Gazette A' 57/15.03.2006.
- Law 3861/2010: Official Gazette A' 112/13.07.2010.
- Law 3979/2011: Official Gazette A' 138/16.06.2011.
- McMillen, D., "Privacy, confidentiality and data sharing," Gov. Int. Quart., 21, 359-382 (2004).
- Perritt, H.H., "NCLIS assessment of public information administration," *Gov. Inf. Quart.*, **18**, 137-140 (2001).
- <u>Strates, M.N., Electronic government metadata model.</u> <u>Thesis. Ionian University Department of Archives</u> <u>and Library Science, (2004), in greek.</u>
- Wenjing, L., "Government information sharing," *Gov. Inf. Quart.*, **28**, 363-373 (2011).