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INTEGRATED INFORMATION

International Conference on Integrated Information

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

Applying Balanced Scorecard Strategic Management in Higher Education	50
Manolis Chalaris, Anastasios Tsolakidis and Ioannis Chalaris	
A Web Portal Model for NGOs' Knowledge Management	54
Zuhal Tanrikulu	
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	66
Lizette de Jager and Albertus AK Buitendag and Potjie (JS) van der Walt	
4TH SYMPOSIUM ON BUSINESS AND MANAGEMENT AND DYNAMIC SIMULATION MODELS SUPPORTING MANAGEMENT STRATEGIES	71
Dr. Damianos Sakas	
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	85
Anastasia J. Chournazidis	
Managing Scientific Journals: A Cultural Viewpoint	87
Marina C. Terzi, Damianos P. Sakas, and Ioannis Seimenis	
A Conceptual Framework for Analyzing Knowledge-based Entrepreneurship	92
Nikos S. Kanellos	

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

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	150
Aikaterini Yiannoukakou	
School Archives and their Potentials in Teaching: Aspects of Greek Reality	156
Sonia Geladaki and Panagiota Papadimitriou	
Research on School Libraries in Greece and Suggestions on its Further Development	160
Georgios D. Bikos	
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	172
Keita Tsuji, Erika Kuroo, Sho Sato, Ui Ikeuchi, Atsushi Ikeuchi, Fuyuki Yoshikane and Hiroshi Itsumura	
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 189

Ifigenia Vardakosta and Sarantos Kapidakis

Information Seeking Behavior: Factors that Affect the Behavior of Greek Astronomers 194

Hara Brindesi and Sarantos Kapidakis

Aggregating Metadata for Europeana: The Greek Paradigm 198

Alexandros Koulouris, Vangelis Banos and Emmanouel Garoufallou

Integrating a Repository with Research Output and Publications: The Case of the National Technical University of Athens 202

Dionysis Kokkinos

Implementation of Workflows as Finite State Machines in a National Doctoral Dissertations Archive 205

Nikos Houssos, Dimitris Zavaliadis, Kostas Stamatis and Panagiotis Stathopoulos

Practices of “Local” Repositories of Legally Protected Immovable Monuments. A Global Scheme for ‘Designation – Significance’ Information 209

Michail Agathos and Sarantos Kapidakis

Integration of Metadata in BWMETA-2.0.0 Format 213

Katarzyna Zamlynska, Jakub Jurkiewicz and Lukasz Bolikowski

SESSION ON EVIDENCE-BASED INFORMATION IN CLINICAL PRACTICE 216

Dr. Evangelia Lappa

Applicability of Data Mining Algorithms on Clinical Datasets 218

Wilfred, Bonney

Changing Roles of Health Librarians with Open Access Repositories 221

Christine Urquhar and Assimina Vlachaki

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

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

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	343
Panagiotis Reklitis and Anestis Fotiadis	
Strategic Alignment of ERP, CRM and E-business: A Value Creation	347
Catherine C. Marinagi and Christos K. Akrivos	
The Impact of Occupational Stress on Performance in Health Care	351
Panagiotis Trivellas Panagiotis Reklitis and Charalambos Platis	

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	365
Anastasia Argyropoulou, Panagiota Dionyssopoulou, Georgios Miaoulis	
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 Policy of a Regional Municipality	376
Vassiliki Delitheou and Dimitra Thanasia	
Issues of Social Cohesion: A case study from the Greek Urban Scenery	380
Evgenia Tousi	
Merging Activity and Employee Performance: The Greek Banking System	384
Panagiotis Liargovas and Spyridon Repousis	
Sustainable Development and Corporate Social Responsibility in Higher Education: Some Evidence from Greece	387
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)

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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 Repositories: 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

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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].

The Usage of Reference Management Software (RMS) in an Academic Environment: A Survey at Tallinn University

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Abstract: *This paper presents an online survey taken in May 2011 at Tallinn University (TLU), Estonia, aiming to measure the usage of Reference Management Software (RMS) in an academic environment. The sample embraces the whole corpus of TLU scholars: phd students, researchers, teachers. A descriptive survey, based on a constructivist approach, has been conducted through an online questionnaire. RMS seem to suffer a low spread among scholars; a general awareness is present, but more information and stronger support needs to be provided by libraries. The data collected can be used as background for a deeper qualitative case study, and should also be compared to similar analysis performed in different academic institutions through the rest of Europe. This survey is the first quantitative study made on the subject.*

Keywords: *Reference management software, Citation managers, Academic libraries, Bibliography,*

I. INTRODUCTION AND BACKGROUND

In order to help authors manage large sets of references, and to produce citations and references in a consistent style, a range of software packages is available. This type of software is often called 'Reference Management Software', but 'Citation managers', 'Bibliographic management softwares', 'Bibliographic softwares', or CGC (Computer Generated Citation) are also used: common examples are EndNote, RefWorks, Zotero.

I will use the term "Reference Management Software" (from now on, RMS), defined as "a tool which enables an author to build a library of references by entering the details of each reference in a structured format. They usually support mechanisms for organizing sets of references by tagging, and will generate references, citations or bibliographies in a range of referencing styles" (Jisc, 2010).

To summarize, RMS have two main functions:

1. building a database of citations, useful for keeping track of and organize the documents useful for one's research
2. formatting bibliographies and citations when writing papers

This last function is recently integrated in the latest version of the well-known text editors Microsoft Word or OpenOffice.org/LibreOffice; this feature basically makes less important the availability of a dedicated software to manage the coherence of references in a text.

On the other hand, as RMS have become more sophisticated, their functionality has extended beyond the basic use for producing references in a consistent style, and they may also offer tools for managing related documents (e.g. PDFs of the original paper you cite), or social networking tools, that allow, for example, to build, share and discuss collections of documents and citations among colleagues.

II. LITERATURE REVIEW

Although the nature and functions of RMS is quite considered by the disciplinary literature, there are few previous researches about the effective usage of these tools.

Martin (2009) and McMinn (2011) confirm two main trends in the literature on RMS: training and technical issues. The second one focuses mostly on the specific tools and technical aspects: features, tutorials and how-to's, quality, reliability, comparison and evaluation (Dell'Orso, Fitzgibbons & Meert, 2010, Francese, 2011, "Innovations in Reference Management 1," 2010, "Innovations in Reference Management 2," 2010)□. Steele (2008) focuses on the accuracy of the use of citations in research papers, providing useful hints for those who have to make decision about adoption of these softwares.

The second main trend consists in interesting informations about training initiatives that involved library staff (East, 2001, Siegler & Simboli, 2002)□. Olle & Borrego (2010) talk about scholars' behaviour, and the importance of using a RMS to manage the increasing amount of electronic references. Martin (2009) writes about accuracy and pedagogical concerns, even though he addresses tutors and instructors more than researchers.

Despite this wide interest for RMS distribution in libraries, there are almost no studies about the connection between RMS and their usage.

A lot of effort is put in training and promotion, but few datas are provided circa the actual use and distribution. For example, Steele (2008) claims that "citation management softwares exist since 1980 and are widely used today", but doesn't provide any reference for that. Kiernan (2006) provide only marketing statements from the vendors, without a cross-check among clients.

The only survey about the usage of RMS seems to be the one made by Cibarelli in 1995 (Cibarelli, 1995)□; her findings however must be considered out

of date, since 16 years are a big leap in software development. A more recent study by McGrath (2006) launches a new investigation, but his focus is strictly on students and solely related to RefWorks.

The role of libraries in providing support to scholars is something which requires attention. According to East (2001) "in many institutions the library has come to be seen as the main centre of expertise in matters related to personal bibliographic softwares" (East, 2001)□.

Kessler and Van Ullen (2005) also point at the role of libraries, and reference librarians in particular, in providing information and support on managing bibliographies and citations. Their focus on the less-expert scholars (undergraduate students) brings them to state that a cautious approach must be used when suggesting and promoting the use of RMS tools, since they are not easy and require some expertise in citation management.

McMinn (2011) also stresses the importance of library role. His survey about usage and distribution of RMS takes as starting point the library support and training, so he questioned the libraries rather than addressing directly the users. His findings related to ARL libraries show a good commitment by library institutions in promoting, licensing and providing training on RMS: "there are significant levels of support for bibliographic management tools in major academic libraries as determined by the number of libraries providing licensing, the level of instruction, and the creation of instructional materials and tutorials" (McMinn, 2011).

III. AIMS AND METHODOLOGY

The aim of this research is to gather practical informations about the awareness and usage of RMS among scholars. Moving from the literature exposed above, and from my personal experience and area of interests, I formulated the following research questions:

- 1) to which extent RMS tools are known and used by academics?
- 2) which softwares are mainly used?
- 3) is the library seen by scholars as a potential support in the usage of RMS?

Collected objective data about the distribution and the variety of approaches to the tool will be the first step to understand the actual impact of RMS in scholars' behaviour. McMinn explains quite convincingly the importance of this enquiry: "There are a number of reasons why it is important to examine the different approaches research libraries take in providing similar services: ensuring that the services provided are consistent with those of peer institutions; determining how services have been tailored to meet the unique needs of different institutions; determining the level of support and optimum allocation of resources" (McMinn, 2011).

The research was conducted during the spring semester of the International Master Program in Digital Library and Learning (DILL), taken place at the

Tallinna Ülikool (TLU) in Tallinn, Estonia. For this reason, I chose to address the specific closed community constituted by the TLU. This reason is motivated by the proximity of access to the sample population and by the crucial help of a key-informant (my professor at TLU).

Given the low amount of similar studies, the approach aims to be basic: I believe that a quantitative analysis is the first step to take to get a clear glance of the phenomenon. For this reason a survey, made through an online questionnaire, was the chosen method. This choice can be supported by Pickard, when she explains that through a questionnaire "you can reach a large and geographically dispersed community at relatively low cost, you can harvest data from a larger sample [...] and anonymity can be offered as well as confidentiality" (Pickard, 2007, p.183); another reason is the relative speed granted by this technique: due to the limited time of my permanence at TLU, a widebroad and extensive data collection technique was necessary, although I was very aware of its intrinsic limitations: "the lack of opportunity to talk directly to respondents" and the "notorious low response rate" (Pickard, 2007, p. 183).

Finally, I wanted to measure also the impact of the library in the usage of RMS, so it was helpful to refer to a community referring a single library (Tallinna Ülikooli Akadeemiline Raamatukogu), rather than a larger institution composed of several libraries.

IV. SAMPLE AND DATA COLLECTION

The questionnaire was sent to a list of 754 members of TLU, comprising PhD students, Researchers, Professors. Due to the nature of TLU, the sample mostly represents the areas of humanities and social sciences: it is to take in account the fact that TLU doesn't have faculties of medicine, natural sciences and economics, so considerations related to the disciplinary background can not be performed.

The descriptive approach just aims not to provide deep analysis, rather than to provide background for further enquiry. Most of the questions were conceived as multiple dichotomous questions; only three open-ended questions were presented, with the purpose of adding some descriptive informations to integer the answers obtained overall. Being mostly a quantitative study, the research doesn't go deep into the reasons for usage or non usage, or the different approaches.

A first pilot was administered to 8 scholars of TLU; the answers received allowed me to test the validity of the questionnaire and perform some minor tweaks. The tool adopted for the questionnaire was the Form function provided by Google Docs, which proved to be the best combination between cost (the tool is free) and easiness of use. The final questionnaire was then made available online from 30 april to 30 may 2011; the respondents were reached by an email sent by the library to a list of TLU scholars who joined the ETIS network (Estonian Research Information System); to

highten the attention of the recipients and encourage participation, the library suggested to write the letter both in estonian and in english. A reminder was sent on the 17th of may.

The data were collected anonymously, without any connection to the respondents. However an optional field was provided allowing respondents to leave their contact if they wished to be part of further enquiries. The high number of volunteers for this (29% of respondents) witnesses the general interest of scholars in helping with matters related to their bibliographic practice, and gives good hope for a further study which would go on a deeper qualitative analysis of their behaviour.

V. DATA ANALYSIS

Population

The questionnaire got 58 responses, which constitute the 7.7% of the sample. Low rate responses to online surveys are quite predictable (Pickard, 2007, p. 184); yet this result can be interpreted as a first hint of a certain lack of interest or knowledge about the subject. It is more likely that a person who doesn't know anything about RMS is not encouraged or inclined to take part in such a survey.

Due to the nature of the TLU, the answers came mostly from humanities. The Estonian Institute of Humanities provided the highest rate (19%), followed by the Insitute of Education (11%); minor rates occurred in scientific areas (mathematics and informatics 9%, psychology 7%, ecology 11%). The general response rate ranges from 0 to 10%.

Responses have a good distribution among academic roles: the most part are researchers (53%), but also teachers and phd students are well represented. We must be aware that this question was open to multiple replies: it is infact evident that roles can be overlapping in an academic research.

Age doesn't seem to be a factor in usage: the answers "I don't use any RMS" are equally distributed among every age range.

Awareness and usage

The first evidence is given by the disproportion between the awareness and the usage. Respondents claim a general awareness of the existance of RMS: only 25% declare to know nothing about this type of tools. The effective non-usage, though, is high: 44% say that they don't use these instruments at all. Among the effective users, almost the half is working with RMS since less than 1 year. The number of citations collected, also in seldom high: 26% is below the number of 50.

At this point is very important to state that the academic library at TLU provides support to RefWorks. All TLU students, faculty, staff and alumni have free access to RefWorks. Considered this, it is quite interesting to note how low are the responses concerning RefWorks: the 43% knows about its existance, yet only the 7% uses it.

Endnote by Thomson confirms to be the most widely known instrument: the 70% of respondents knows about its existance, even though only 21% actually uses it. It's interesting to compare the usage of Endnote and Zotero. Though the former is more known than the latter, the percentage of usage is the same: 21%. This can suggest how a good free-of-cost alternative may often be preferred to high-quality and high-expensive tools.

The social features of the RMS seem scarcely considered: only around 9% use RMS to share references among colleagues, or for discovery. The most common usage is the managing of lists of references and their editing according to citation styles. The tools, when used, are still perceived on their basic functionality: the more modern social and web oriented approach seems to be not known, desired or pursued.

When questioned about the reasons for non use, respondents claimed lack of knowledge and awareness (8 respondents), lack of skills and training (10), lack of interest, need and/or time (6). Some are basically anaware, but showed to be interested in knowing more, or to need just a little more support. An overall yet very fuzzy awareness is confirmed by the comments provided: people don't seem to capture the potential of the instruments, and a general confusion seems to be present ("I didn't understand clearly, how to use RMS"; "It seems complicated for me"; "they don't seem to integrate well with the way I work"). Finally, more than one respondents commented that they never heard about the instrument.

Role of library

A question about the role of libraries was made in order to give answer to one of the main research questions, as inspired by the previous research literature discussed above.

The 11% says to get support from library; among those who didn't, the reasons vary: people can see RMS as quite easy to understand or consider the online learning materials sufficient, others just complain about the lack of time. Nevertheless, a consistent part (25%) admit that they didn't actually ask for support; so the relationship between library and users must be reconsidered. One respondent stated that no assistance was given in his case, but the library is always realiable. Judgement about the libraries can be biased by the fact that the survey came from the library staff. In any case, it seems that the library is seen as a realiable institute, but the support and assistance are subjected more to the willingness of the individual scholar than to the ability or commitment of the library staff itself.

VI. FURTHER RESEARCH

The study consititutes only a preliminary glance at the usage of RMS in academic environment. To obtain a merely numeric analysis was useful in a situation which seems to lack enough literature about it. These numeric analysis should be completed by a deeper enquiry which explores more qualitative aspects of the users'

behaviour. Also it would be useful to widen the field of research to different disciplines, since this survey embraces only the scientific areas covered by TLU: the articles considered above, and the literature they review (see for example Lawrence & Ashwell, 1993) show that particular attention on RMS is given by the health-sciences community and libraries.

VII. CONCLUSIONS

Despite the tools adopted, the situation described by the survey is one of shallow awareness.

The data collected show that RMS usage is low and not well supported by a proper knowledge. Scholars of every role and age don't seem to be enough aware of the potential of these tools neither they have a good knowledge of their features and mechanism. The approach to it seems casual: despite the license and support provided on RefWorks by the library, only a small percentage of respondents uses this tool. This means that the impact of library's communication is somehow limited, although the library is generally acknowledged of doing a good job in promoting and providing assistance. To get the maximum efficiency by the library competencies, more official and continuous initiatives of literacy, information and training should be taken on a regular basis, and would constitute a good investment by libraries.

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