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

Institute for the Dissemination of Arts and Science

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: D.Sakas@uop.gr

The copyrights will be owned by the authors under the Creative Commons Attribution-Non Commercial license (http://creativecommons.org/licenses/by-nc/3.0/), 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 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 Sryridon 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. Dendrinos

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)

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 Urquhart, 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].

Contemporary Forms of Ordering between the Supply Department and Ship Chandler Companies in the Shipping Industry.

Anthi Z. Vaxevanou†, Nikolaos Konstantopoulos†, Damianos P. Sakas‡,

† *Business Administration Department, University of Aegean, 8 Mihalon Str., Chios, 82100 Greece*
avaxevanou(at)aegean.gr

†*Business Administration Department, University of Aegean, 8 Mihalon Str., Chios, 82100 Greece*
nkonsta(at)aegean.gr

‡ *Department of Computer and Technology Science, University of Peloponnese, Praxitelous 89-91, Piraeus, 18532, Greece. D.sakas(at)uop.gr*

Abstract: *This research project analyzed the possibility of electronic transactions between the supply department of maritime companies and ship suppliers. Given the big growth of electronic orders in the form of e-shops, the possibility of creation of such stores by ship chandlers is explored. Hence the interface enabling the supply manager to develop the maritime company he works for is explored as well. The separation of traditionally large ship chandler companies, small and new ones, was considered appropriate to confirm the fact that behind a well-designed e-shop, they can be equated. Obviously as a result of modern electronic ordering processes, they give both sides bigger benefits than the cost of creating new flow channels of that information material.*

Keywords: *Internet shopping, Supply department, Ship suppliers.*

I. INTRODUCTION

During the past decades, the Internet has brought a revolution in the way the process of sales and purchases is conducted, between retailers and consumers. Nowadays it is a rather widespread process which is preferred by many people who know how to use a computer and theInternet.

The purchase and sale of products through the Internet have some particular characteristics and require different methods compared to the traditional method. These differences among others concern transport, packaging, collection and shipping.

One of the points this research paper also focuses on is delivery problems, for example the fact that a product cannot be consumed if it is not delivered in the right place, at the right time and in an appropriate state, as far as quality is concerned.

This research paper examines the possibility of conduction of electronic transactions between the purchasing department of a maritime company and shipchandling companies.

It also attempts to compare that method to the classical methodology followed by the majority of shipping offices in this time period. It should be noted that when we talk about electronic transactions, we are not limited to the simple communication via email, which is what the majority of companies do today.

Our aim is to explore whether an electronic shop (e-shop) can be created by suppliers, which will include all products that may be required by a purchasing department and will be used on a ship.

Finally, we will try to examine the benefits both the retailer and the maritime company can have (Garri, 2006), but also the difficulties that might occur in the maritime company service and in trade credit issues (Trabold et al., 2006· Bauer et al. 2006· Parasuraman et al., 2005· Lee and Lin, 2005).

II. THEORETICAL FRAMEWORK

A. Description

The revolution on information technology has changed significantly people's lives by bringing a series of changes which affect companies. These changes can be a significant weapon in the hands of companies who want to meet the demands of a new environment which is characterized by constantly changing conditions, internationalization and intensification of competition, etc.

Companies that will "survive" competition are the ones that will currently make strategic choices to integrate new technologies into their practices.

In the past, this integration included only the electronic presentations of shops, and not all their products, and more importantly, the possibility of ordering directly a particular product did not exist.

Therefore, the aim is to examine whether electronic commerce can be applied in the maritime sector.

One of the most important departments of maritime companies is that of purchasing. The process to equip a ship with spare parts, food and supplies has several critical levels that are often seen as a catalyst in the functioning of the ship.

The intra-business process of maritime companies is as follows:

1. The ship compiles a register of the its needs from all sectors.
2. At a next stage it sends an e-mail to the supply department of the maritime company central office, notifying it of its needs.
3. The supply department contacts the spare parts and consummables suppliers in order to

send the lists containing demands concerning ship needs.

4. Then the supply department receives offers from different suppliers and makes the most advantageous choice, taking into account different parameters.
5. The maritime comapny then sends an agreement confirmation message to the supplier who gave the best offer.
6. Fianally the agreed products are delivered to the ship and the invoicing and payment process begins.

The first obstacle to the creation of an e-shop on the suppliers side is the material that should be posted on their website. This means that they need to have the parts, consummables and food that might be requested by different types of ships having different needs. Their prices should also be online so that clients can chose the products they want to buy.

A second obstacle for the cooperation between maritime companies and suppliers is that the head of the supply department cannot easily understand by reading a website, the size of the company he is going to cooperate with.

The suppliers sector is diverse in size, so we have medium sized and big retailers. Big companies can also offer other services, in addition to the ship supply. Moreover, in the majority of cases big companies are more realiable in their transactions than the new ones.

In fact for this research, we do not really care what these services are, but only how to deal with ship supplies. We could say that the e-shop creation simulates their size, since through a computer screen we cannot know many things about the size of a company, which is indicated by the facilities, offices and the staff.

One of the elements that could enhance the company image the e-shop belongs to is its variety of products or most importantly the wide range of products it can offer to the final consumer.

B. Research methodology

This research paper is a proposal that could be applied to shipping. Its only goal is not to investigate whether an e-shop creation is possible from the shipchandler's side for the difficult shipping sector. Emphasis is given on whether the creation of an e-shop is a cornerstone for the development of cooperation on the basis of win-win for both parties.

But to see if the directly involved parties and in particular maritime companies, are interested in that, we made a qualitative and quantitative research to shipping companies' executives working for the supply department and the ship supplier.

C. Survey results

Tables 1 and 2 show the results of the quantitative research in order to quick and easily monitor and compare the electronic and classical method of cooperation between the supply department and the ship supplier.

E-shop	Supply Dpt Manager	Ship Supplier	Development cooperation
Advantages			
1. Time saving	4	4	win-win
2. Immidiate action	4	3	possible win-win
3. Availability	3	1	win-lose
4. Knowledge of the price	5	2	win-lose
5. Lower Cost of Product	2	4	lose-win
Disadvantages			
1. Doubt for the final product	2	4	lose-win
2. Avoiding payment through Internet	2	2	win-win
3. Incomplete renewal of the site	2	4	lose-win
4. Difficult navigation to the Internet	1	1	win-win

Classical Method	Supply Dpt Manager	Ship Supplier	Development cooperation
Advantages			
1. Combine the delivery	4	2	win-lose
2. Creating personal relationships	2	5	lose-win
3. Misunderstanding Clarification	3	3	win-win
Disadvantages			
1.Higher Cost	3	3	win-win
2.Time Consuming Procedure	4	4	win-win

From there, there was a positive reaction to the proposal, which however had implementation problems. The research showed that everyone thought the existence of an e-shop was interesting and convenient, since it was possible to be able to check the product

availability and price, with the possibility to order the product they were interested in.

This would give them the opportunity to compare the prices between retailers and make the most advantageous option.

Time and more specifically time-saving was another point they were most interested in. Sometimes they have to wait for two to three days to receive an offer from a supplier. With an e-shop, prices are available on a 24 hour basis and this helps to save time, a fact that is really important for the maritime company offices.

A problem all respondents mentioned was how it would be possible to combine all these demands arising on a ship in an e-shop and how it would be possible to keep that e-shop constantly updated.

They mostly cared though about the delivery and the possibility to have all products to the place they should be delivered, on time.

The research showed that all respondents would like the creation of e-shops, but they said they had concerns about their final use.

D.1. Advantages of e-shops

One of the important advantages that the shipping sector can have from the creation of e-shops is time saving from the side of the supply department. Until now, the conduct of trade in the traditional way required the transfer of products to the retailer's shop and assumed the good working relationship of the retailers with the consummer (Grant et al., 2006).

The traditional sales needed time, a place and procedures of a great importance for the services offered to the consumer and the services quality. The provision of quality services is an important research issue in the marketing sector, since it strengthens the client satisfaction.

The e-shops made changes to the supply chain, since it gives the opportunity of the direct order of products, affecting the final consumer. The client knows the existing availability and is offered the possibility to see the product he wants to order.

E-shops give the opportunity of geographic dispersion, which may be applicable to the supply of parts as far as maritime companies are concerned.

Moreover, the consummer, in our case the maritime company, has the possibility to know the prices and the availability of products they want to order.

Finally, with the creation of an e-shop it is possible for the price of the final product to be lower, since each stage of the supply chain adds costs concerning the handling, the transfer, the profit and the cost of the transaction (Delfmann *et al*., 2002). Thus the producers and retailers have a profit from the creation of an electronic page for the presentation and sale of their products.

Prices on online shops are lower, since such a shop does not have points of sale, with high rents, it does not have the same number of staff and it is open on a 24 hour basis, 365 days a year. The cost reduction automatically creates a competitive advantage against traditional shops (Nicholls and Watson, 2005).

D.2. Disadvantages of e-shops

However, the creation of an e-shop also has its disadvantages. A factor which can prevent a potential client from using the e-shop, is the fear of the clients that the product they will receive will not fully meet their expectations, since there is no direct contact with the product but also what guarantees an electronic shop will really offer compared to a traditional local shop where there is direct communication and contact with the product.

Most of the times, Internet users visiting electronic shops, use them only for information (new products, prices, comparison etc.) and to see if there are products that they want to finally buy from traditional shops.

One factor is the fear of users to use company credit cards but also dissatisfaction for the non-disclosure of a personal profile, for example consumer habits, etc.

Bad design, non frequent update but also difficult navigation on an e-shop discourages the potential clients.

E. E-shops in the shipping sector

As far as the shipping sector and the ship supplies are concerned, the traditional way is used: a retailer has a big storage area where he stores the products that might be ordered by a ship. Even if there are products that are not available at the ship supplier's shop, he has the possibility to find them though his suppliers.

The transfer and time cost passes to the final consumer. Therefore, from the supplier's side, with the creation of an e-shop, the supply department and consequently the maritime company could gain time and money.

They have the possibility to choose any time the product they are interested in and save time, since they can see the availability of products they are interested in and order them directly. The price of the final product is also better, since the management cost is lower until it reaches the final consumer (the ship).

Due to the fact that ships travel across the world, the existence of such shops in points that can serve the ports of a country globally, is necessary. However, another point we should mention is the fact that the needs of a ship, in particular in consumables, concerns many sectors. The question is whether it is possible to have all the requested products in a storage area and to have a fully updated electronic shop with prices and availability.

Furthermore, many times, orders through e-shops when they arrive to the final consumer, are not the ones the consumer had seen and chosen.

The spare parts purchase is more specialised since the producers of a ship's spare parts are less and particular ones. However the products can be on online shops from where the final consumer will be able to order them.

III. CONCLUSIONS

This research paper has studied the interface between maritime companies purchasing departments and e-shops from ship suppliers. Thus, for the achievement of this particular objective, the aspects and prospects of logistics companies were examined.

As sales through the Internet are growing, there is also a corresponding growing need to supply the right products at the right time and to the right person. This is a services quality factor (Zeithaml et al., 2002) on the part of retailers to the final recipients.

What we must overcome for the application of this proposal, is the reluctance of end users for the use of this way of trading, that is, the reluctance of the supply department of a maritime company to use an e-shop ship supplier.

REFERENCES

Bauer, H.H., Falk, T. and Hammerschmidt, M. "eTransQual: a transaction process-based approach for capturing service quality in online shopping" *Journal of Business Research*., **59**, 866-75 (2006).

Delfmann, W., Albers, S. and Gehring, M., "The impact of electronic commerce on logistics service providers", *International Journal of Physical Distribution & Logistics Management*, **32 No. 3**, 203-22 (2002).

Garri, M., "Successful Inter-Companies Co-Operation. Collaborative Network's Performance Measurement", Proc. 3rd Industry's Conference «Greek Industry: Towards the Industry of Knowledge», Technical Chamber of Greece, Athens, Greece (2006)

Grant, D.B., Lambert, D.M., Stock, J.R. and Ellram, L.M., *Funamentals of Logistics Management: First European Edition*, *McGraw-Hill Education*, *Maidenhead*.

Lee, G.G . and Lin, H.F., "Costumer perceptions of e-service quality in online shopping", *International Journal of Retail & Distribution Management*, **33 No.2**, 161-76 (2005).

Nicholls, A. and Watson, A., "Implementing e-value strategies in UK retailing" *International Journal of Retail & Distribution Management*, **33 No.6**, 426-43 (2005).

Parasuraman, A, Zeithaml, V.A. and Malhotra, A., "A multiple-item scale for assessing electronic service quality," Journal of Service Research", **7 No. 3**, 213-33 (2005).

Trabold, L.M., Heim, G.R. and Field, J.M., "Comparing e-service performance across industry sectors: drivers of overall satisfaction in online retailing", *International Journal of Retail & Distribution Management*, **34 No 4/5** ,*240-57*, (1981).

Zeithaml, V.A., Parasuraman,A . and Malhotra,A., "Service quality delivery through web sites: a critical review of extant knowledge", *Journal of Academy of Marketing Science*, **30 No 4** ,*362-75*, (2002).