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


Georgios A. Giannakopoulos, Damianos P. Sakas

Conference Details

Keynote Speaker

SYMPOSIUM ON INFORMATION AND KNOWLEDGE MANAGEMENT

Prof. Christos Skourlas

Towards the Preservation and Availability of Historical Books and Manuscripts: A Case Study

Eleni Galiotou

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

Exploiting the Search Culture Modulated by the Documentation Retrieval Applications

Nikitas N. Karanikolas and Christos Skourlas

Information and Knowledge Organization: The Case of the TEI of Athens

Anastasios Tsolakidis, Manolis Chalaris and Ioannis Chalaris

Providing Access to Students with Disabilities and Learning Difficulties in Higher Education through a Secure Wireless framework

Catherine Marinagi and Christos Skourlas

Improving Query Efficiency in High Dimensional Point Indexes

Evangelos Outsios and Georgios Evangelidis

Text Segmentation Using Named Entity Recognition and co-Reference Resolution in Greek Texts

Pavlina Fragkou

KINISIS, a Graphical XQuery Language

Euclid Keramopoulos, Achilleas Pliakas, Konstantinos Tsekos and Ignatios Deligiannis

Dimensionality Curse, Concentration Phenomenon and the KDB-tree

Nikolaos Kouïroukidis and Georgios Evangelidis
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
Jeon Hong, Chan, In Deok. Hwang, Jae Hak. Park, Hyeok. Sim, U won. Gwon and Soon Cheol. Park

58

A Semi-automatic Emerging Technology Trend Classifier Using SCOPUS and PATSTAT
Seonho Kim, Woondong Yeo, Byong-Youl Coh, Waqas Rasheed, Jaewoo Kang

62

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

Evangelia N. Markaki, Damianios P. Sakas and Theodore Chadjipantelis

73

Free Software – Open Source Software. A Powerful Tool for Developing Creativity in the Hands of the Student
Nasiopoulos K. Dimitrios, Damianos P. Sakas, Konstantinos Masselos

78

Open Source Web Applications. How it Spread Through the Internet and their Contribution to Education.
Nasiopoulos K. Dimitrios, Damianos P. Sakas, Konstantinos Masselos

82

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

Archiving as an Information Science. Evidence from a Survey Carried out on a Sample of Greek Students  
Georgios Giannakopoulos and Ioannis Koumantakis

S. Özlem Bayram and Fahrettin Ozdemirci

Government Information: Access and Greece’s Efforts for Access  
Aikaterini Yiannoukakou

School Archives and their Potentials in Teaching: Aspects of Greek Reality  
Sonia Geladaki and Panagiota Papadimitriou

Research on School Libraries in Greece and Suggestions on its Further Development  
Georgios D. Bikos

Building Digital Collections for Archeological Sites: Metadata Requirements and CIDOC CRM Extension  
Georgios S. Gkrous and Mara Nikolaidou

Museological Claims to Autonomous Knowledge: Rethinking the Conceptual Mode of Display and its Claims to Knowledge  
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

Developing a National Database on Librarianship and Information Science. The Case of E-VIVA, the Hellenic Fulltext Database  
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  
Ms. Mitra Zarei and Ms. Maliheh Farrokhnia

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

Trends in Scholarly Communication among Biomedical Scientists in Greece
Assimina Vlachaki and Christine Urquhart

SESSION ON ELECTRONIC PUBLISHING: A DEVELOPING LANDSCAPE
Dr. Dimitris Kouis

E-Journal and Open Access Journal Publishing in the Humanities: Preliminary Results from a Survey among Byzantine Studies Scholars
Victoria Tsoukala and Evi Sachini

Preliminary Results on a Printed VS Electronic Text Books Assessment Through Questionnaire
Dimitrios A. Kouis and Kanella Pouli

An Interpretation of Aristotelian Logic According to George Boole
Markos N. Dendrinos

SESSION ON INFORMATION CONTENT PRESERVATION AS OUTCOME OF CONSERVATION OF CULTURAL HERITAGE: ETHICS, METHODOLOGY AND TOOLS
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

Mass Deacidification: Preserving More than Written Information
Michael Ramin, Evelyn Eisenhauer and Markus Reist

Information Literacy of Library Users: A Case Study of Mazandaran Public Library Users, Iran
Hussein Mahdizadeh and Hasan Siamian

The Narratives of Paper in The Archives of the New Independent Greek State (Mid 19th c.)
Ouralia 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
Nikolaos Maniatis and Georgios Panagiaris
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital images: A valuable scholar's tool or misleading material?</td>
<td>272</td>
</tr>
<tr>
<td>Patricia Engel</td>
<td></td>
</tr>
<tr>
<td>Attitudes of University Librarians and Information Scientists Towards the Draft Code of Library Ethics to Present a Model for Final Library Ethical Codes</td>
<td>277</td>
</tr>
<tr>
<td>Mahsoomeh Latifi, Fatemeh Zandianand and Hasan Siamian</td>
<td></td>
</tr>
<tr>
<td>Ekaterini Malea, Effie Papageorgiou and Georgios Panagiaris</td>
<td></td>
</tr>
<tr>
<td>SESSION ON DIVERGENCE AND CONVERGENCE: INFORMATION WORK IN DIGITAL CULTURAL MEMORY INSTITUTIONS</td>
<td>285</td>
</tr>
<tr>
<td>Dr. Susan Myburgh</td>
<td></td>
</tr>
<tr>
<td>Extending Convergence and Divergence in Cultural Memory Institutions: The Old Slave Lodge in the New South Africa</td>
<td>287</td>
</tr>
<tr>
<td>Archie L Dick</td>
<td></td>
</tr>
<tr>
<td>The Transfer of Knowledge from Large Organizations to Small: Experiences from a Research Project on Digitization in Wales</td>
<td>289</td>
</tr>
<tr>
<td>Clare Wood-Fisher, Richard Gough, Sarah Higgins, Menna Morgan, Amy Staniforth and Lucy Tedd</td>
<td></td>
</tr>
<tr>
<td>The Usage of Reference Management Software (Rms) in an Academic Environment : A Survey at Tallinn University</td>
<td>293</td>
</tr>
<tr>
<td>Enrico Francese</td>
<td></td>
</tr>
<tr>
<td>Varialog : How to Locate Words in a French Renaissance Virtual Library</td>
<td>297</td>
</tr>
<tr>
<td>Marie-Hélène Lay</td>
<td></td>
</tr>
<tr>
<td>The Urge to Merge: A Theoretical Approach</td>
<td>301</td>
</tr>
<tr>
<td>Susan Myburgh</td>
<td></td>
</tr>
<tr>
<td>SYMPOSIUM ON ADVANCES INFORMATION FOR STRATEGIC MANAGEMENT</td>
<td>304</td>
</tr>
<tr>
<td>Professor Nikolaos Konstantopoulos</td>
<td></td>
</tr>
<tr>
<td>Empowerment in the Tax Office of Greece</td>
<td>306</td>
</tr>
<tr>
<td>Antonios E. Giokas and Nikolaos P. Antonakas</td>
<td></td>
</tr>
<tr>
<td>Building Absorptive Capacity Through Internal Corporate Venturing</td>
<td>310</td>
</tr>
<tr>
<td>Ioannis M. Sotiriou and Alexandros I. Alexandrakis</td>
<td></td>
</tr>
</tbody>
</table>
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)

Catherina G. Siampou, Eleni G. Fassou and Athanassios P. Panagiotopoulos

Corruption in Tax Administration: The Entrepreneurs View Point

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.

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

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

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

Strategies Implemented and Sources Used for the Acquisition of Information on Foreign Markets

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

Nikolaos Konstantopoulos and Yiannis Triantafyllopoulos

Personnel’s Absorptive Capacity as a Guiding Concept for Effective Performance in Informative Technology

Nikolaos Konstantopoulos and Yiannis Triantafyllopoulos

SESSION ON CONTEMPORARY ISSUES IN MANAGEMENT: ORGANISATIONAL BEHAVIOUR, INFORMATION TECHNOLOG, EDUCATION & HOSPITAL LEADERSHIP

Dr. Panagiotis Trivellas

Investigating the Importance of Sustainable Development for Hotel SMES

Panagiotis Reklitis and Anestis Fotiadis

Strategic Alignment of ERP, CRM and E-business: A Value Creation

Catherine C. Marinagi and Christos K. Akrivos

The Impact of Occupational Stress on Performance in Health Care

Panagiotis Trivellas, Panagiotis Reklitis and Charalambos Platis
The Impact of Emotional Intelligence on Job Outcomes and Turnover Intention in Health Care
   Panagiotis Trivellas, Vassilis Gerogiannis, and Sofia Svarna

SYMPOSIUM ON BUSINESS MANAGEMENT AND COMMUNICATION STRATEGIES SUPPORTING DECISION MAKING PROCESS IN TOURISM SECTOR
   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
   Christos K. Akrivos and Panagiotis Reklitis

Tourist Destination Marketing and Management Using Advanced ICTS Technologies
   Anastasia Argyropoulou, Panagiota Dionyssopoulou, Georgios Miaoulis

   George Stafylakis and Panagiota Dionyssopoulou

GENERAL PAPERS

The role of Environmental Education within the Framework of the Environmental Policy of a Regional Municipality
   Vassiliki Delitheou and Dimitra Thanasia

Issues of Social Cohesion: A case study from the Greek Urban Scenery
   Evgenia Tousi

Merging Activity and Employee Performance: The Greek Banking System
   Panagiotis Liargovas and Spyridon Repousis

Sustainable Development and Corporate Social Responsibility in Higher Education: Some Evidence from Greece
   Anastasios Sepetis and Fotios Rizos

Exploring the Effects of Organizational Culture on Collaborative vs. Competitive Knowledge Sharing Behaviors
   Hanan Abdulla Mohammed Al Mehairi and Norhayati Zakaria

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


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

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, Greece
Dimitris Dervos, Technological Educational Institute of Thessaloniki
Eelco Ferwerda, OAPEN
Elena Garcia Barriocanal, University of Alcalá
Emmanouel Garoufalidou, Technological Educational Institute of Thessaloniki
Filippas Tsimoglou, University of Cyprus
Filia 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 Borás
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].
The Impact of Emotional Intelligence on Job Outcomes and Turnover Intention in Health Care

Panagiotis Trivellas‡ Vassilis Gerogiannis† and Sofia Svarna‡

‡ Technological Educational Institute of Chalkis, Department of Logistics, 32200, Thiva, Greece. ptriv(at)teee.gr
† Technological Educational Institute of Larissa. Department of Project Management, 41110, Larissa, Greece. gerogian(at)teilar.gr

Abstract: Nursing turnover threatens the performance of health care organizations. This paper examines the influence of Emotional Intelligence (EI), on job outcomes (Job Satisfaction (JS) and Organizational Commitment (OC)) on Turnover Intention (TI) of nursing staff working in the health care sector. Although in the relevant literature several studies have examined the direct relationships between any two of these factors, there is lack of an approach which investigates the combined relationships among all these factors. This paper presents a field survey conducted in five private health care organizations which operate in the city of Larissa, Greece. The statistical analysis based on 145 valid questionnaires, confirmed strong association among EI and TI as well as significant relationship between JS and TI. In contrast with the results of other scholars, OC has not been found to be associated with TI.

Keywords: Emotional intelligence, Job satisfaction, Organizational commitment, Turnover intention, Health care.

I. INTRODUCTION

Human resources are, without doubt, the core of the health care industry and an effective health care system depends mainly on their adequacy, quality and their right distribution (Firth et al., 2004). Nursing shortages are proved to be related with adverse incidents and aspects of hospital inefficiency (Sellgren, Ekvall and Tomson, 2007). In Greece, except from a plethora of doctors, the health care sector presents human resources’ shortages. Therefore, it comes of high importance to study turnover intention and its antecedents in the health care sector.

High turnover turns out to be a global phenomenon (Rana et al., 2009). Many studies have shown that the intention of quitting a job stems from factors such as leadership support, organization commitment, and job satisfaction (Price, 2001; Chiu et al., 2005). In addition, many researchers (Wong and Law, 2002; Carmeli, 2003; Vakola et al., 2004; Goleman, 1999; Kooker, Shoultz and Codier, 2007) provided evidence of a negative relation between turnover intention and Emotional intelligence.

Despite the fact that job satisfaction, emotional exhaustion and stress of nursing staff have been investigated thoroughly, there is limited research upon turnover issues and particularly turnover intention of nursing staff. As illustrated in figure 1, this study investigates the direct relationships between emotional Intelligence (EI) and job outcomes (organizational commitment (OC), job satisfaction (JS) and turnover intention (TI)).

II. RESEARCH BACKGROUND

A. Emotional Intelligence in Health Care

Emotion research in health care is categorized into two major areas: research related to emotional labor (Larson and Yao, 2005) and research related to emotional intelligence (Goleman, 1999). Referring to the latter, the importance of emotional Intelligence has been widely recognized for the case of nursing staff working in health-care (Larson and Yao, 2005; Kooker, Shoultz and Codier, 2007).

Emotion is central within health care organizations. Every member of a hospital’s staff has to deal, in a daily basis, with events highly related to emotions such as birth, illness, death. Thus, the work climate becomes stressful for the nursing staff, which, at the same time is obliged to perform in the most effective way. High responsibility upon patients is of utmost importance, as if not existing, may even cost their life. Moreover, it is one of the most stressful factors within a health care organization; as any other stressor usually moderates staff’s job satisfaction and creates turnover intentions (Kooker, Shoultz, & Codier, 2007; Chiu et al., 2005).

This is indeed not just a commonly accepted rational theory but it has been proved by many researchers, especially in the last decade (Firth et al., 2004; Sellgren, Ekvall and Tomson, 2007).

Concluding, there is evidence that EI plays a significant role upon turnover intention -that will possibly lead to the actual quitting (Chiu and Francesco, 2003) – and, therefore, EI should be further examined as a predictor of such a behavior. The previous argument becomes of a greater importance, under the consideration that health care departments try to prevent intentions of quitting because the results are higher costs and poor quality of services provided to patients.
ADVANCES ON INFORMATION PROCESSING AND MANAGEMENT

B. Emotional Intelligence and JS

According to Goleman (1999), individuals that present a high level of EI tend to experience more positive moods and emotions in contrast to those with a lower overall EI. This means that the latter usually translate their feelings to disappointment, anger and infillishment and by this way their total satisfaction is reduced. In health care sector, Guleryuz et al (2008) examined the effect of emotional intelligence on job satisfaction and organizational commitment of nurses working in seven university hospitals in Turkey. Their findings demonstrated that Emotional intelligence had a strong positive relation to job satisfaction. By considering these results, the first hypothesis of the research is defined as follows:

H1: EI is positively related to JS

C. Emotional Intelligence and OC

The associations between EI and Organizational Commitment has been examined in the relevant literature and in most cases has been found to be significantly and positively related with it (Lee and Liu, 2007, Guleryuz et al., 2008; Zeidner, Matthews and Roberts, 2004; Wong and Low, 2002; Goleman, 1999; Mayer and Salovey, 1997). This can be explained from the fact that people with high emotional intelligence have the tendency to put themselves into positive emotional states that will probably lead to positive affection towards their organization (Wong and Law, 2002). Consequently, the second hypothesis in this research is stated as follows:

H2: EI is positively related to OC.

D. Emotional Intelligence and TI

Staff turnover is defined as “the number of employees that have quit within a given time period, usually one year, in relation to the total number of employees” (Newman et al., 2002, the HSM Group 2002 cited in Sellgren, Ekvall and Tomson, 2007, p.172). Employee’s intention to quit is a situation that all managers try to eliminate within their organization as the actual quitting not only leads to higher costs as, for example, recruiting new employees (Firth 2004; Schyns, Torca and Gossling 2007) but also has negative consequences on the quality of services provided. In the case of a health-care industry this sometimes means the undermining of the patients’ safety (Sellgren, Ekvall and Tomson, 2007).

According to past findings, turnover intention, relationship with EI has been proven to be negative (Wong and Law, 2002; Goleman, 1999; Kooker, Shoultz and Codier, 2007; Carmeli, 2003; Lee and Liu, 2007; Falkenburg and Schyns, 2007; Firth et al., 2004). Particularly, Wong and Law (2002) have supported this argument and through their study they have highlighted the fact that the higher the emotional labor in a particular job, the stronger EI is negatively related to turnover intention. By considering that health care sector is a workplace with high emotional labor, the third hypothesis in this study is stated as follows:

H3: EI is negatively related to TI.

III. RESEARCH METHODOLOGY

A. Sample

The field research was conducted in five private general hospitals in the area of Thessaly, Greece. Structured questionnaires were distributed to 266 nurses and 145 valid questionnaires were returned. Response rate was 54.5%. Most nurses were female (86.2%) and their mean age was 34.3 years (SD=9.6). The average number of years of nursing experience was 12.3 (SD=7.3) while mean organizational tenure was 9.4 years (SD=4.2).

B. Questionnaire design

Emotional Intelligence was measured with the Meyer, Salovey and Caruso (2002) Emotional Intelligence Test, (MSCEIT), which has been proved to provide high validity (Brackett and Mayer, 2003; Brackett et al., 2006; Rode et al., 2008). It was adopted a short version of 16 items from the 141 items of the MSCEIT instrument - four items for each aspect of EI - to test identifying emotions, understanding emotions, using emotions and managing emotions, respectively.

Allen and Meyer’s (1990;1996) Organizational Commitment scale is used to measure the aspects of OC. In total, 12 items were adopted, related with two of the three factors of Allen and Meyer’s model, that of Affective (AC) and Continuance Commitment (CC).

Job Satisfaction is measured using Melia and Peiro’s S20/23 questionnaire (Melia and Peiro, 1989). It consists of 23 items and assesses various specific factors of satisfaction, such as intrinsic job characteristics, supervision, participation and physical environment which are highly matched with the different dimensions of the nursing job satisfaction. The questionnaire presents high-level of validity, high internal consistency and adapts adequately to different organizational contexts (Saura et al., 2005; Gil et al., 2005). We adopted 16 items from this tool, which are relevant to our case.

Intention to quit was measured by using the three item questionnaire of Kim et al. (1996) that is also considered to provide high validity. The instrument was selected because it is a simple measure and very understandable for the respondents (Price, 2003). To ensure the validity of the item translation, a (English/Greek) translate/back translate procedure (Brislin, 1970; Laroche et al., 2003) was used. Responses were assessed on 5-point Likert scales.

C. Data Analysis

Initially, Principal Component Analysis (PCA) has been conducted to examine the underlying factors of Emotional Intelligence, Job Satisfaction, Organizational Commitment and Turnover Intention scales. All scales...
were proved to be one-dimensional. Cronbach’s Alpha has been calculated to assure internal reliability and consistency. All scales exhibited well over the minimum acceptable reliability level for alpha coefficients of 0.7. Finally, multiple regression analyses applied to test the hypotheses and provide conclusions.

D. Results

To test the hypotheses multiple regression analyses were conducted. Demographic data (age, working experience, education level and marital status) were treated as control variables. In the following tables, the reciprocal of the tolerance known as the Variance Inflation Factor (VIF) has been used to show how much the variance of the coefficient estimate is being inflated by multi-collinearity (i.e., to ensure that multi-collinearity among independent variables is not an issue during regression analyses). VIF coefficients of above 5 points indicate a multi-collinearity problem (O’Brien, 2007). The first regression model has tested if Emotional Intelligence is related to Job Satisfaction (hypothesis H1). In Table 1, the values of the standardized coefficients beta show that EI has a positive and significant relation to job satisfaction (Std. beta=0.706, p<0.001). Additionally, EI is positively and significantly related to the demographic variable marital status (Std. beta =0.199, p<0.05). Therefore, findings have demonstrated that married nurses seem to have a greater level of EI. The independent variables explain the 48.3 of the total variation of nurses’ job satisfaction.

Both dimensions of Organizational Commitment (affective-continuance) have been examined in regard to their relationship with EI (hypothesis H2), and they have not been found to be statistically significant (p>0.05).

Table 1 presents the statistical analysis results for testing hypothesis H3, also. EI has been proved to exert a direct, strong and negative relation with turnover intention (Std. beta=0.666, p<0.001). This means that employees with a higher degree of EI seem to present a lower intention to leave their organization. The independent variables explain the 43.7 of the total variation of nurses’ turnover intentions.

IV. DISCUSSION

This study has examined the impact of EI upon job outcomes, such as organizational commitment, job satisfaction and turnover intention.

Past literature has proven significant relationships between EI and these outcomes (Sy, Tram and O’Hara, 2006; Chiva and Alegre, 2008; Guleryuz, Güney, Aydin, and Asan, 2008; Chena, Chuc, Wange and Linf, 2008; Wong and Law, 2002; Carmeli, 2003). However, in our study some of the hypothesized relationships have been confirmed. Particularly, EI was found to have significant and positive relationship with JS (H1) and significant and negative relationship with turnover intention (H3), as literature suggests. That means that nurses presented a higher degree of EI tend to be more satisfied with their work and also had a lower intention to leave their jobs.

However, EI was not found to have any significant relationship with neither of the two dimensions of OC. In a relative study, Guleryuz et al. (2008) have examined the relations among emotional intelligence, job satisfaction and organizational commitment of nurses and also the mediating impact of job satisfaction between emotional intelligence and organizational commitment. Questionnaires were distributed to 550 nurses working at different departments of a hospital and from these 267 questionnaires were analyzed. Their results presented job satisfaction as a mediator between emotional intelligence and organizational commitment while OC had a direct, significant and positive relationship with EI, contrary to the present study that has not resulted in such a relationship.

To conclude, our research findings indicate strong relationships between EI and TI as well as between EI and JS, while OC was not found to be related with any of the above variables.

REFERENCES


Table 1. Results of multiple regression analyses.


