

**Abstracts of the Papers
Presented at the
10th European Conference on
Information Systems Management**

8-9 September 2016

**The University of Evora
Portugal**

Copyright The Authors, 2016. All Rights Reserved.

No reproduction, copy or transmission may be made without written permission from the individual authors.

Review Process

Papers submitted to this conference have been double-blind peer reviewed before final acceptance to the conference. Initially, abstracts were reviewed for relevance and accessibility and successful authors were invited to submit full papers. Many thanks to the reviewers who helped ensure the quality of all the submissions.

Ethics and Publication Malpractice Policy

ACPIL adheres to a strict ethics and publication malpractice policy for all publications – details of which can be found here:

<http://www.academic-conferences.org/policies/ethics-policy-for-publishing-in-the-conference-proceedings-of-academic-conferences-and-publishing-international-limited/>

Conference Proceedings

The Conference Proceedings is a book published with an ISBN and ISSN. The proceedings have been submitted to a number of accreditation, citation and indexing bodies including Thomson ISI Web of Science and Elsevier Scopus.

Author affiliation details in these proceedings have been reproduced as supplied by the authors themselves.

The Electronic version of the Conference Proceedings is available to download from DROPBOX. (<http://tinyurl.com/ecism2016>) Select Download and then Direct Download to access the Pdf file. Free download is available for conference participants for a period of 2 weeks after the conference.

The Conference Proceedings for this year and previous years can be purchased from <http://academic-bookshop.com>

Print version ISSN: 2048-8912

Print version ISBN:

E-Book ISSN: 2048-8920

E-Book ISBN:

Published by Academic Conferences and Publishing International Limited
Reading, UK. 44-118-972-4148. www.academic-publishing.org

Contents

Paper Title	Author(s)	Page no	Guide Page
Preface		iv	vi
Committee		v	vii
Biographies		vii	x
Research papers			1
Towards a Model for Monitoring Public Services Projects in Saudi Arabia	Khalied Al-Barrak, Leslie Carr and Matthew Ryan	1	3
Methods of Data Collection in Experimental Economic Games	Mariusz Borawski and Kesra Nermend	12	4
A Dynamic Capability Approach to Digital Transformation: A Focus on key Foundational Themes	Marian Carcary, Eileen Doherty and Gerry Conway	20	4
‘The Digital Wild West’: Managing the Risks of Digital Disruption	Marian Carcary and Eileen Doherty	29	5
A New Approach to Security Engagement from a Positive Psychology Perspective: A Conceptual Model	Hiep Cong-Pham, Linda Brennan, Joan Richardson and Jamal Elden	37	6
Herd Behaviour in Online Auctions: A Case Study	Jacek Cypryjański, Aleksandra Grzesiuk and Edyta Rudawska	45	7
Development of an IT Strategic Planning Capability for the Digital Age	Eileen Doherty, Marian Carcary and Gerard Conway	52	8
Barriers and Enablers to Supply Chain Knowledge Sharing Using Social Media Platform	Susan Grant	59	9

Paper Title	Author(s)	Page no	Guide Page
Supply Chain Knowledge Networking Using a 3D Virtual World Environment	Olinkha Gustafson-Pearce and Susan Grant	68	9
A New Function: A New Archivist?	Lars-Erik Hansen and Anneli Sundqvist	76	10
Exploring the Obstacles Facing the Adoption of the Internet of Things (IoT): A Case Study in Oman	Rana Jacob Jose, Ali H. Al-Badi and Oualid Ali	85	11
The Size of Firms and IS/ICT Employment in Reverse Supply Chain Management	Alena Klapalová	92	12
Penetration Effect on HR Portals Enhancement Justification: Initial Evidence From Expert Interviews	Michal Krčál	100	13
When Cloud Does not Fit: Experience From a Single Case Justification Study	Michal Krčál and Jan Tomíšek	108	14
Experiment Versus Simulation in Economics	Małgorzata Łatuszyńska	117	14
Cloud Storage Usage by Students of the North West University South Africa	Lucia Letlonkane, Michael Esiefarienrhe Bukohwo and Goitseone Molehabangwe	124	15
IT Project Management Practices in Olympic Summer Games_Rio2016 Case Study	Fabiano Lima and Maria José Sousa	130	16
CSIRT Management Workflow: Practical Guide for Critical Infrastructure Organizations	Nurul Mohd, Zahri Yunos, Aswami Ariffin and Azlan Nor	138	117
Probing the Factors that Influence the Effective Utilization of e-library: NWU Case	Moleboge Emma Nhlapo and Dineo Magdeline Rakomane	147	17

Paper Title	Author(s)	Page no	Guide Page
Georeferencing the Country Codes of Top Levels Domains (.pt) in Lisbon City: Spatial Analysis of Urban Innovation	Jorge Ricardo Costa Ferreira and Teresa Santos	156	18
Crowdsourcing: Innovation for Information Systems Intermediaries	Cândida Silva and Isabel Ramos	166	19
The Influence of Telecentres on the Psychological Empowerment of Underserved Community Members	Maureen Tanner and Muhammad Ameer Osman	175	20
From Data to Decisions: A Case Study of Capability Assessment in a Health Organisation	Nelly Todorova and Kit Hoeben	185	21
Sharing of Teaching Staff Information via QR-code Usage	Gulfarida Tulemissova, Indira.Bukenova and Arman Korzhaspayev	195	22
An Accountability Challenge: Capturing Records and Their Context in Enterprise Information Systems	Geert-Jan van Bussel	203	23
PhD Research Papers		213	25
Exploring Organizational Learning in the Context of IT Governance	Koen De Maere and Steven De Haes	215	27
How to Define Lean IT Services Organization Wide: An Action Design Research	Miles Herrera and Jos van Hillgersberg	223	28
An Implementation Framework of Business Intelligence in e-Government Systems for Developing Countries	Yassine Jadi and Lin Jie	232	29
Information System Support for the WHO Clinical Guideline Development Process: A Case Study Approach	Soudabeh Khodambashi and Øystein Nytrø	239	29

Paper Title	Author(s)	Page no	Guide Page
A Conceptual Framework for Measuring Economic Effectiveness of Moving to the Cloud	Paweł Lustofin	249	30
Information Systems for the Practice of Evidence-Based Medicine and Shared Decision Making	Hanife Rexhepi	258	31
Supply Chain Communication and Operational Management in the Automotive Components Supply Chains in South Africa Using Cloud Hosted Information Systems	Phetlhu Tlamele	267	32
Masters Papers		277	33
Where are we With the BYOD Phenomenon?	Adedolapo Akin-Adetoro and Salah Kabanda	279	35
An Agent-Based Approach to the Automation of Risk Management in IT Projects	Kimberley Jackson and Goran Soldar	288	36
A Framework on Information Behaviour of SME Managers for Decision-Making on Emerging ICTs	Sulaimon Olatunji, Yongmei Bentley, Yanqing Duan and Vincent Ong	296	37
Work In Progress Papers		303	39
Determinants of Adoption and use of Mobile Cloud Computing in Firms	Henrique Carreiro and Tiago Oliveira	305	41
Fit between Product Market Strategy and Business Model Theme in Digital Markets: A set of Propositions	Andreas Koczkas and Darek Haftor	309	41
Managing Digitally Enabled Innovation: A Conceptual Framework	Carlos Reis-Marques and Ales Popovic	313	42

Paper Title	Author(s)	Page no	Guide Page
Designing Consumer-Focused Health Improvement Systems	Nancy Russo and Jeanette Eriksson	317	43
Factors Affecting Behavioural Intention to Adopt e-participation: Extending the UTAUT 2 Model	Nuno Xavier and Tiago Oliveira	322	44
Abstracts Only			45
IT User Satisfaction: Distinguishing Between the Technology Adoption and Assimilation Processes	Matthew Hinton		47
The need for Cognition and IT User Satisfaction	Tuan Yu		48
Disposition in Information Systems Design: a Content Analysis	Sherry Li Xie and Guanyan Fan		48
Citation pages			51
Google Scholar	The Importance of Paper citations and Google Scholar		53
Jotter Page	Blank Paper for notes		

Preface

The 10th European Conference on Information Systems Management is being held at The University of Evora, Portugal on the 8-9 September 2016.

The Conference Chair is Paulo Silva and the Programme Chairs are Prof. Rui Quaresma and Prof. António Guerreiro.

ECISM provides an opportunity for individuals researching and working in the broad field of information systems management, including IT evaluation to come together to exchange ideas and discuss current research in the field. This has developed into a particularly important forum for the present era, where the modern challenges of managing information and evaluating the effectiveness of related technologies are constantly evolving in the world of Big Data and Cloud Computing. We hope that this year's conference will provide you with plenty of opportunities to share your expertise with colleagues from around the world.

The keynote speakers for the Conference are Carlos Zorrinho from the Portuguese Delegation and Isabel Ramos from University of Minho, Portugal.

ECISM 2016 received an initial submission of 84 abstracts. After the double-blind peer review process 25 academic papers, 7 PhD research papers, 3 Masters research paper and 5 work in progress papers have been accepted for publication in these Conference Proceedings. These papers represent research from around the world, including Belgium, Brazil, China, Czech Republic, Kazakhstan, Malaysia, New Zealand, Norway, Oman, Poland, Portugal, South Africa, Sweden, The Netherlands, UK and Vietnam.

We wish you a most interesting conference.

Dr Paulo Silva, Dr António Guerreiro and Dr Rui Quaresma

Conference Committee

Ademola Adesina, University of Western Cape, South Africa ; Adetola Adewojo, National Open University of Nigeria, Nigeria ; Abidemi Aina, Lagos State University, Nigeria ; Dr. Hussein Al-Yaseen, Amman University, Jordan ; Maria Alaranta, Copenhagen Business School, Denmark ; Mr Erdem Alparslan, Bahcesehir University, Turkey ; Prof. Maria Ceu Alves, University of Beira Interior, Portugal ; Prof. Karen Anderson, Mid Sweden University, Sweden ; Dr. Samira Bakr, NCEEE, Egypt ; Dr. Joan Ballantine, University of Ulster, UK ; Dr. Frank Bannister, Trinity College Dublin, Ireland ; Dr. Ofer Barkai, SCE - Sami Shamon College of Engineering, Israel ; Dr. David Barnes, Westminster Business School, University of Westminster, London, UK ; Peter Bednar, Portsmouth University, UK ; Dr. Egon Berghout, University of Groningen, The Netherlands ; Dr. Milena Bobeva, Bournemouth University, Poole, UK ; Dr. Ann Brown, CASS Business School, London, UK ; Dr. Giovanni Camponovo, University of Applied Sciences of Southern Switzerland, Switzerland ; Dr. Marian Carcary, NUIM, Ireland ; Prof. Sven Carlsson, Lund University, Sweden ; Dr. Noel Carroll, University of Limerick, Ireland ; Dr. Walter Castelnovo, Università dell'Insubria, Como, Italy ; Prof. Anna Cavallo, University of Rome, "Sapienza", Italy ; Dr. Sunil Choenni, University of Twente and Ministry of Justice, The Netherlands ; Dr. Kiyeng Chumo, Moi University, Kenya ; Dr. Peter Clutterbuck, University of Queensland, Australia ; Jacek Cyprijanski, University of Szczecin, Poland ; Prof. Renata Dameri, University of Genoa, Italy ; Paul Davies, University of Glamorgan, UK ; Dr. Miguel de Castro Neto, ISEGI, Universidade Nova de Lisboa, Portugal ; Guillermo de Haro, Instituto de Empresa, Madrid, Spain ; Francois Deltour, Mines de Nantes Engineering School, France ; Dr. Jan Devos, Ghent University, Belgium ; Prof. Dr. Eduardo Diniz, Escola de Administracao de Empresas de Sao Paulo, Fundacao Getulio Vargas, Brazil ; Dr. Maria do Rosário Martins, Universidade Cape Verde, Portugal ; Romano Dyerson, Royal Holloway University, London, UK ; Dr. Sunet Eybers, University of Pretoria, South Africa ; Dr. Alea Fairchild, Vesalius College/Vrije Univ Brussels, Belgium ; Dr. Elena Ferrari, University of Insubria, Como, Italy ; Jorge Ferreira, Nova University of Lisbon, Portugal ; Dr. Elisabeth Frisk, School of Business, Economics and Law University of Gothenburg, Sweden ; Dr. Andreas Gadatsch, Bonn-Rhein-Sieg University of Applied Sciences, Germany ; Dr. Sayed Mahdi Golestan Hashemi, Iranian Research Center for Creatology, TRIZ & Innovation Science, Iran ; Prof. Ken Grant, Ryerson University, Toronto, Canada ; Prof. Ginevra Gravili, Facolta Di Economia, Lecce, Italy ; Dr. Stewart Green, University of the West of England, UK ; Dr. Paul Griffiths, The Birchman Group, Santiago, Chile ; Loshma Guniseti, Sri Vasavi Engineering College, India ; Dr. Petri Hallikainen, University of Sydney Business School, Australia ; Ciara Heavin, University College Cork, Ireland ; Dr. Vered Holzmann, Tel-Aviv University / Holon Institute of Technology, Israel ; Grant Royd Howard, University of South Africa (UNISA), South

Africa ; M Sirajul Islam, Örebro University, Sweden ; Björn Johansson, Lund University, Sweden ; Dr. Paul Jones, Coventry University , UK ; Prof. Ghassan kbar, King Saud University, Saudi Arabia ; Dr. Zaheer Khan, University of the West of England, United Kingdom ; Prof. Ranjan Kini, Indiana University Northwest, Gary, USA ; Prof. Jesuk Ko, Gwangju University, Korea ; Dr. Juha Kontio, Turku University of Applied Sciences, Finland ; Dr. Jussi Koskinen, University of Jyväskylä, Finland ; Prof. Luigi Lavazza, Università degli Studi dell'Insubria, Italy ; Dr. Przemysław Lech, University of Gdańsk, Poland ; Dr. Harald Lothaller, University of Music and Performing Arts Graz, Austria ; Prof. Sam Lubbe, North West University, South Africa ; Paolo Magrassi, Polytechnique of Milan, Italy ; Ponnusamy Manohar, University of Papua New Guinea, Papua New Guinea ; Prof. Nenad Markovic, Belgrade Business School, Serbia ; Steve Martin, University of East London, UK ; Prof. Nico Martins, University of South Africa, South Africa ; Milos Maryska, University of Economics, Prague, Czech Republic ; Dr Lukasz Marzantowicz, University of Szczecin, Poland ; John McAvoy, University College Cork, Ireland ; Prof. Nor Laila Md Noor, Universiti Teknologi MARA, Malaysia ; Dr. Annette Mills, University of Canterbury, Christchurch, New Zealand ; Dr. Maria Mitre, Universidad de Oviedo, Spain ; Dr. Mahmoud Moradi, University of Guilan, Rasht, Iran ; Dr. Balsam A. Mustafa, University Malaysia Pahang (UMP), Malaysia ; Dr. Gunilla Myreteg, Örebro University School of Business, Sweden ; Dr. Tadgh Nagle, University College Cork, Ireland ; Prof. Mário Negas, Aberta University, Portugal ; Dr. Karen Neville, University College Cork, Ireland ; Emil Numminen, Blekinge Institute of Technology, Sweden ; Dr. Brian O'Flaherty, University College Cork, Ireland ; Dr. Paidi O'Raghallaigh, University College Cork, Ireland ; Dr. Mohammed Odeh, University of West of England, Bristol, UK ; Dr. Emmanuel Ogunshile, University of the West of England, Bristol, UK ; Dr. Tiago Oliveira, Universidade Nova de Lisboa, Portugal ; Prof. Patricia Ordóñez de Pablos, The University of Oviedo, Spain ; Dr. Roslina Othman, International Islamic University Malaysia, Kuala Lumpur, Malaysia ; Ian Owens, Cranfield University, Shrivensham, UK ; Sevgi Özkan, Middle East Tehcnical University, Ankara, Turkey ; Dr. Shaun Pather, Cape Peninsula University of Technology, South Africa ; Mr Michail Pavlidis, University of Brighton, UK ; Kalevi Pessi, IT University, Gothenburg, Sweden ; Dr. Danilo Piaggese, Framericas, USA ; Dr. Elias Pimenidis, University of West of England, Bristol, UK ; Zijad Pita, RMIT University, Melbourne, Australia ; Dr. Cosmin Popa, The University of Agricultural Sciences and Veterinary Medicine, Romania ; Nayem Rahman, Intel Corporation, Aloha, USA ; Hugo Rehe-saar, NSW, Sydney, Australia ; Dr. Marcin Relich, University of Zielona Gora, Poland ; Prof. João Manuel Ribeiro da Silva Tavares, Faculdade de Engenharia da Universidade do Porto, Portugal ; Dr. Dimitris Rigas, De Montfort University, UK ; Mr Martyn Roberts, University of Portsmouth, UK ; Prof. Narcyz Roztocki, State University of New York at New Paltz, USA ; Prof. Abdel-Badeeh Salem, Ain Shams University, Cairo, Egypt ; Prof. Hannu Salmela, Turku School of Economics and

Business Administration, Finland ; David Sammon, University College Cork, Ireland ; Amitrajit Sarkar, Christchurch Polytechnic Institute of Technology, New Zealand ; Ass. Prof. Elsje Scott, University of Cape Town, Rondebosch, South Africa ; Dr. Elena Serova, St. Petersburg State University of Economics and Finance, Russia ; Dr. Sandro Serpa, University of the Azores, Portugal <http://academic-conferences.org/ecsm/ecsm2015/ecsm15-call-papers.htm> ; Dr. Yilun Shang, Singapore University of Technology and Design, Singapore ; Gilbert Silvius, Utrecht University of Professional Education, The Netherlands ; Dr. Riccardo Spinelli, Università Di Genova, Italy ; Dr. Darijus Strasunskas, Norwegian University of Science and Technology, Trondheim, Norway ; Prof. Reima Suomi, University of Turku, Finland ; Lars Svensson, University West, Trollhättan, Sweden ; Jarmo Tähkäpää, Turku School of Economics and Business Administration, Finland ; Torben Tambo, Aarhus University, Denmark ; Dr. Llewellyn Tang, University of Nottingham Ningbo, China ; Sim-Hui Tee, Multimedia University, Malaysia ; Dr. Claudine Toffolon, Université du Mans - IUT de Laval, France ; Alexandru Tugui, Alexandru Ioan Cuza University, Iasi, Romania ; Dr. Geert-Jan Van Bussel, HvA University of Applied Sciences Amsterdam, The Netherlands ; Dr. Anna Wingkvist, Linnaeus University, Sweden ; Prof. Stanislaw Wrycza, University of Gdansk, Poland ; Tuan Yu, Kent Business School, University of Kent, Canterbury, UK ; Dr. Atieh Zarabzadeh, University College Dublin, Ireland ; Dr. Olga Zlydareva, Dublin City University, Ireland ; Dr. Ryszard Zygal, Wroclaw University of Economics, Poland.

Biographies

Conference Chair



Dr Paulo Silva is Vice-head of the Social Science School at the University of Évora, (Portugal). He holds a PhD in Management, where his specialization was Informational and Organisational Models in Public Universities. His current research interests include information management, knowledge management, IS acceptance and benefits, information modelling and architecture, change management and university management. He has published chapters for books as well as journal articles and conference papers. He was Programme Chair (2013) for the Conference of the Portuguese Association of Information.

Programme Chairs



Dr António Guerreiro is currently Assistant Professor in the Department of Management, University of Évora (Portugal) and has been President of the Pedagogic Council of the School of Social Sciences (2013-2015). He has published in several international conferences and he is author of a book on IT Investments Management. He also has publications in the Portuguese Association of Information Systems Review and in the Portuguese Review of Management. He holds a Msc. in Organization & Information Systems and a PhD in Management from the University of Évora, and he has been research student at Queen's University at Belfast, UK (2003/2005).



Dr Rui Quesma is Assistant Professor in the Department of Management, University of Évora (Portugal), and is member of the General Council of the University of Évora (since December 2012). He was President of the Assembly of Representatives of the School of Social Sciences of the University of Évora from March 2010 – January 2013. He has published in several international conferences and has articles published in international journals. He is author of 3 chapters in books in the field of information systems. He has been co-director of 2 doctoral theses in Portugal and 1 in Spain. He holds a Msc. in Management and Industrial Strategy (1997) from the Instituto Superior de Economia e Gestão (ISEG)/University of Lisbon, and a PhD in Management (2005) from the University of Seville (Spain).

Keynote Speakers



Isabel Ramos is Associate Professor (PhD, Habilitation) at the Department of Information Systems of the University of Minho in Portugal. Isabel Ramos is Director of the Doctoral Programme in Information Systems and Technologies and President of the Portuguese Association for Information Systems. She is President of the Portuguese Chapter of the Association for Information Systems and the Secretary of the Technical Committee 8 (Information Systems) of IFIP – International Federation for Information Systems, as well as the Portuguese representative. She is member of the AIS Communications Committee and the AIS LEO award Committee. She was awarded the IFIP Outstanding Service Award and IFIP Silver Core Award. Isabel Ramos coordinates the research group Information Systems and Technologies for the Transformation of Organizations and Society (ISTTOS) and the Thematic Research Stream Resilience and Agility of Organizations of the ALGORITMI centre of the University of Minho.



Carlos Zorrinho is a Portuguese politician and university professor. Currently, he is the Head of the Portuguese Delegation and member of the S&D Group of the European Parliament. He graduated in Business Management at the University of Évora, which later awarded him a Doctorate Degree in Information Management. He pursued his academic career as a professor in the Department of Business Administration at the University of Évora. Member of the National Council of the Socialist Party since 1990, he was elected for National Parliament in 1995. From 2009 to 2011, he served as Secretary of State for Energy and Innovation, within the Ministry of Economy, Innovation and Development. In 2011, Carlos Zorrinho was elected Leader of the Socialist Party's Parliamentary Group and following the 2014 European elections, he was elected Member of the European Parliament, where he holds a number of positions including Head of the Portuguese Socialist Delegation, Member of the and member Research and Energy (ITRE) Committee.

Knowledge Cafe



Dr Dan Remenyi has been a Visiting Professor specialising in research methodology at seven universities in four countries over the past 20 years. He continues to write, teach and research in both research methodology and the sociology of research. He conducts seminars on topics related to improving effective academic research and obtaining better re-

search results. One of his areas of specialism is qualitative research and how it may be enhanced using a Grounded Theory approach. He is on the editorial board of a number of academic journals. He is also on the executive committees of several European and International conferences. His research has been published in some 50 peer reviewed papers and he has had some 30 text books published. Some of his books have been translated into Chinese, Japanese and Romanian. He holds a B Soc Sc, MBA and PhD.

Mini-Track Chairs



Dr Marian Carcary is a senior lead researcher with the Innovation Value Institute, Maynooth University, Ireland. She has led a number of projects associated with development of IT-CMF. Marian also worked on a number of research projects with the Directorate General of Enterprise and Industry, European Commission. She previously taught in the University of Limerick, and has completed MSc and PhD.



Dr Jacek Cyprijanski is Associate professor in the Department of IT in Management, Faculty of Economics and Management at the University of Szczecin, Poland. In 1994 he received his Ph.D. from his home university.



Dr Eileen Doherty is a Research Fellow with the Innovation Value Institute, Maynooth University, Ireland. Her responsibilities include development of key aspects of IT-CMF. Prior to this position Eileen worked in the IT industry for almost 10 years. She has published 3 books and has published academic peer review journal papers in the area of SME, Innovation adoption and diffusion.



Dr habil. Małgorzata Łatuszyńska is a Professor at the University of Szczecin. She is author and co-author of about 160 publications, mainly in the area of simulation methods and tools of computer science in economics, management and transport



Dr habil. Eng. Kesra Nermend is a Professor at the University of Szczecin. He is author and co-author of about 90 publications mainly in the area of using quantitative methods and tools for the analysis of economic phenomena.



Tuan Yu has been a lecturer at Kent Business School since 2000 where he lectures in E-Commerce and Organisational Management. His main areas of research interest and activity are: Technology and Organization; Technology and Education; Operations and Service Management and Business Intelligence/Analytics and Data Science.

Contributing Authors

Adedolapo Akin-Adetoro is a Masters student at the Department of Information Systems, University of Cape Town. He had his educational career in Nigeria where he obtained a Bsc (Hons) (1:1) in Computer Science and Information Technology from Bowen University (2012). His research interest includes ICT for development, use of ICT in business and IS Management.

Al Barrak Khalied is a PhD candidate at Web and Internet Science (WAIS), University of Southampton. He holds a MSc Computer Science from King Abdullah University for Science and Technology (KAUST). In 2012, He joined King Faisal University as Lecturer in Management Information System department.

Henrique Carreiro is an invited lecturer at NOVA IMS, where it is also a PhD Candidate. Its research interests include technology adoption, cloud computing and mobility.

Jacek Cyprijanski, Ph.D. is a associated professor in the Department of IT in Management, Faculty of Economics and Management at the University of Szczecin, Poland. His current research interests include experimental economics, business intelligence and behavioural decision theory.

Koen De Maere is a PhD candidate in Information Technology Governance at the department of Management Information Systems of the Faculty of Applied Eco-

nomics at the University of Antwerp. He holds a Master of Science degree in IT Governance and Assurance from Antwerp Management School.

Jeanette Eriksson is Associate professor in computer science at Malmö University. She is responsible for Smart Health in the IoTaP Research Center. Jeanette Eriksson has a Ph.D. in Software Engineering from Blekinge Institute of Technology. She does research within context-aware consumer technology, smart health, technologies to support people with cognitive impairment and games for seniors.

Amelie Fan, doctoral student at Renmin University of China with a primary interest on record management and d-evidence. She worked on ISS design for two years in the City of Beijing and has been participating in several research projects on digital information management since 2014, including the Digital Records Management in Organizational Complex Systems project.

Jorge Ricardo Costa Ferreira is an Assistant professor at the Geography and Regional Planning Department, Nova University of Lisbon. He has PhD in Geography and Regional Planning, New Technologies in Geography. He develops his research activities on CICS.NOVA and his main topics are knowledge society, information dissemination, virtual geographies and geographic information system (GIS) applications.

Susan Grant research interests lie in the area of knowledge management across supply chain networks in manufacturing and service sectors. She is currently involved in a number of collaborative projects in the area, and has published widely in the field. Susan is course director for the MSc in Engineering Management at Brunel University, London, UK.

Olinkha Gustafson-Pearce is a module leader and lecturer in Graphic Communication in Design at Brunel University. Studied Graphic Information Design at Westminster University; completed her doctoral research work in Information Architecture at Brunel. Research work is Information Architecture emphasis on structure and navigation in Virtual Learning Environments, primarily virtual worlds. Researched into how to build effective virtual spaces for both education and public engagement. Founding member/fellow-Human Centred Design Institute.

Lars-Erik Hansen is since 2006 the Chief Archivist of The Swedish Archives of The White-Collar and Professional National Unions (TAM-Arkiv). He has also worked at the National archive of Sweden on the division for inspections and consultation. Added to this Lars-Erik is a doctor in history at the University of Stockholm. He

share in the research and development of archival science at the Mid Sweden University and teach about document management.

Miles Herrera is IT Governance Consultant working in the Financial Industry in the Netherlands where he is currently involved in COBIT implementations and Lean Six Sigma Improvement programs. He also follows a part-time executive PhD program at the University of Twente. Miles holds a university degree in Business Administration from the university in Rotterdam in the Netherlands.

Matthew Hinton is Senior Lecturer in Information Management at The Open University Business School. His research addresses the impact of e-business on operations and information technology evaluation, especially the performance management of e-commerce applications. He has published more than 60 academic articles and the undergraduate book *Introducing Information Management: the Business Approach*.

Kimberley Jackson has worked as a Software Engineer in a range of blue chip companies across the UK since completing her degree in Artificial Intelligence at the University of Leeds, Leeds, UK. This research forms part of an industry funded Masters degree in Applied Computer Science undertaken at the University of Brighton.

Yassine Jadi Doctoral student in E-government & E-commerce Institution at Tongji University studying under Professor Lin Jie. Thesis is "Efficiency Measurement of E-government performance for United Nation ranking index" addressing efficiency measurement of e-government performance and proposing new ranking index. Designed to be academic contribution examing development of e-government system around globe. Masters in computer/electrical engineering, Tongji University, China; BA in physics science from University of Mouhamed 5 in Morocco.

Rana Jacob Jose holds a BSc (Honors) in Information Systems Security from Staffordshire University, UK. He is currently pursuing his MSc in Information Systems at Sultan Qaboos University, Oman where he also serves as a Researcher. His research interest includes Information Systems Security, Cyber Physical Systems, Digital Forensics and Computer Networks.

Soudabeh Khodambashi is Ph.D. candidate and teacher assistant at Norwegian university of science and technology (NTNU). Her research background is in the domain of clinical process analysis and re-engineering, Information system

evaluation, clinical guideline development requirement engineering, clinical decision support systems and Lean management.

Alena Klapalová PhD Senior lecturer at Masaryk University, Faculty of Economics and Administration, Department of Corporate Economics and at College of Polytechnics Jihlava, Department of Economics Studies Czech Republic. Alena has a PhD in Economics and Management. Teaching focuses on Quality management, Logistics and Supply Chain Management, Marketing, Management, International, Global and Cross-cultural Marketing. Research interests are primary in Innovation and Knowledge Management and Reverse Logistics and Reverse Supply Chain Management, general Management, Social media and Customer/consumer behaviour.

Andreas Koczkas Is a doctoral student at the Gunilla Bradley Centre For Digital Business at The Linnaeus University in Växjö Sweden. His research focus on the economic value creation through the fit between product market strategies and business model themes.

Michal Krčál is a Ph.D. student finishing his dissertation at University of Economics and Administration at Masaryk University in Brno. His main research interest lies in IS justification, knowledge management and reverse logistics. He is teaching information systems and business process management.

Małgorzata Łatuszyńska is a Professor at the University of Szczecin. She is author and co-author of about 160 publications, mainly in the area of simulation methods and tools of computer science in economics, management and transport.

Tebogo Lucia Letlonkane holds a Bcom (NWU), Bcom Hon (NWU) and Mcom degrees in Computer Science and Information System (NWU), currently studying PHD in Computer Science. Her area of research interest is Cloud Computing, Green Technology and Databases. She is a lecturer of Computer Science at North-West University, South Africa.

Pawal Lustofin is a student of International PhD programme „Doctoral Studies in Economics, Finance and Management (EFM)” at the University of Economics in Krakow. In addition to that I lead a professional career focused on Information Technology management in large chemical enterprise. My academic interests focus on Information Technology evaluation; Cloud computing, Outsourcing, Enterprise Architecture and IT governance.

Tlou Maggie Masenya is a senior lecture in the School of Computing at University of South Africa (UNISA), Florida Campus in South Africa. Her areas of research interests include digital preservation, knowledge management, Technopreneurship and Innovation, E- health systems, E-Learning, Information Systems development, Information security and Mobile technology

Moleboge Emma Nhlapo: is a lecturer at North-West University (Mafikeng campus) since 2000. Her interest in research includes electronic systems, information systems research, scholarship of teaching and learning and information system development. She holds a master's degree in computer science from North-West University – Potchefstroom campus and a Bachelor of Science Honours in computer science from University of North West.

Sulaimon Olatunji is currently an MPhil student major in information systems at Business and management research institute at University of Bedfordshire Luton UK. Sulaimon earns his MSc Business Information Systems from the same university and a B.Sc. Business administration Olabisi Onabanjo University, Ogun state Nigeria.

Hiep Pham is a Senior Lecturer in the school of Business Information Technology and Logistics at the RMIT University, Vietnam. His research interests lie in the area of security management, security policy development and IT management. Currently he focuses on understanding organisational and personal factors to improve user security compliance in organisations.

Tlamele Phetlhu, D.com business management student at University of Zululand Prior to beginning the PhD program, Tlamele worked as a IT consultant and consulted on a variety of projects, her competencies include: Business Process Management, Business Intelligence, Systems Development, Information and Records management, Database Design and Implementation, Infrastructure Support, Project Management

Carlos Reis-Marques has a degree in Applied Mathematics, holds a Graduate Diploma in Management and an MBA. He is a PhD student in Information Management with research dedicated to IT-enabled Innovation. He is an expert in Strategy and Innovation with a career as Manager, Consultant and Lecturer with participation in international projects.

Hanife Rexhepi is a PhD student and holds a Licentiate degree in Informatics from the University of Skövde, Sweden. She also holds a Bachelor of Science degree in information systems, a Bachelor of Science degree in nursing and a Master of Sci-

ence degree in information systems from the University of Skövde, Sweden. Her current research is within the field of process orientation and knowledge management in healthcare.

Nancy Russo is a Visiting Professor in the IoTaP Research Center, focused on context-aware consumer technology and smart health. She has a Ph.D. in MIS from Georgia State University. Her work has appeared in *Information Systems Journal*, *Communications of the ACM*, and *European Journal of Information Systems*, and other journals, books, and conference proceedings.

Cândida Silva is an Adjunct Professor in Informatics Department at Management and Industrial Studies School, of the Polytechnic Institute of Oporto. She has a PhD in Information Systems and Technologies, is master in Industrial Engineering and a degree in Computer Science Engineering, all from University of Minho. She is a research member of Algoritmi Research Center, from University of Minho, and has over thirty scientific papers and scientific communications.

Maria José Sousa (PhD in Management) is a University Professor and a research fellow of Algarve University and BRU-ISCTE/IUL. Her research interests are information science, innovation and business management, with a particular focus on the learning and knowledge management processes. She has co-authored over 50 articles and book chapters and published in several scientific journals.

Anneli Sundqvist, PhD, associate professor in archivistics at Oslo and Akershus University College, previously senior lecturer in archival science at the Mid Sweden University. Her research interests are information behaviour and documentation practices, information representation, and material aspects on records. She is a member of the InterPARES Trust-team.

Maureen Tanner has been teaching systems analysis and design at the Department of Information Systems of the University of Cape Town since 2009. Her research interests lie in Agile software development related issues (for both collocated and distributed teams), UML, software engineering and social aspects of social engineering, global software development, virtual teams, and team collaboration.

Nelly Todorova is a senior lecturer in the department of Accounting and Information Systems at the University of Canterbury, New Zealand where she teaches at undergraduate and postgraduate level. Her research interests focus on Knowledge Management, IS value and Health Informatics. She has published in *Accounting Education*, *ISEJ*, *IJICTE*, *JKM*, *JCIT*

Gulfarida Tulemissova has 38 years of academic experience in Kazakhstan’s universities. Doctor, scientific degree of candidate of technical sciences on a specialty 05.13.18 – Mathematical modeling, numerical methods and program complexes. M.Sc. (Automated control systems), Kazakhstan Technical University, June 1978, Alma-Ata, USSR. 42 scientific articles. The member of Institute of Electrical and Electronics Engineers(IEEE), Royal Academy of Engineering(UK)

Geert-Jan van Bussel is a certified archivist and holds a Ph.D. in information and archival studies. He is Assistant Professor (Digital Archiving & Compliance) at [1] the Amsterdam University of Applied Sciences and [2] the University of Amsterdam. He is director of an international consultancy on strategic information management, digital archiving and governance.

Nuno Xavier Holds a Masters on Information Management specializing on Marketing and Market Research, a Post-Graduation on Information Systems by ISCTE and a Degree in Statistics and Information Management by Nova IMS. He is PhD Student and researcher at Nova Information Management School (Nova IMS), researching on citizen e-participation. He is Adviser at the Municipality of Lisbon.

Zahri Yunos is the Chief Operating Officer of CyberSecurity Malaysia, an agency under the Ministry of Science, Technology and Innovation, Malaysia. Zahri holds a PhD in Information Security from the Universiti Teknikal Malaysia Melaka (UTeM), Malaysia. He has contributed various publications related to cyber security. Zahri also has been appointed as Adjunct Professor at UTeM.

Research Papers

Towards a Model for Monitoring Public Services Projects in Saudi Arabia

Khalied Al-Barrak¹, Leslie Carr¹ and Matthew Ryan²

¹Electronics and Computer Science, University of Southampton, Southampton, UK

²Governance and Public Policy, University of Southampton, Southampton, UK

Abstract: Information and communication technology (ICT) has been adopted by many governments around the world in the form of e-government to facilitate service delivery to the public. Saudi Arabia is an example of such a country that has adopted technology with these aims, but there is a failure in enabling the engagement of citizens with government to deliver public services projects with assured quality standards. The failings are blamed on the system's lack of support for stakeholder oversight. In light of these inadequacies, more effective monitoring of project construction and project implementation is required in order to improve public service quality from a long-term perspective. Fixes have been proposed to the lack of two-way communication between citizens and the government by inviting feedback from citizens through social media and other communication channels, however, a cohesive overarching model that enables the engagement of citizens with government projects has yet to be devised. There is a clear need for a model that can be applied to design official systems to facilitate consultation between the government and the public and to invite feedback from key stakeholders throughout each stage of the project lifecycle. This paper proposes a conceptual model to facilitate citizens in monitoring the quality of public services and the progress of public service projects. It is designed based on an in-depth analysis of the available systems on the market, e-participation studies and theoretical work presented in the literature. The paper also recommends technologies and features that will facilitate the implementation of the model in different contexts.

Keywords: ICT4D; citizen science; E-participation; web technology; public services

Methods of Data Collection in Experimental Economic Games

Mariusz Borawski¹ and Kesra Nermend²

¹Faculty of Computer Science and Information Technology, West Pomeranian University of Technology Szczecin

²Faculty of Economics and Management, University of Szczecin, Poland

Abstract: The article is an overview of the methods of data collection, which can be used in experimental economic games. Authors will discuss methods that use questionnaires, cognitive neuroscience techniques, eye-tracker, motion sensors and others. Problems and possible benefits arising from the application of these methods for the design of the exemplary experimental game held in a virtual world will be described. The problem of obtaining data is very difficult. In the article, authors will propose alternatives to the methods that use questionnaires, observations and interviews. Methods presented in the paper are relatively new and rarely used in socio-economic sciences. The review of methods and their evaluation will allow researchers for better selection of methods to obtain data for their own experiments.

Keywords: Experimental economic games, virtual reality, neuroscience, data collection, eye-tracking.

A Dynamic Capability Approach to Digital Transformation: A Focus on key Foundational Themes

Marian Carcary, Eileen Doherty and Gerry Conway

Innovation Value Institute, Maynooth University, Ireland

Abstract: Digital transformation requires an enterprise mind-set and impacts every function and business unit of an organization. In the digital environment, digital technology needs to become central to how the business operates, and organizations effectively need to re-think and possibly re-invent their business models, so that they continually learn from interactions with customers, suppliers, and partners in the business ecosystem in order to remain competitive. These changes require a distinct evolution from traditional thinking - changes that some organizations are undoubtedly struggling with. For effective digital transformation, organizations need to expand their focus beyond solely considering technology in isolation, to include the underlying organizational capabilities necessary to be successful with technology. In fact, there is growing acceptance that adopting a

capability approach as opposed to a process-based approach to management can result in greater value generation for an organization. Successful digital transformation requires an organization to develop a wide-range of capabilities which will vary in importance depending on the business context and the specific organization's needs. Time and resource constraints, however, will undoubtedly challenge organizations that attempt to develop multiple capabilities simultaneously, and ultimately may impede the success of the digital transformation. Framed in the context of adopting a capability-based approach to digital transformation, this paper presents a review of pertinent literature, and discusses core learnings in relation to a number of key capabilities that are the foundation for digital transformation. The authors argue that instead of focusing on a holistic set of required capabilities, organizations should initially focus on developing these foundational capabilities, as they serve as a starting point for digital transformation and lead to the development of additional digital capabilities over time. The paper makes a number of contributions. From an academic stance, it conceptualises key foundational digital capabilities. From a practitioner perspective it provides practical guidance to organizations in overcoming key challenges when embarking on a digital transformation journey.

Keywords: Digital transformation, dynamic capability, IT/digital capability, digital culture, digital leadership, digital talent, digital business strategy.

‘The Digital Wild West’: Managing the Risks of Digital Disruption

Marian Carcary and Eileen Doherty

Innovation Value Institute, Maynooth University, Ireland

Abstract: Digital transformation requires entire organizations to change their traditional ‘modus operandi’ - reinvent their business models and business processes, rethink skill sets and investment strategy, and continuously learn from business ecosystem interactions. While these changes afford organizations significant value realization potential, the positioning of digital technology as central to the business and how it operates and generates revenue, proliferates the risks organizations may face. Digital risks encompass traditional IT risk categories (e.g. strategic, operational, financial) and an expanded set that are more specific to the transformational changes brought about by new and emerging technologies (e.g. industry displacement as a result of adopting a digital laggard stance). As distinct from a traditional mind-set where organizations are more risk averse, in the digital landscape digital leaders typically exemplify a higher tolerance and appetite for risk. However, despite the existence of multiple risk categories and a more

'risk on' attitude to technology, 43% of organizations in a recent survey did not recognise the risks of digital disruption or had not effectively addressed them. Organizational investments in, and approaches to, risk management are not keeping pace with digital transformation risks. However, given the changes brought about by digital transformation, it is recognized that organizations need to reconceptualise how they approach the management of risk. An organizational culture that embraces more entrepreneurial and active risk-taking behaviour in digital programmes must be balanced with the use of proactive risk management approaches that minimize the potential downside of risk exposure. This paper presents a review of pertinent literature, and discusses core learnings in relation to managing the risks of digital transformation. Based on literature analysis and insights gained from engaging with industry and academic thought leaders, it conceptualises a model that may be used to develop a digital risk management capability and support effective digital risk management. This model aims to serve as a basis for testing and further development in a future industry/academia collaborative research project and serves to provide practical guidance to organizations in managing digital risk.

Keywords: Digital transformation, digital risk management, digital risk management model, IT-CMF

A New Approach to Security Engagement from a Positive Psychology Perspective: A Conceptual Model

Hiep Cong-Pham¹, Linda Brennan², Joan Richardson³ and Jamal Elden⁴

¹Business Information Technology and Logistics, RMIT Vietnam, Ho Chi Minh City, Vietnam, ²School of Media & Communication, RMIT University, Melbourne, Australia, ³Business Information Technology and Logistics, RMIT University, Melbourne, Australia, ⁴School of Engineering and Information Technology, Charles Darwin University, Darwin, Australia

Abstract: Organizations develop and formulate security compliance policies and procedures to ensure employees' adherence to the security requirements as well as the protection of the data/information. In this study, we explore the use Positive Psychology to introduce positive enforcement factors namely Positive Organisational Behavior and enabling resources as determinants of security engagement. The proposed model focuses on developing positive traits by providing enabling resources that eventuate better maintenance of employees' security commitment and compliance that other compliance models have not clearly addressed.

Keywords: Security engagement, positive psychology, positive organizational behavior, security resources

Herd Behaviour in Online Auctions: A Case Study

Jacek Cypryański¹, Aleksandra Grzesiuk² and Edyta Rudawska³

¹Institute of IT in Management, University of Szczecin, Szczecin, Poland

²Department of Management, The West Pomeranian Business School, Szczecin, Poland, ³Institute of Management and Marketing, University of Szczecin, Szczecin, Poland

Abstract: Customers buying at online auctions have an immediate access to reviews of particular products left by other customers. They can also exchange their opinions about the purchased offers or their sellers. However, as the seller cannot be contacted directly and the purchased product cannot be checked, buying through online auctions entails a high risk for the buyer. Due to the fact the uncertainty and impersonal nature of online transactions may be determining to the online purchase decision-making process, factors, which can decrease information asymmetry between the seller and the buyer, are being focused on at present. On one hand, factors, which are most often discussed in the literature include price, the way information about the product and the product itself are presented as well as seller's reputation measured by the number of positive reviews on the site. Also, earlier research conducted by the Authors of this study has proved that there is a statistically significant correlation between such auction features as the way an auction is described or shipping costs and the number of sold items and hits on the auction site. On the other hand, the influence of other customers on purchases made by users of online auctions is less often analysed. Thus the purpose of this article is to identify the influence of herd behaviour on buying behaviour of customers purchasing at online auctions. The case of Omnia Trade discussed in the paper suggests that copying choices made by other customers become the main reason for purchase decisions. As the enterprise quickly responded to changes in market conditions, namely to changes in the rules of Allegro auction site, it was able to outstrip its competitor. Between January and February 2015 herding enabled Omnia Trade to increase the dynamics of the number of transactions and sales on an unprecedented scale (quantitatively and qualitatively), reaching 40%-60%, outrunning its competitor, which experienced a decrease in dynamics by 5-6 percentage points.

Keywords: Online auctions, buy-it-now auctions, purchasing behaviour, herd behaviour

Development of an IT Strategic Planning Capability for the Digital Age

Eileen Doherty, Marian Carcary and Gerard Conway

Innovation Value Institute, Maynooth University, Ireland

Abstract: The quest to ‘digitize’ has been identified by practitioners and academics as one of the key strategic decisions an organization must make in order to remain competitive in this fast moving highly digitized business landscape. However, organizations are struggling with IT strategic planning in this context whilst striking a balance between planning, developing and delivering on the IT vision of the organization whilst at the same time exemplifying ‘agility’ a key characteristic of digitized organization. This research seeks to outline the key facets of IT strategic planning by examining the IT Strategic Planning critical capability of the IT Capability Maturity Framework™ (IT-CMF™) through a digital lens. It seeks to elucidate how IT strategy needs to evolve to remain relevant and effective. This output of research will be a roadmap for organizations to implement IT strategic planning in a digital environment in order for them to best position themselves for success and in order for them to remain competitive. A multi-method approach was adopted; firstly, a design science research approach was used to build and evaluate innovative artefacts. This phase engaged a group of subject matter experts (SMEs) from industry and academia with knowledge in IT strategic planning. The outcome of which was an ‘IT Strategic Planning’ capability developed as a key component of the IT Capability Maturity Framework™ (IT-CMF™). The second phase, built upon this artefact and was supplemented by the relevant literature on IT strategic planning and how it has evolved with the emergence of digitization within the organization. Finally, a rigorous analysis and review of these two approaches was undertaken, by the same group of SMEs, resulting in the development of an IT strategic planning capability that was digitally relevant. This research is of particular importance to organizations and practitioners interested in digital transformation and the implications this may have for the development of their IT Strategic planning capability and digital strategy. It is also very relevant to academics and researchers who are interested in the development of IT/digital strategy demanded by digitization.

Keywords: Digital strategy, IT strategic planning, digitization, digital business culture, business strategy

Barriers and Enablers to Supply Chain Knowledge Sharing Using Social Media Platform

Susan Grant

Brunel University, London, UK

Abstract: This research looks at the idea of interactive supplier social networks (SSN's), a novel and comparatively unexplored area in the field of supply chain management. The paper aims to understand the motivations prompting suppliers in a horizontal supply chain to share knowledge within a supplier network. A social constructionist perspective is employed to explore the factors that motivate/prevent engagement in knowledge sharing using social media tools from a customer and supplier's perspective across an insurance supply chain. The findings reveal corporate and industrial culture, work routines, technology, and a high regulatory environment can have a limiting effect on the generation of voluntary engagement in knowledge sharing behaviour between organizations and their supply chains in the insurance sector.

Keywords: Knowledge sharing, supply chains, Insurance industry

Supply Chain Knowledge Networking Using a 3D Virtual World Environment

Olinkha Gustafson-Pearce and Susan Grant

Brunel University, London, UK

Abstract: The specific aims of the paper are to highlight the use of 3D Virtual World (VW) tools for knowledge sharing (explicit and tacit knowledge) within a complex supply chain managed by a principal insurer. A set of web based tools, applications and exercises supporting the formation of communities of inquiry and promoting learning through social interaction is presented. These results are from a pilot study that was run over a 4 month period across an insurance supply chain, to explore how suppliers and the principal insurer shared knowledge using these tools. With the IoT (Internet of Things) generating multiple sources of 'streamed' data, the potential for using this type of data in a format that allows users to access data that is 'understandable' to them, is expanding. The paper focusses on one of these tools, a 3D web based Virtual World environment. Within the insurance industry, and specifically home insurers, a key priority is to have current and meaningful data on physical events and conditions available to their stakeholders and members of the supply chain. This is to enable them to make

correct and timely decisions on claims, for example, weather related claims. Therefore an environment was designed and created, which used live streaming data from the United States Geological Survey, and a variety of VW tools and techniques to illustrate this data, and to orient it to make it relevant to the home claims teams. The use of social media tools such as Virtual Reality (VR) presents a new set of challenges to organizations that are not used to managing knowledge and information transfer in this way, and where lessons learnt from research endeavours into the use of VR/VW technology in knowledge management, are limited.

Keywords: Knowledge sharing, virtual world environment, IoT, virtual reality, streamed data

A New Function: A New Archivist?

Lars-Erik Hansen¹ and Anneli Sundqvist²

¹TAM-Arkiv, Stockholm, Sweden, ²Department of Archives, Library and Information Studies, Oslo and Akershus University, Oslo, Norway

Abstract: The development of information technology has brought about considerable changes in communication practices, production and work processes, which has rendered an enormous proliferation of information and records. This development challenges records and archives management practices and bring about new requirements on the functions and professions that are involved. The aim of this study is to analyse how the archives function in Swedish governmental agencies have evolved during the last decades, and how they have transformed due to the implementation of digital solutions that had an impetus in the early 2000s. The present study describes how competencies have been re-organized, how the division of work and responsibility between different functions and professional groups have been affected, and how the distribution of strategic and operational activities has changed. The analysis, based primarily on findings from observations and interviews from three large governmental organizations, identifies ideal typical traits of the archives function before and after digitization. In the original state of the archives function before extensive digitization, paper documents are prevalent. Archives management takes place in close proximity with records creation and records management activities. After digitization the physical archives are moved to one central premise, thus separated from the records creating units. The result of the digitization process is that paper-based archives are moved to central repositories, sometimes using services of external contractors, and many of the basic operational archival tasks carried out prior to a comprehensive digitization to a lesser extent are performed close to the records cre-

ating functions. What remains of the archives function within the organizations are the management of digital information, which means that a partially new function with new tasks of a strategic character is emerging, while many operational tasks are disappearing. The archives function is being converted from a primarily operational function, by nature locally situated, to a centralized expert function.

Keywords: Archives management; competence; functions; re-organization; technological change

Exploring the Obstacles Facing the Adoption of the Internet of Things (IoT): A Case Study in Oman

Rana Jacob Jose¹, Ali H. Al-Badi¹ and Oualid Ali²

¹Department of Information Systems, College of Economics and Political Science, Sultan Qaboos University, Muscat, Oman

²Training and Smart Solutions Center (TSSC), German University of Technology in Oman (GUtech), Muscat, Oman

Abstract: Since our arrival into the 21st century, the concept of inter-connected devices has been gaining much attention, and having everyday objects communicate with each other over the Internet to create a digital world is becoming increasingly popular. These objects may now be controlled and managed remotely, thereby offering vastly increased convenience and efficiency. The nature of these devices can range from being a heart monitoring transplant to a home thermostat. This phenomenon is widely known as the Internet of Things (IoT). Although there has been speculation about the tremendous growth potential of this concept there are several concerns, which the industry has tried to address over the years. This research work investigates the challenges facing the adoption of the Internet of Things (IoT) in Oman with the aim of providing a set of recommendations to overcome these issues that limit its integration into the mainstream infrastructure. Based on the nature of the challenges that the domain faces, they were studied under the dimensions of ‘Standardization’, ‘Security and Privacy’, and ‘Bandwidth’. The research also discusses the outlook of the public in accepting such a technological platform in Oman, this being pivotal in determining the success of the platform. Interviews and questionnaires were the selected instruments used to drive this research, these having proved instrumental in gaining a deeper understanding of the applicability of the Internet of Things (IoT) platform in relation to the local context. Research findings show that ‘Security and Privacy’ stands out clearly from other concerns such as the possibility of Internet Bandwidth constraints to support such a platform, as well as the setting up of a com-

mon set of standards that governs the platform for interoperability and compatibility. The public lack of confidence in the technology fuels their resistance to change regarding the adoption of the Internet of Things (IoT) in Oman.

Keywords: Internet of things (IoT), networking technologies, standardization, security, internet bandwidth, Oman

The Size of Firms and IS/ICT Employment in Reverse Supply Chain Management

Alena Klupalová

Masaryk University, Faculty of Economics and Administration, Brno, Czech Republic

Abstract: In contrast to the forward supply chain management literature the evidence of the utilization of IS/ICT in reverse supply chain management is very sparse. One of the reasons can be the different size of firms. This paper presents the comparison of IS/ICT employment in management of reverse supply chains among the small, middle and large firms. The aim of the comparison is to contribute to the existing knowledge of different patterns of behaviour of firms grounded in their different size in connection with the IS/ICT utilization with the focus on the relatively specific area of management. Results of the empirical survey can serve as the starting point for further investigation as well as for the practitioners from IS/ICT business and their customers – managers of reverse supply chains - to develop the adapted or new applications of IS/ICT for these types of flows and the different size of firms as well as of volumes and types of flows and character of processes. Calculations of frequencies, relative frequencies, Means and chi-square tests as well as post hoc Anova were used for the statistical analysis of data.

Keywords: IS/ICT employment, reverse supply chain management, barriers, size of firms

Penetration Effect on HR Portals Enhancement Justification: Initial Evidence From Expert Interviews

Michal Krčál

Faculty of Economics and Administration, Masaryk University, Brno, Czech Republic

Abstract: Despite previous studies and theory development, the practice of justification of information systems has not been evolving accordingly. Companies still struggle with finding justifiable reasons to implement strategically important information systems and they are reported to resort to trust, faith or instinct when dealing with intangible benefits. Enterprise Information Portal is a technology that can bring both tangible and intangible benefits. This study focuses on an insufficient theoretical knowledge about justification of a specific type of Enterprise Information Portal - Human Resources Portal (HR portal). The goal of this investigation is to explore why do companies implement HR portals, how are they justifying HR portals, and how are they incorporating intangible benefits into the justification process. For the purpose of this study, semi-structured expert interviews were conducted. The sample consists from two respondents employed at HR portal vendor and from two respondents from different companies that are using the vendor's HR portal. Namely, it is HR portal consultant, HR portal branch director, and HR portal administrator and HR portal key user. The results show that although the initial decision about using HR portal seems to have a tangible economic rationale, the consequent development of further portal features is not usually justified according to tangible benefits. The reason for this could be the "penetration effect" of easily justifiable initially implemented features. This effect is grounded in previous positive experience with the initial justification and user satisfaction with the portal. Therefore, the "penetration effect" makes it easier for decision makers to trust or have faith that the intangible benefits will be beneficial and they do not seek for more detailed information. The main outcome of this study is creating of conceptual justification model that will be further refined in proposed subsequent research. This study is one of the few attempts to enhance the body of knowledge of justification of Enterprise Information Portals.

Keywords: Justification, HR portal, enterprise portal, intangibles, decision making, IS business value.

When Cloud Does not Fit: Experience From a Single Case Justification Study

Michal Krčál¹ and Jan Tomíšek²

¹Faculty of Economics and Administration, Masaryk University, Brno, Czech Republic

²Faculty of Law, Masaryk University, Brno, Czech Republic

Abstract: The goal of this study was to explore the possibilities of implementing a cloud solution for an enterprise information system in SME in real estate sector and to explore facts and “myths” about benefits and suitability of cloud solutions specific for SMEs. This study also presents and discusses the propriety of use of The Open Group Architectural Framework (TOGAF) for analysing Enterprise Architecture in SME. In order to fulfil the goal of this research single-case study methodology was employed. TOGAF was used for as-is analysis of the current enterprise information solution and for analysis of requirements for possible cloud solution in SME in service sector. This study is one of the few studies which show that cloud solution is not necessarily beneficial for SMEs and that on-site solutions can still have an economic rationale for them. The lack of cloud products and integration providers (cloud brokers) is another interesting finding of this study. Further research should focus on the possibilities of the supply of cloud brokers for SMEs and on enablers that are necessary for beneficial adopting of cloud-based solutions for SMEs.

Keywords: Cloud computing, SME, justification, TOGAF.

Experiment Versus Simulation in Economics

Małgorzata Łatuszyńska

Faculty of Economics and Management, University of Szczecin, Poland

Abstract: Similarly to many other fields of science that are today inseparably associated with experiments, for many years economics has been regarded as the science where experimental methods cannot be used. And even though the number of economic experiments is growing year by year, it is impossible to perform experiments on the economy as a whole. What is more, many economic phenomena cannot be subject to experimental manipulation due to practical, ethical or technological reasons. In such cases it is the computer simulation that can help economics reach the status of a fully fledged experimental science. But does the epistemological value of a computer simulation equal that of a traditional eco-

nomics experiment? The purpose of this article is to attempt to answer this question.

Keywords: Computer simulation, experimental economics

Cloud Storage Usage by Students of the North West University South Africa

Lucia Letlonkane, Michael Esiefarienrhe Bukohwo and Goitseone Molehabangwe

North-West University, Mafikeng, South Africa

Abstract: Cloud computing has emerged as a field of interest to most researchers in the Science, Technology and Engineering disciplines for more than a decade. The industry refers to cloud computing as the fifth public resource after water, electricity, gas, and oil. Cloud computing is not a particular product, but a way to transform the way in which current enterprises' IT infrastructure is constituted and managed through consumable services such as platforms, applications and infrastructure. Students form a broader group of consumers targeted by the market when it comes to data storage. Students depend on data storage devices for submitting, receiving, sending, modifying and storing educational content. Traditional means of data storage constitute a challenge to students through corruption, theft, immobility and loss of important contents. The paper seeks to critically examine and evaluate the adoption and usage of cloud storage by students in Northwest University, South Africa. The paper begins with a brief introduction of cloud computing, and followed a quantitative descriptive type of research where questionnaires were used to collect data. The questionnaires were analyzed using statistical means and presented in tables. The findings revealed that lack of knowledge and awareness of cloud computing in the student populace causes the current slow rate of usage and adoption of cloud storage applications. The results obtained also highlighted the need for introduction of cloud computing into lower level computer modules in the institution. Wi-Fi hotspots within the institution will give easy internet access to students to access their information stored in the cloud. The study also recommended information sharing between lecturers and students which will improve communication.

Keywords: Cloud computing; infrastructure; data storage; Cloud storage applications; Cloud usage and adoption rate; higher institution of learning

IT Project Management Practices in Olympic Summer Games_Rio2016 Case Study

Fabiano Lima¹ and Maria José Sousa²

¹Business Research Unit, Lisbon University Institute, Lisbon, Portugal

²Universidade Europeia, Lisbon, Portugal

Abstract: Olympic Summer Games is a well-known megaproject, which fascinates many people in the world, not only because of the sports, but as well as, for the management practices applied on its organization. Rio2016 is the first edition of The Olympics in South America and based on that the eyes of the world are on the project, especially to understand the readiness status of the city to host this multi-sport mega event and the planning processes and techniques, which have been applied on it. In the Organizing Committee of Olympic Games (OCOG) technology represents one of the most important pieces of this puzzle. Nowadays is almost impossible to have an event of this magnitude without technology support, and for this reason technology area has one of the highest budgets of the OCOG. Technology does not have, in general, a high rate of success in project management, but in this kind of project, there is not a second chance. It is mandatory to have a simple, trustworthy, and transparent project management practice implemented in the entire IT department able to provide quickly the required information to the executives to make decisions. This study intends to address the topic first doing a broad and deep literature review to gather the theory and methodological tools to support the researcher to evaluate the research findings. A case study in Rio2016 project was conducted to understand what kind of project management practices IT department has been applying and what the proportion of knowledge used from previous games is. Researcher could observed that Rio2016 IT department has been applying known project management practices based on PMI standard called PMBOK and in specific Olympics Games products, which means that a mix of project management artefacts have been supporting OCOG needs. Olympics do not have space neither a chance of failure that puts a high pressure on IT teams to manage their projects to achieve the goals agreed with IOC, partners, providers, and clients.

Keywords: IT Project management, Rio2016, Olympic Games, megaproject management,

CSIRT Management Workflow: Practical Guide for Critical Infrastructure Organizations

Nurul Mohd, Zahri Yunos, Aswami Ariffin and Azlan Nor

CyberSecurity Malaysia, Selangor, Malaysia

Abstract: Cyberspace, including the Internet, has become an indispensable part of modern life. While development in the field of Information and Communication Technology (ICT) allows for enormous gains in efficiency and productivity, it has created opportunities for those with devious ambitions to cause havoc and harm. The potential for catastrophic cyber-attacks that can cripple nations' critical infrastructure operations is worrying. Critical National Information Infrastructure (CNII) is deemed crucial for a nation because the disruption of systems and communication networks could significantly affect the nation's economic, political, strategic and socio-economic activities. The capability to have a functional enterprise CSIRT is seen as closely connected to the concept of critical infrastructure protection. In this article, it is proposed for CNII organizations to establish a Computer Security Incident Response Team (CSIRT), which provides systematic guidance regarding the organization's information security risk management to an acceptable level. This article presents a narrative description of the structure, responsibilities and workflow of CSIRT structure. The present case study describes the roles and responsibilities of each team in the taskforce, the type of services and management workflow/processes in the CSIRT structure. The findings indicate the justification and importance of having CSIRT to ensure and maintain security of CNII.

Keywords: Critical National Information Infrastructure (CNII); Critical Infrastructure; CSIRT; Cyber-attack

Probing the Factors that Influence the Effective Utilization of e-library: NWU Case

Moleboge Emma Nhlapo and Dineo Magdeline Rakomane

North-West University Mafikeng Campus, Mahikeng, South Africa

Abstract: The connectivity revolution and cloud computing have led to a world at your fingertips and this has also evolved to libraries. The traditional library has evolved into the electronic library (e-library) whereby electronic books, journals, magazine and newspapers are made available to students, researchers and others at a touch of a button. The NWU Mafikeng campus is experiencing low usage of

the e-library. The use of e-library can be extremely beneficial to students and researchers as it enables faster and wider access to academic information. This research aims to evaluate the factors that influence the utilization of e-library at the North-West University (NWU) Mafikeng campus; assess the extent to which students utilize the e-library; determine the issues experienced by students who utilize the electronic library; and to make recommendations on how the use of the electronic library can be improved at NWU Mafikeng campus. A quantitative research using a positivistic survey was conducted at NWU Mafikeng campus. Statistical methods were used to analyse data from questionnaires using the SPSS software package. The research has outlined the importance and issues associated with the use of e-library. The research shows how e-library is used by students in a South African rural setting. The research shows that significant improvements to information and communication technology (ICT) infrastructure have been made by the university to support e-learning and e-library. The ICT skills of the students are adequate for using e-learning and e-library. The results highlight the importance of level of skills of the students and training to effectively use the e-library. The results show that the awareness, training and usage of e-library at NWU Mafikeng campus should be improved. The conclusions and recommendations on how to improve the overall usage of e-library at NWU Mafikeng campus are discussed at the end of the paper.

Keywords: Electronic library, information and communication technology, NWU Mafikeng campus, students, benefits of e-library and issues of e-library.

Georeferencing the Country Codes of Top Level Domains (.pt) in Lisbon City: Spatial Analysis of Urban Innovation

Jorge Ricardo Costa Ferreira and Teresa Santos

Faculty of Social Sciences and Humanities, CICS.NOVA - Interdisciplinary Centre of Social Sciences, NOVA University of Lisbon

Abstract: Internet is a global network. Individuals and companies have realized the value of location and because geographic space suffers distortions by an increasingly importance of techs, it is imperative to associate to this Internet virtual space, a physical perspective that identifies an origin, by connecting the virtual to its physical or territorial location. In this context, the country code top level domains registration (ccTLD) is very important and works like an anchor to our everyday space. So when we want to visit to the UK Google's page we go to www.google.co.uk and when you want to see the Portuguese Google page you

write on your computer www.google.pt. Therefore and due to the importance of creating a link between identity and its place of origin or to associate a name, a brand, an image or a product to a country, it is important to have a ccTLD registration. Using data provided by the National Foundation for Scientific Computing, now part of the FCT (Foundation for Science and Technology), it was possible to georeference the location of ccTLDs by Zip codes. Using spatial analysis performed by Geographical Information Systems (GIS) like clustering or hot spot analysis it was possible to analyse potential relations between ccTLDs and economic activity, old and traditional CBD and demographic variables to capture some of the urban dynamics. The aim of this paper is to map the registration of all the ccTLDs (.pt) in the municipality of Lisbon, using GIS spatial analysis to:

- a. Analyze the distribution of ccTLDs and its relation with economic activity in Lisbon city at parish level;
- b. Observe its correlation with economic activity, urban variables like traffic ways and number of companies registered by parish;
- c. Identify hot spots and clusters and find spatial patterns;
- d. Identify emerging business areas within the city.

Keywords: Internet, geography, country code top level domains, GIS, spatial analysis, innovation, urban analysis.

Crowdsourcing: Innovation for Information Systems Intermediaries

Cândida Silva^{1,2} and Isabel Ramos²

¹School of Management and Industrial Studies, Polytechnic Institute of Oporto, Vila do Conde, Portugal

²Center Algoritmi, School of Engineering, University of Minho, Guimarães, Portugal

Abstract: The open innovation paradigm proposes the use of external and internal ideas, and internal and external paths to market, as means to reach advances in technology used by companies. Its basic premise is open up the innovation process. An intermediary has the benefits of knowing many realities and of having a deep knowledge about the market given that they have the experience of contacting with several companies which compete in the same market. So, they can be seen by companies as a way of opening up their innovation process to outside company' boundaries. However, intermediaries often are restricted to their influence and knowledge area, which means that potentially their experience will be in the same business market, and with a small range of diversity of distinct knowl-

edge and expertise. This paper presents an empirical study conducted with information systems intermediaries that explains how they potentiate their customer's innovation and discusses that crowdsourcing could be used by these intermediaries as a mean of improving and accelerating the innovation process. Semi-structure interviews were conducted to obtain qualitative data. Four intermediaries with headquarters in Portugal and with business aboard, that have business of technology and knowledge transfer with big companies and a diverse client portfolio. The data were analysed according to Ground Theory analysis procedures. The main result was a model of knowledge that explains the activities developed by the companies to create and capture value, internally and externally. It appears that the activities of creation and capture of internal value are fairly consolidated, however, the external value capture are still quite incipient and there are some difficulties in the sharing and the spread of internal knowledge.

Keywords: Open innovation, crowdsourcing innovation, information systems intermediaries, innovation process.

The Influence of Telecentres on the Psychological Empowerment of Underserved Community Members

Maureen Tanner and Muhammad Ameer Osman

University of Cape Town, Cape Town, South Africa

Abstract: ICTs and ICT4Ds are powerful socio-economic enablers within developing countries and provide members of “underserved” communities within these countries with tools for self-empowerment and circumvention of inequalities. Telecentres provide public access to ICTs to meet the educational, social, psychological and economic needs of a community. However, few studies have focused on the psychological influence that telecentres have on members of “underserved” communities in which they are situated. This study addresses this gap by investigating the perceived influence of telecentre components on the psychological empowerment of “underserved” community members in Cape Town, South Africa. This study is interpretive and has been executed through the use of a qualitative case study. Deductive in nature, the research was guided by a conceptual model depicting constructs (intrapersonal factors, interactional factors and behavioural factors) related to the psychological empowerment of telecentre users. The research findings confirm that the various components of telecentres such as services, entrepreneurial support and training positively influence and contribute to the psychological empowerment of “underserved” community members. In particular, telecentre services help improve participants' ability to cope in their

daily lives, perceived control, motivation, self-determination and positive attitude. Entrepreneurial Support helps improve participants' self-efficacy, self-confidence, self-belief, and leadership skills. Computer literacy training helps improve participants' perceived control, competence, self-belief, motivation, self-esteem, and decision making. The findings could improve our understanding of the relevance of various components of telecentres towards leveraging psychological empowerment. In practice, emphasis could be placed on the implementation and elaboration of the more significant components of telecentres within "underserved" communities.

Keywords: Computer literacy training, telecentres, "underserved" communities, psychological empowerment

From Data to Decisions: A Case Study of Capability Assessment in a Health Organisation

Nelly Todorova and Kit Hoeben

University of Canterbury, Christchurch, New Zealand

Abstract: The value proposition of data analytics tools and systems is that they enable improved decision making and better understanding of business processes and customer experience. However, many organisations struggle to implement and utilise data analytics tools as they underestimate the requirements for organisational capabilities to support the adoption of data management systems. This case presents a health organisation going through a data driven transformation of processes. The Health Board has made significant investments in data visualisation and analytical tools. However, the use of data in making decisions and delivering services has been limited. This paper assesses current use of the data analytics and management tools within the organisation based on interviews, observations and documentations. This data is then analysed within a context of data driven decision making framework to identify existing strengths and capabilities and areas for improvement. The case study illustrates the importance of integration of management and technical capabilities within the organisation.

Keywords: Data analytics, capabilities assessment, IS evaluation

Sharing of Teaching Staff Information via QR-code Usage

Gulfarida Tulemissova, Indira.Bukenova and Arman.Korzhaspayev

Almaty Management University, Almaty, Kazakhstan

Abstract: The article "Sharing of teaching staff information via QR-code usage" presented at the conference, which has the common name "Information Systems Management and Evaluation ». One of the most famous information systems in user practice is an information system - "Human Resources Information System" (HRIS), which is essentially a database of the HR organization, which in itself does not provide any management decisions and need a special person who to this database is constantly filled and made changes. In this article, based on the analysis of empirical data is offered a specific solution for database management of HRIS remotely by members of the company. The process of personnel management becomes more effective and operational with the help of one of the technologies IoT- QR code. University Information about the instructors are constantly changing and the human resources department is necessary each time to make changes to the database. There are cases when you need urgent information on the teacher, and it is impossible to obtain an instant on a number of subjective reasons. QR code technology offers amazing features such as:

- Easy access
- Deeper relationship with customers
- Bridge online and offline media
- Real-time information
- Invoke user's curiosity

These technologies can provide information about the teachers for students, undergraduates, doctoral students, researchers and administration. Files using this technology consist of not only text but also videos in 3D animation. This article describes a practical example of the use of IoT technologies - QR code to improve the efficiency of the automated human resource management system (for example, Almaty Management University). The purpose of this work: to show the ways to improve the information system "Human Resources Information System" (HRIS) through the use of user-friendly, intuitive and fast QR code technology.

The object of study: the work of the personnel department, IC 'Human Resources Information System' (HRIS)

- Research model: observation, cross sectional model
- Variables: behavioral variables
- Methodology: analysis of the usage and importance of QR code for users.
- The results of studies: the formation of stable opinion of the importance of the QR code.

- Criteria for evaluation of thinking: creativity, innovation and technological advancement
- Findings: not fully disclosed the potential of QR code technology has a significant impact on society.

Practical implications: all the legal information about the instructors optically encoded from paper, which definitely contributes to the idea of open systems. It provides simplicity and high reading speed and user interaction with the information.

Keywords: QR code, human resource information system, new content, IoT and IoE, physical web, file formats

An Accountability Challenge: Capturing Records and Their Context in Enterprise Information Systems

Geert-Jan van Bussel

Faculty of Digital Media and Creative Industries, Amsterdam University of Applied Sciences, Amsterdam, The Netherlands

Abstract: More than 80 % of all information in an organization is unstructured, created by knowledge workers engaged in peer-to-peer networks of expertise to share knowledge across organizational boundaries. Enterprise Information Systems (EIS) do not integrate unstructured information. At best, they integrate links to unstructured information connected with structured information in their databases. The amount of unstructured information is rising quickly. Ensuring the quality of this unstructured information is difficult. It is often inaccessible, unavailable, incomplete, irrelevant, untimely, inaccurate, and/or incomprehensible. It becomes problematic to reconstruct what has happened in organizations. When used for organizational policies, decisions, products, actions and transactions, structured and unstructured information are called records. They are an entity of information, consisting out of an information object (structured or unstructured) and its metadata. They are important for organizational accountability and business process performance, for without them reconstruction of past happenings and meaningful production become an impossibility. Organization-wide management of records is not a common functionality for EIS, resulting in [1] a fragmentation in the management of records, where structured and unstructured information objects are stored in a variety of systems, unconnected with their metadata; [2] a fragmentation in metadata management, leading to a loss of contextuality because metadata are separated from their information objects; and [3] a declining quality of records, because their provenance, integrity, and preservation are in peril. Organizational accountability is based on records and

their context to reconstruct the past. Because records are not controlled by EIS, they can only marginally be used for accountability. The challenge for organizational accountability is to generate trusted records, fixed and contextual information objects inseparately linked with metadata that capture context to regain evidential value and to allow for the reconstruction of the past. The research question of this paper is how to capture records and their context within EIS to regain the evidential value of records to allow for a more robust organizational accountability. To find an answer, we need to pay attention to the concept of context, on how to capture context in metadata, and how to embed and manage records in EIS.

Keywords: Accountability, context, records, metadata, information value chain, enterprise information systems

PhD Research Papers

Exploring Organizational Learning in the Context of IT Governance

Koen De Maere and Steven De Haes

University of Antwerp, Antwerp, Belgium

Abstract: *“Why is it that, despite the large amount of studies on IT governance, many professionals still fail to put these theories into practice?”* Building on the above question, we reviewed the extant literature in order to investigate how organizational learning theories can help in understanding the gap between the “theory” and “practice” of IT governance. This gap is an important concern for executives and for academia who aim to ascertain that theories developed at universities are consistent with the practices applied in the workplace in order to derive the predicted benefits. While much is known about the capabilities required to successfully implement an IT governance framework, less progress has been made in practice in realizing capabilities. Our goal is to deliver a comprehensive overview of the organizational learning theories, providing guidance on how organizations can implement and continuously improve their IT governance. Our findings indicate a relationship between organizational learning and successful IT governance adoptions. We first provide an overview of the distinct organizational learning theories. Next we summarize lessons learned from past research related to learning at individual, group and organizational level. Thereafter we provide important recommendations for practitioners, with regards to the required capabilities to develop IT governance in the organization. These capabilities represent a T-shaped portfolio of skills including: knowledge of IT governance, IT competence of the business, business competence of IT, shared interpretation (e.g. terminology related to IT governance), shared understanding, internal commitment, group dynamics, trust and the creation of a shared vision. Many studies have confirmed that the presence of these skills in the organization lead to improved IT governance and business IT alignment. We conclude by summarizing the most important research gaps that inhibit organizations to apply IT governance successfully.

Keywords: Organizational learning, IT governance, business IT alignment, organizational development, enterprise governance of IT

How to Define Lean IT Services Organization Wide: An Action Design Research

Miles Herrera and Jos van Hillgersberg

Twente University, Enschede, The Netherlands

Abstract: As organizations become more digitized, their focus is shifting away from tactical and operational IT issues like efficiency, service delivery and cost reduction to more strategic and organizational priorities. This changes the focus of IT organizations from internal operational excellence, supported by IT reference frameworks, to effective value creation and the customer experience. This change asks for new ways of defining IT services and the underlying operations. In this research, we performed an Action Design Research (ADR) combining elements from Lean best practices and SQuaRE quality measurement framework. The ADR takes place in a financial services organization where IT frameworks like ITIL and COBIT have deep roots and teams are often heavily focused on activities and controls instead of improving end-to-end processes designed to deliver customer value. The ADR artefact design is applied to five IT teams located in two global locations and impacting approximately 100 IT professionals. It comprises a framework to redefine IT Services with their respective baseline measurements. During consecutive ADR cycles, teams became aware of the lack of customer focus in their current day-to-day activities and jointly contributed to and tested the artefact. As a result of the different ADR iterations, the IT teams had a common way to redefine their IT services. They took an organization wide approach to reviewing processes in a customer driven and standard way. The utility perceived by the teams can be described as a disentanglement of existent process complexity focusing on customer value and support for the right measurement definition. This performance measurement definition will support the creation of a baseline for continuous process improvement. The next steps in the research will be to extend the framework with components to manage behavioral change and day-to-day service improvement.

Keywords: IT continuous process improvement, lean IT, IT value creation, IT service management

An Implementation Framework of Business Intelligence in e-Government Systems for Developing Countries

Yassine Jadi and Lin Jie

School of Economics & Management, E-government & E-commerce Inst. Tongji University, Shanghai, China

Abstract: Business intelligence is emerging as one of the key features of policy decision makers, and government that want to step up to the technological plate and deliver services to their citizen need to keep track of an immense amount of data collected each day for making “just-in time” decision or forecasting for the long term. In spite of taking lots of initiative for computerization and e-government web portals, the government decision makers are currently having difficulty in obtaining meaningful information in a timely manner, therefore the accompanying business intelligence functions to create highly efficient, productive environments in which transactional and analytical functions operate cooperatively and efficiently should be applied in parallel manner with data collecting process. In our paper we analyze and suggest an implementation framework of Business intelligence in morocco e-government system.

Keywords: E-government, business intelligence (BI), data collecting process

Information System Support for the WHO Clinical Guideline Development Process: A Case Study Approach

Soudabeh Khodambashi and Øystein Nytrø

Department of computer and Information Science, Norwegian university of science and technology, Trondheim, Norway

Abstract: Clinical guideline developer organizations benefit from information systems’ support in authoring and publishing guidelines on the web. The guideline development process is complex and time consuming, and requires collaboration among different stakeholders. Although different groups and organizations have their own approach to clinical guideline development, reflecting their methods and preferences, they all show similarities with a workflow proposed by the World Health Organization (WHO). Authoring clinical guidelines benefits from information systems’ support, and this paper reviews how a selection of guideline development tools support the WHO workflow. The four selected tools in this study are: MAGICapp, GRADEpro, BRIDGE-Wiz and Håndboka, a web-based software application developed in Norway. Our hands-on experience in reviewing the

four selected guideline development tools highlighted variations in workflow support. Our results show that the tools have different foci and none of the studied tools fully supports all steps in the proposed WHO workflow. Our comparison shows that GRADEpro supports more steps compared to the other tools. We elicited themes of requirements that need to be supported by a tool independently of individual and organizational perspective. Our study presents the area of focus for each reviewed tool, and sheds lights on improved information system support for guideline development.

Keywords: Information systems, guideline development tool, clinical guideline development process, authoring tools

A Conceptual Framework for Measuring Economic Effectiveness of Moving to the Cloud

Pawel Lustofin

University of Economics in Krakow, Poland

Abstract: Cloud computing has been gaining on popularity and importance in the recent years. According to Eurostat survey around 19% of EU enterprises used cloud computing in 2014. It is however noteworthy that only 46% of those firms decided to use more advanced business applications (relating for example to finance and accounting) as a service. Prior research mainly focused on challenges, risks, and also benefits of cloud computing. Still, to the best of our knowledge, the complete financial evaluation frameworks for economic justification of moving to the cloud have not been offered in the academic literature. In general, companies mention cost saving as a major driver for adoption of cloud. Interestingly though, many companies still treat IT costs as corporate overhead and possess limited knowledge about the actual costs of delivering IT services to their internal customers. This suggests that those firms lack a reliable benchmark for proper cost comparison. There are many additional variables that IT managers should take into account in their financial appraisals, such as capacity utilization, ongoing costs of changes, and adjustments in the system. Furthermore, advantages that usually go hand in hand with outsourcing, such as flexibility to focus on core operations, should also be taken into consideration. Finally, cloud computing generally requires less capital outlay at the beginning thus making financial risk embedded in any project significantly smaller, a fact that should be reflected in the financial evaluation. The presentation of the evaluation framework will begin with the explanation why implementation of service based costing ought to be the starting point for any cloud-oriented organization. Our financial framework will not be limited to the simple static NPV calculation, but will additionally employ evalua-

tion and calculation of real options offered by cloud computing. Our article will be complemented with relevant hypothetical case studies.

Keywords: Cloud computing, outsourcing, IT evaluation, IT investment evaluation, real options

Information Systems for the Practice of Evidence-Based Medicine and Shared Decision Making

Hanife Rexhepi

Informatics Research Centre, University of Skövde, Sweden

Abstract: Evidence-based medicine (EBM) and shared decision making (SDM) are essential for the quality of healthcare. Using information systems to support EBM and SDM has been proposed as one of the important initiatives to significantly improve quality of care. They play a crucial role by allowing healthcare practitioners to access information and clinical evidence while formulating their patient care strategies. They can also create new opportunities for patients to participate actively in their care. However, current information systems solutions are far from this perspective for various reasons. The aim of this paper is to present and illustrate how a prototype visualization of a process support system can enhance the communication and collaboration among healthcare providers and patients by improving the access to patient information and medical knowledge, in so doing support the practice EBM and SDM. An important conclusion from this research is that a process support as the one described in this paper can reshape the practice of EBM and SDM.

Keywords: Process support systems, patient empowerment, evidence-based medicine, shared decision making

Supply Chain Communication and Operational Management in the Automotive Components Supply Chains in South Africa Using Cloud Hosted Information Systems

Phetlhu Tlamele

University of Zululand, Empangeni, South Africa

Abstract: Cloud computing is changing the way organisations are operating using integrated supply chain management systems. Even though using cloud computing is becoming well-known the logical study of its operational implications is deficient. In this paper, a framework for integrating the triad of communications structure, information systems, and trust and integrity structures through cloud computing has been designed. In the theoretical framework, integration of communication structures, information systems, and trust and integrity has been presented to design an event-driven communications and operations management framework on cloud computing for solving the core research problems of lack of organisational and IT platforms integration in supply chains. The methodology presented has two stages. The first stage will comprise fundamental designs supporting the theoretical framework with the help of a review of existing theories. The second stage will formulate a model design of the proposed theoretical framework in OPNET Modeller software using the design details captured from theories on existing designs. The model will be simulated to test the functioning of the event-driven process steps, the functioning of the trust and integrity relationships, lead-times in completing each of the process steps, and problems/bottlenecks faced, if any. The results of the simulation are expected to reveal if this framework is feasible and provide inputs on how this framework can be implemented in real world supply chain management (SCM) systems. OPNET Modeller is chosen because it is a recognised commercial software in modelling and simulating application events and interactions

Keywords: Cloud computing, supply chain management, automotive, OPNET, information system integration, communication structure

Masters Research Papers

Where are we With the BYOD Phenomenon?

Adedolapo Akin-Adetoro and Salah Kabanda

Department of Information System, University of Cape Town, South Africa

Abstract: The extant landscape of research concerned with the mobile device phenomenon called the “Bring Your Own Device” (BYOD) is surveyed by reviewing series of research articles published between 2010 and 2015. The BYOD is a social technical trend that involves employees using personal mobile devices for work related purposes. Literature indicates that research on the BYOD phenomenon is skewed. This study exposes this gap in literature by providing an overview of research on the BYOD phenomenon. In order to provide insight on the current direction of BYOD literature as well as assist future studies in charting a new course, this study present a comprehensive content analysis of 54 academic papers selected from top Information Systems related databases. Five quality scholarly databases (ProQuest, ACM Digital Library, Science Direct-Elsevier, EBSCO Host and IEEE Xplore) were chosen including the Google Scholar. Once all included articles were identified from the databases based on set criteria, each article was coded using a coding instrument adapted for this study. Results indicate that the majority of literature focuses on the BYOD phenomenon and its applicability in develop countries with organizations being the most common level of analysis. The dominant types of research questions are organizational or descriptive or technological while the preferred research philosophy is positivist, interpretivist and pragmatic. The adopted methodological approach is quantitative, qualitative and mixed methods. Finally, the most recurrent type of findings and recommendations are geared towards improving the adoption and security of the BYOD. It is imperative that future studies lay emphasis on other concepts such as governance, compliance and so forth. Furthermore, there is a need to see increased geographical coverage in the area of developing countries, given the current rise in the influx of mobile devices in that region and the fact that they are usually resource constrained.

Keywords: Mobile devices, bring your own device (BYOD), literature review

An Agent-Based Approach to the Automation of Risk Management in IT Projects

Kimberley Jackson and Goran Soldar

School of Computing, Engineering and Mathematics, University of Brighton, Brighton, UK

Abstract: The failure of projects in the field of Information Technology (IT) is a common problem. The aim of this work was to analyse and suggest a programmatic solution to improving the success of project outcomes. This was achieved through analysis of project variables to identify and quantitatively evaluate the risks surrounding a project and suggest possible mitigations to the project manager. The solution makes use of agent-based systems to monitor project risks and recommend mitigations in response to changing project variables. A knowledge base of common risks and related mitigations was collected through research and a selection of industry professionals in the field of IT with a wide range of experience in various areas of IT. This was used to provide a set of real world test data of risk/mitigation mappings to allow the suggestion and ranking of project risks based on a set of quantitative measures of risk likelihood. An impact for the risk is set by the project manager which, when combined with the calculated likelihood, can allow the calculation of a risk priority. The solution implementation takes two forms; a management tool for the project manager and a monitoring tool, which makes the project statuses visible to all in the project to aid in communication among the project team and stakeholder management, which are two common factors of failure. The research results were positive and showed that the use of real world data in combination with an identified set of measures can identify risks and propose mitigations as well as facilitating communication improvement among project team members through the use of the website monitoring system. This encourages a clear and open approach to project, stakeholder and team management thereby increasing the likelihood of project success.

Keywords: Risk management, process control, monitoring systems

A Framework on Information Behaviour of SME Managers for Decision-Making on Emerging ICTs

Sulaimon Olatunji, Yongmei Bentley, Yanqing Duan and Vincent Ong

University of Bedfordshire, UK

Abstract: The aim of this study is to explore the perceived information needs and information behaviours of the managers of UK small and medium-sized enterprises (SMEs). As technology advancement and innovation are changing rapidly affecting organisations in different ways, organization executives are introducing new technologies for their operations, and as business environment becomes more complex and dynamic, government are introducing different policies to guide the use of these emerging ICTs. As a result, information becomes significant during adoption decision-making process for SME managers to inform make and inform decisions. This study develops a framework based on existing literature, using the technology organization environmental (TOE) model as the theoretical underpinning for the empirical investigation on information behaviour of UK SME managers. This study is qualitative in nature, and semi-structured face-to-face interviews were conducted with twenty SME managers in the UK service sector. The interviews were recorded and transcribed. Following Myers and Newman's (2007) guidelines for qualitative interviews, triangulation methods were used to validate the conceptual framework and establish the research rigour and quality. The research findings explained information behaviours of SME managers in the contexts of technology, organisation, and environment as information behaviour triggered and perceived information needs during the adoption decisions of SMEs. These findings provide further insight into ICT adoption in SMEs through information behaviours and highlighted the significance of sources of information and pre-information needed during the decision-making process. The research also contributes to theory in the information systems field by using relevant literature from the information science field to explore information behaviours of SME managers. Future research can be done in other sectors of the economy to show more holistic behaviours of SME managers.

Keywords: Emerging ICT, information behaviour, small and medium-sized enterprises (SMEs), TOE model

Work In Progress Papers

Determinants of Adoption and use of Mobile Cloud Computing in Firms

Henrique Carreiro and Tiago Oliveira

NOVA IMS, Universidade Nova de Lisboa, Lisbon, Portugal

Abstract: The combination of mobile technology and cloud computing, that became known as mobile cloud computing (MCC) in the literature, has emerged recently as a very active research area in information systems (IS). In this context, cloud computing can contribute to overcome the limitations of mobile technology and amplify the scope of its utilization by executing mobile applications on resource providers external to the devices. We have identified a major gap, however, in the research literature: the absence of a framework that can be used to assist organizations in assessing their potential for adopting MCC for business purposes. This study attempts to bridge this gap by developing and proposing a framework which focuses on identifying and examining the factors that influence firms' adoption of MCC, as well as its continuation to use it. We assess whether information technologies enabled process virtualization capabilities impact organizational MCC adoption and use, proposing a conceptual model that combines two theories: process virtualization theory and technology-organization-environment framework to address the adoption of MCC at the organization level. We expect this work to be relevant for the research community and to have significant interest for the organizations, application and telecommunication providers, as well as government agencies and regulators.

Keywords: Mobile cloud computing, process virtualization theory (PVT), technology-organization-environment (TOE) framework, cloud computing, technology adoption.

Fit between Product Market Strategy and Business Model Theme in Digital Markets: A set of Propositions

Andreas Koczkas and Darek Haftor

The Gunilla Bradley Centre for Digital Business, Vaxjö, Sweden

Abstract: While previous research has examined extensively the fit between an organization's environment and structure, it was unable to account for the unique sources of economic value creation that the emerged digital markets established. Recent development of the Business Model construct addresses the peculiarities of digital markets and has initiated expiration of the fit between a firm's two key

sources of economic value creation: its product and its business model, with the underlying question: how do firm's business model themes and product market strategies interact to impact firm's performance. Following Amit and Zott's (2008) path breaking study, where the novelty-centered business model was found to have positive effect on performance when coupled with differentiation, cost-leadership and early entry product market strategies, the present research aims to further advance that initiative. We formulate and justify a set of new research propositions where conventional product market strategies (differentiation vs. costs leadership, mass vs. niche market, early vs. late entry) are matched with the four business model themes (novelty, efficiency, lock-in, and complementarity). The propositions focus on the fit between product market strategies and business model themes with contingencies to digital business contexts, and thereby potentially accounting for the peculiarities of digitalization as manifested in their unique shape of network effects and marginal cost structures.

Keywords: Organizational performance, business model, product market strategy, contingency factors, fit, complementarity

Managing Digitally Enabled Innovation: A Conceptual Framework

Carlos Reis-Marques¹ and Ales Popovic^{1,2}

¹NOVA IMS, Lisbon, Portugal

²Portugal and University of Ljubljana, Faculty of Economics, Ljubljana, Slovenia

Abstract: Innovation is becoming a major driving force for economic and social development. At European Union (EU) level, it is appointed as one of the major pillars of the growth strategy till 2020. The increasing world-wide digitalization is emphasizing the relevance of digital technologies and the ways how firms can leverage their business results by digitally enabled innovation adoption. In the new digital age business models are increasingly gaining importance as determinants of firm's competitiveness and sustainability. The adoption of innovation brings challenges and opportunities for firms, but also specific needs related to the way for consolidating a digital business strategy and assure positive impacts. The management of digitally enabled innovation thus appears a challenging area of research. Based on scientific literature from the fields of innovation, IT and management, we identified several contributions for this debate and developed a conceptual framework to help to identify the way how firms conduct their digital strategies. Our conceptual framework, that can be used as a basis for future applications, emerges from the digitally enabled innovation and digital business

strategy concepts and points three dimensions of analysis: i) Innovation dimension, ii) Technological dimension, and iii) Strategy dimension. Our study builds upon established concepts related to the adoption of innovation enabled by Information Technologies (IT) and adds recent perspectives stemming from the present digital transformation, its impacts, and value generation. We propose an extensive conceptual framework with ten categories and a set of factors that can motivate future studies that wish to identify how firms conduct innovation processes. Through our work we lay grounds for quantitative and qualitative studies to verify the relevance of the several factors in different firm realities. We intend to go further in that sense, drawing a list of questions to be used in a future qualitative research to support the characterization of firms' behaviour in relation to the strategic decisions behind digitally enabled innovation.

Keywords: Digitalization, digitally enabled innovation, digital strategy, business models, framework.

Designing Consumer-Focused Health Improvement Systems

Nancy L Russo and Jeanette Eriksson

IOTAP Research Center, Computer Science Department, Malmö University, Malmö, Sweden

Abstract: Consumers today can track health-related data via many different types of wearable devices and sensors. Health improvement systems which integrate data from personal devices and sensors with intelligent behavior modification applications can support the initiation and maintenance of behavior changes that are necessary to achieve health-related goals. The COMBI (Computerized Behavior Intervention) model and the application based on this model (eMate) demonstrate the integration of theories of behavior change in a framework on which to build an intelligent behavior modification system (Klein et al, 2014). The application, eMate, validated in several health-related settings, provides a functioning example of a consumer-focused health improvement system. Recent research highlights the importance of customizing behavior modification systems to support different user characteristics and changes over time. In this paper we present an extension of the COMBI model as an Internet of Things ecosystem which explicitly incorporates multiple types of personalization, autonomous data collection by tracking devices and sensors, and integration of actors from the user's social networks as well as healthcare professionals. Related to this extended model, the following guidelines for the design and development of consumer-focused health improvement systems are presented: (1) Personalization is essen-

tial and users should be viewed as co-designers of their personalized health improvement systems. (2) Personal monitoring devices and sensors can measure performance on relevant metrics autonomously and this data can be compared to established norms, based on user characteristics, to determine appropriate feedback. (3) The health behavior modification application must be dynamic and adapt over time to changes in the user's context and performance. (4) The system should facilitate interaction with healthcare providers and the user's social network.

Keywords: intelligent behavior modification, persuasive system design, internet of things

Factors Affecting Behavioural Intention to Adopt e-participation: Extending the UTAUT 2 Model

Nuno Xavier and Tiago Oliveira

NOVA IMS, Universidade Nova de Lisboa, Lisbon, Portugal

Abstract: For a city to truly become a “smart city”, and to narrow the digital divide, Municipalities must foster collaborative digital environments. The process of engaging with citizens in the planning and decision making processes through the use of information technology (IT) is called e-participation. Despite the increasing availability of solutions for e-participation, its adoption by citizens is still a challenge, and for many citizens, political participation means no more than voting in the elections for government. Several different technological, social, and political factors need to be taken into account by public authorities when planning, designing, and implementing e-participation initiatives. This paper extends the unified theory of acceptance and use of technology (UTAUT2) model to the e-participation context, seeking to identify the main factors that explain citizens' intention to adopt e-participation, and providing valuable insights for government institutions and developers of these citizen engagement applications. Our proposed model incorporates three constructs based on social capital theory into UTAUT2: trust in government, civic engagement, and interpersonal trust. The extended framework proposed herein provides new insights on citizens' intentions to adopt e-participation, significantly increasing the variance explained in behavioural intention. The data collected are analysed using the partial least squares equation modelling (PLS-SEM) method.

Keywords: E-participation, citizen engagement, social capital, interpersonal trust, smart cities, unified theory of acceptance and use of technology

Abstracts Only

IT User Satisfaction: Distinguishing Between the Technology Adoption and Assimilation Processes

Matthew Hinton

Open University Business School, Milton Keynes, UK

Abstract: It has long been argued that a substantial gulf exists between the investment made in technology and the ability of organisations to realise significant improvements in business performance (Hinton, 2006; Iyengar et al, 2015). Drawing on theoretical developments from the Innovation and Technology Transfer fields a conceptual model has been developed and applied to the specific problem of the adoption and assimilation of information technology (IT). The conceptual model explores the congruence between technology deliverers and recipients, the values and perceptions of IT managers, and the values and perceptions of IT users, as 'service' clients. Empirical evidence is gathered within a multinational petro-chemicals organisation. The first phase utilises responses to a questionnaire developed using service delivery concepts; most notably the SERVQUAL framework (Zeithaml et al.1981 *onwards*) and service co-production (Larsson & Bowen, 1989). This questionnaire is tested on a wide range of end-users, as well as IT support and technical staff. This identified, 1) significant heterogeneity within the user group, and 2) marked differences between users and the IT professionals. From this a model is derived that draws a distinction between the process of IT adoption and the process of IT assimilation. In the second phase, a set of follow-up interviews are undertaken that explore the adoption-assimilation model. Interviewees are selected from distinctive user clusters identified in the first phase. The clusters reflect differences in levels of discretionary usage, diversity of demand and disposition to participate, as well as skill and expertise and organisational position. The substantive conclusions are that the nature of the role of IT professionals is dominated by relatively project orientated and technology orientated characteristics, exemplified by an over-emphasis on the tangible elements of service provision. This is in stark contrast to end-users who tend to be more process driven, and focussed on the non-tangible service components (such as responsiveness, reliability and empathy). This, in part, inhibits the ability of organisations to develop strategy and for organisations to consider the service function of IT. Furthermore, it is problematic for organisations to distinguish the adoption of an IT technological opportunity and the problems of assimilating that opportunity into the daily routine of the organisation and therefore for business advantage. Consequently, whilst the technological sophistication of IT increases, the innovative application does not. With its focus on the adoption and assimila-

tion processes, the conceptual model offers a way to reframe our understanding from a user perspective rather than the technology driven perspective.

Keywords: User satisfaction, IT value, technology assimilation

The need for Cognition and IT User Satisfaction

Tuan Yu

Kent Business School, UK

Abstract: IT user satisfaction is increasingly recognised as highly important as investment and application of technology is increasing greatly in organizations and businesses. The need to understand what leads to user satisfaction is increasing accordingly as return on (high) investment is sought in terms of increased ability to learn how to use IT to achieve high productivity and effectiveness. Whilst research into IT success has had a long history, an under-researched area is the role of individual differences. In particular, a kind of IT user motivation - the “need for cognition” - and the nature of the “affordance” of the IT system have not been explored. The relationship between these two variables together with “user technology competence” as a mediating variable should enable us to better understand and predict user satisfaction which is well known to be an important precursor/prerequisite of success in the use of IT systems. This paper explicates the constructs mentioned above and explores the operational and methodological requirements for carrying out a research study to investigate this relationship between motivation and user satisfaction and what implications this kind of approach might have for the field of research.

Keywords: IT user satisfaction

Disposition in Information Systems Design: a Content Analysis

Sherry Li Xie and Guanyan Fan

Renmin University of China, Beijing, China

Abstract: Disposition is one of the most representative concepts in records management. According to the U.S. government, disposition means “those actions taken regarding records no longer needed for the conduct of the regular current business of the [U.S. Federal] agency” (GPO, 2016) . These actions consist of, typically, destruction (i.e., being destroyed beyond recovery), transfer to an archival institution, or acquisition by other societal organizations that are legally permit-

ted to do so. As it involves destruction, disposition requires formal approval, or in the case of government, legal instruments to materially take place. Disposition Authorities in the federal governments of the countries of the U.S., Canada, Australia, and UK are such legal instruments, and in the case of the U.S., Chapter 33 of Title 44 U.S.C. devotes itself completely to this subject (NARA, 2016). Disposition now encompasses both analog and digital records, and digital records are now inevitably exist in organizational information systems (ISs). The international records community has developed standards regarding unstructured digital records for their disposition actions, however, structured ones remain a challenge. The ISO 16175-3:2010 Guidelines and Functional Requirements for Records in Business Systems addresses the “should” and “desirable” requirements for ISs regarding key RM functionalists, the hows, however, are left for further development. How to identify records in information systems (i.e., structured digital records, SDRs)? How to appraise them in order to set up retention schedules for them? How to ensure the disposition in terms of triggering and auditing? ... And above all, how to differentiate SDRs and information in ISs? The project Co-Design of Digital Records Management System with Information Systems was devised to explore answers for these questions. This paper reports on findings of its first phase that were generated by analyzing relevant literature including government policies and procedures.

Keywords: Disposition; digital records management; information systems; system design

Citation Pages

The importance of paper citations and Google Scholar

As an academic researcher you will know the importance of having access to the work of other researchers in your field as well as making your own work available to others. In the area of academic publishing this is achieved through citation indexing. There are a number of bodies that undertake this task including Thompson ISI, Elsevier Scopus and Google Scholar – to name just a few.

At ACPI we do all we can to ensure that the conference proceedings and the journals that we publish are made available to the major citation bodies and you can see a list relevant to this conference on the home page of the conference website.

However, it is also important for you, the author, to make sure that you have made your work available for citation – particularly with organizations such as Google Scholar. We are providing you here with the simple steps you need to take to do this and we would ask you to take the time to upload your paper as soon as you can.

Step one: Extract your paper from the full proceedings that you have downloaded from the Dropbox link provided to you.

Step two: Upload your paper to your own website, e.g.,

www.university.edu/~professor/jpdr2009.pdf ; and add a link to it on your publications page, such as www.university.edu/~professor/publications.html.

Make sure that the full text of your paper is in a PDF file that ends with ".pdf",

The Google Scholar search robots should normally find your paper and include it in Google Scholar within several weeks. If this doesn't work, you could check if your local institutional repository is already configured for indexing in Google Scholar, and upload your papers there.

More information is available from <http://scholar.google.com.au/intl/en/scholar/inclusion.html>

We will separately upload the proceedings to Google Books which is also searched – but evidence has shown that individual upload results in quicker indexing by Google Scholar.

Your own institution may also subscribe to an institutional repository such as

<http://digitalcommons.bepress.com/> or

<http://dspace.org/>

Providing the original reference of your paper is included you have our permission as publishers to have your paper uploaded to these repositories.

Sue Nugus ACPIL

Research Jotter

Research ideas can happen at any time –
catch them in writing when they first occur

