

**Abstracts of Papers
Presented at the
15th European Conference on
eGovernment**

ECEG 2015

**University of Portsmouth
UK**

18-19 June 2015

**Edited by
Dr Carl Adams
University of Portsmouth
UK**

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Preface

Over the last few decades we have witnessed a fundamental change in government activity driven by Information and Communication Technologies, storage technologies, the Internet, Web 2.0 & 3.0 technologies and mobile technologies. These technologies are helping governments transform and innovate across all areas of government activity.

These proceedings provide a snapshot of current e-Government case studies, research, analysis and activity around the World representing cutting edge innovation and transformation of government service provision, government transparency, engagement with citizens and business, and the running of government itself. As such these proceedings will provide a valuable contribution to researchers and practitioners interested in e-Government activity.

These proceedings represent the work of researchers participating in the 15th European Conference on e-Government – ECEG 2015 which is being hosted this year by The University of Portsmouth, UK on the 18-19 June 2015.

ECEG is a recognised event on the European research conferences calendar and provides a valuable platform for individuals to present their research findings, display their work in progress and discuss conceptual advances in the area of e-Government. It provides an important opportunity for researchers and managers to come together with peers and share their experiences of using the varied and expanding range of e-Government available to them.

The conference will be opened with a keynote from Professor Geoff Walsham from Judge Business School, University of Cambridge, UK. The second day will be begin with a Keynote by Professor Sir Nigel Shadbolt, University of Southampton, UK.

With an initial submission of 123 abstracts, after the double blind, peer review process there are 42 academic Research papers, 11 PhD papers, 3 master's Research paper and 1 non academic paper published in these Conference Proceedings. These papers come from many different countries including: Australia, Brazil, Brunei, Czech Republic, Egypt, Germany, Greece, Hungary, India, Israel, Italy, Jamaica, Lebanon, Malaysia, Nigeria, Pakistan, Poland, Romania, Saudi Arabia, Serbia, Slovenia, Spain, Thailand, The Netherlands, Turkey, UK, USA

A selection of the best papers – those agreed by a panel of reviewers and the editor will be published in a conference edition of EJEJ (the Electronic Journal of e-

Government www.ejeg.com). These will be chosen for their quality of writing and relevance to the Journal's objective of publishing papers that offer new insights or practical help into the application of research methods in business research.

We wish you a most interesting conference.

Dr Carl Adams

Conference Chair

University of Portsmouth, UK

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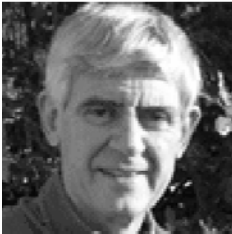
Biographies

Conference Chair



Dr Carl Adams is a Principal Lecturer/Researcher in the School of Computing, University of Portsmouth, UK. He has over a decade of professional experience as a software engineer, analyst and consultant before going into academia. His research interests explore the wider impact of the digital economy and includes e/m-commerce/government, mobile information systems, social media, electronic money, and impact of technology on society. He has over 100 peer reviewed publications in journals, international and national conferences as well as several book chapters and a book. He has been a key note and invited speaker at conferences and workshops.

Keynote Speakers



Prof Geoff Walsham is an Emeritus Professor of Management Studies (Information Systems) at Judge Business School, University of Cambridge. In addition to Cambridge, he has held academic posts at the University of Lancaster in the UK, the University of Nairobi in Kenya, and Mindanao State University in the Philippines. His research is focused on the question: are we making a better world with information and communication technologies? He was one of the early pioneers of interpretive approaches to research on information systems.



Professor Sir Nigel Shadbolt is Professor of Artificial Intelligence at the University of Southampton in the Web and Internet Science Group within Electronics and Computer Science. He is also a Director of the University's Web Science Institute. He has made significant contributions to Artificial Intelligence, Computer Science, Psychology and Web Science and has over 400 publications including the critically acclaimed book 'The Spy in the Coffee Machine: The End of Privacy as We Know It'. Sir Nigel is also the Chairman and Co-Founder of the Open Data Institute (ODI). Launched in December 2012, the ODI focuses on unlocking supply and stimulating demand for open data. It promotes the creation of economic, environment and societal value from open data releases. Since 2009, he has acted as an Information Advisor to the UK Government, helping transform public access to Government

information, including the widely acclaimed data.gov.uk site. In May 2010, Sir Nigel was appointed to the Public Sector Transparency Board responsible for setting open data strategy across UK Government. He Chairs the Local Public Data Panel, seeking to promote and develop open data approaches within local government and the UK midata programme whose goal is to empower consumers through access to their data. In 2013 he was appointed a member of the UK's Information Economy Council. In 2006 he was one of three founding Directors of Garlik Ltd, which in 2008 was awarded Technology Pioneer status by the Davos World Economic Forum and won the prestigious UK national BT Flagship Award. Garlik was acquired by Experian Ltd in 2011. In 2013 he was awarded a Knighthood for services to science and engineering and in December 2013 he was listed as one of 50 influential leaders in UK IT in Computer Weekly's "UKtech50".

Mini Track Chairs



Mohammed Al-Husban is a Senior Lecturer/Researcher in the Technology faculty in Southampton Solent University. Al-Husban has worked alongside consultants for several eGovernment projects in the Middle East region. He is involved in eGovernment implementation using Enterprise Architecture frameworks, and his main research interests are in eGovernment personalization and integration, connected government, backend to frontend technology. His current research involves web services

and data interoperability in the context of public service integration in electronic government. He has produced a technical framework to aid towards indexing and further integrating public services. He is working on a massive dataset which has emerged from a recent field study, and is looking particularly at integrating specific online services and data sharing between service providers.



Dr Michaelene Cox holds a PhD in political science and is associate professor in the Department of Politics and Government at Illinois State University. She teaches courses in international law, international relations and European Politics, and has authored a number of publications on political participation, social capital, cultural identity and corruption. Her interest in e-government also reflects the interdisciplinary nature of her research.

For instance, papers to date that she has delivered at ECEG conferences address topics of corruption and ethics training, and benchmarking East European e-participation.



Professor Roberto Fragale Filho teaches at the Universidade Federal Fluminense (UFF) and is a Labor Judge at the Tribunal Regional do Trabalho from Rio de Janeiro (TRT-RJ). He holds a PhD on Political Science obtained at the Université de Montpellier I and has been a Visiting Professor at the University of Illinois at Urbana-Champaign (2006), at the Université Paul Valéry – Montpellier III (2009 and 2010), at the Centro de Estudos Sociais (CES) from the Universidade de Coimbra (grant A month at the CES. 2011) and at the University of Macao (2014) as well as a Fellow of the Institut d'Études Avancées de Nantes (2012-2013).



Peter Millard with his background of a first class honours degree in Sociology, a Masters degree in Information Systems, together with three years working in the computer industry as a Systems Analyst, is well placed to take an interdisciplinary approach to the study of Information and Communication Technologies. He has worked at the University of Portsmouth for over twenty years and is the Course Leader for BSc (Hons) Business Information Systems and BSc (Hons) Computing and Society teaching modules such as 'The Networked Society' and 'Social & Legal Aspects of Computing'. His research interests are in the social aspects of the internet and mobile computing, focusing in recent years on e-Democracy as a means of enhancing and extending democratic processes.

Biographies of Presenting Authors

Yakup Akgül studied at the Department of Information Management at the University of Hacettepe, Ankara (Turkey), from which he graduated in 2001. He received Master (2010) and Ph.D. student in Business Administration at Süleyman Demirel University, Isparta, Turkey. He works as a lecturer at the Dumlupınar University, Kütahya, Turkey.

Mohammed Aladalah is a Ph.D. candidate in Information Systems at the Faculty of Information Technology, Clayton, Monash University, and Melbourne, Australia. His research interests include e-Government, Citizen-governmental collaboration, citizens' participation and empowerment, service science, value co-creation and social media. Prior to commencing his PhD, he completed a bachelor's degree in science and a master's degree in Business Information Systems.

Isultan Alotaibi is from Saudi Arabia, graduated from King Saud University. Isultan was awarded a bachelor degree in Computer from faculty of science in 2007. After graduating from the University, received a full scholarship, so went to Australia for a Master degree in Computer Science, and graduated from faculty of Science, Technology and Engineering at La Trobe University in 15 July 2011. Isultan is a PhD researcher in Strathclyde University in Glasgow.

Sukaina Al-Nasrawi is an Associate Statistician at the United Nations Economic and Social Commission for Western Asia with expertise in technology and social affairs. She published technical papers and spoke at renowned international conferences. Sukaina holds a BSc/MSc. in Computer Science from the American University of Beirut and is currently a Ph.D. candidate in Information Systems.

Dr.Choompol Boonmee received his Ph.D. in computer engineering from Nagaoka University of Technology, Japan. He is now a lecturer at Thammasat University, Thailand. He has been leaders of many e-government interoperability projects including e-ASIA award winning project. He is the president of electronic data interchange promotion association (EDIPA).

Eirini Chalelli holds a M.Sc. 's degree in Computer Science from Computer Engineering and Informatics Department at the University of Patras. For the last 4 years she has been working as a software engineer at the Computer Technology Institute and Press "Diophantus". She is experienced in software requirements, design, development and maintenance of complex software systems.

Dr. Michaelene Cox (Ph.D. 2002) is Associate Professor in the Department of Politics and Government at Illinois State University. She teaches courses in international law, international relations, and European Politics, and has authored a number of articles and edited books on political participation, social capital, and political corruption.

Paola Dameri graduated in Economics in 1990. She is associate professor in Business Administration at the University of Genova, Department of Economics. She has been teaching ERP Systems, Business administration, Accounting Information systems, Management Information systems, Managerial accounting, Financial Accounting.

Mitja Dečman is an Assistant Professor at the Faculty of Administration, University of Ljubljana, teaching undergraduate and postgraduate level. He holds a Ph. D. in Administration Science and a MSc. in Computer Science. His project and research work includes development of information systems, benchmarking systems, digital preservation, information security, e-government, e-governance, web 2.0 and others.

Kate Dingley is a lecturer in human computer interaction (human factors) and project management. My PhD research was in remote working and learning and I have continued to have an interest in this in research into e-learning, mobile learning, e-government and mobile usability. I put this knowledge into practice as a course leader for an online course.

Duruji, Moses Metumara is currently, the Head of Department of Political Science and International Relations, Covenant University, Ota, Nigeria where he has been teaching for over ten years. He holds a doctorate degree in Political Science as well as a PGD in Journalism. He is the author of 'Ethnic Militias and Subnationalism in Nigeria'.

Prof.(Dr.) Florian Evequoz. I am a Professor for Business Informatics at the University of Applied Sciences of Western Switzerland (HESSO Valais). My current research focuses on HumanComputer Interaction (HCI) with an emphasis on Visual Analytics, and Business Process Management (BPM) applied in particular to the eGovernment domain.

Dr. Oluyemi Fayomi is a tenured faculty in Covenant University, department of Political Science and International Relations, School of Human Resource Development, College of Development Studies, Ota, Ogun State, Nigeria. She is the Programme Adviser, International Relations and her research areas include Migra-

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Markus Jakob studied information systems at the University of Applied Sciences Deggendorf. During his studies, he was, amongst others, working for Siemens Medical Solutions, USA, and BMW. Before he joined fortiss in 2012, he was working for the Free State of Bavaria in the field of e-Government and webservice development.

Terence Keefe is a Senior Lecturer at Sheffield Hallam University teaching IT Project Management, Professional Ethics, Business Analysis and Strategy. Public sector experience includes 6 years managing research and development in e-learning and 20 years in the UK Civil Service, providing IS consultancy in organisational change projects. Research experience includes e-government, cyber-ethics and e-learning.

Tawa Khampachua is a Ph.D. student and a lecturer in the Department of Computer Education at King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand. He is also a senior researcher at the Research Center of Information and Communication Technology, KMUTNB. His research interest includes eGovernment, data mining, and software engineering.

Péter József Kiss is consultant at the Hungarian Academy of Sciences Information Technology Foundation (MTA ITA) and works on public administration projects. He received his master's degree in Engineering Information Technology in 2013 and is currently a PhD student at the University of Pannonia, Hungary. His research topic is image processing.

Rajiv Kumar is a FPM scholar in Indian Institute of Management Ranchi, India, M.Tech. From Indian Institute of Technology Kharagpur, India. He has worked with Texas Instruments as a Software System Engineer and with Samsung Software (India) as Lead Engineer and also as Technical Lead, totally for about four years. Areas of Interest: eGovernance, eJudiciary and text mining.

Tamas Molnar. 2001 – 2003: University of Technology Budapest – Electrical Engineering , 2003 – 2008: Corvinus University Budapest – Business Information Systems (E-Government Systems), 2008: University Potsdam, Exchange Student Applied Computer Science , 2009 – 2014: Humboldt-University Berlin – Ph.D. Program (Software Usability of E-Government Systems). Currently: Project Manager at Humboldt-University Berlin.

Donald F. Norris (Ph. D., University of Virginia) is Director of the School of Public Policy and Director of the Maryland Institute for Policy Analysis and Research at the University of Maryland, Baltimore County. He has published widely in leading journals in public administration on the subject of including IT and government and e-government.

Jonathan Okewu is an indigene of Benue State, Nigeria. An academic with the Federal University Lafia, Nassarawa State, Nigeria, he lectures in the Department of Visual and Creative Arts. His Information Technology interest is Graphics Design while research interests span Ceramics (Ceramics), Archaeological Method & Theory, Archaeometry, Ceramic Analysis (Archaeology), Ceramics (Archaeology), and Fine Art Ceramics.

Aderonke A. Oni, holds Ph.D in MIS. She has co-authored a number of peer-reviewed journals, proceedings, and chapters in books. Her research interests are in: e-commerce, e-government, and technology adoption. She is a lecturer in the Department of Computer and Information Sciences, Covenant University and currently a post-doctoral fellow at ICITD, Southern University, LA, USA

Onyekachi Onwudike, is currently a PhD Student in the Department of Computer Science in Loughborough University. She graduated with an MSc in Artificial Intelligence from the University of Manchester where she carried out a research on describing the Phenotypes of plants using OWL ontology. Her research interests include E-Government systems, ontologies of E-Government, reuse of solutions across governments and risk analysis of E-Government systems.

Marioara Piroi has audited EU-funded projects worth more than EUR 1bn in the fields of innovation, competitiveness, environment etc. The financial services company which she has started 16 years ago has steadily developed, reaching the threshold of 30 employees and 200 international clients, and is now a member of The International Accounting Group.

Dhata Praditya is a researcher in the Information and Communication Technology section of the Faculty of Technology, Policy and Management at Delft University

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Claudio Russo is a PhD student and a research fellow at Politecnico di Milano. His main research interest is organizational development of the smaller Municipalities, aimed at guaranteeing them the possibility of providing public services, if compared to bigger Public Entities, of a similar service level.

Dr. Tony Verheijen is Country Manager for the World Bank in Serbia. Since joining the World Bank in 2002 he held managerial and technical positions in the Public Sector Management Practice. Previously, he worked for various international organizations and academic institutions. He holds academic degrees from the Erasmus University in Rotterdam, Université Libre de Bruxelles and Leiden University.

Muslimin Wallang is a PhD Candidate from the University of Queensland, Australia. He is also a senior lecturer at the School of Government, University Utara Malaysia, Kedah, Malaysia. His research interest is in e-government topics particularly on technology usage in the public sectors or local authorities.

Dr. Nawaporn Wisitpongphan is a lecturer in the Faculty of Information Technology and also a director of the Research Center of Information and Communication Technology at King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand. While her expertise is in computer network analysis and planning, her current research focus is on Information Technology Management.

Dr. Rowland Worlu is the Head, Business Management Department, Covenant University, Ota. His research interest is in Political Marketing & Management. He has authored many books across disciplines and published a number of research findings in both local and foreign journals as well as conference proceedings.

Ahmet Yapici currently works as a software engineer at Turkey e-Government Gateway Project, TURKSAT Corporation, Ankara, since 2014. He has 10 years experience in software development. He has graduated from Ege University Computer Engineering Department and completed his M.Sc. in METU Software Engineering Department.

Husam Yaseen is a PhD student in the School of Computing at the University of Portsmouth. His research interests are e-commerce, awareness, e-trust, and security and privacy issues in e-commerce. His PhD research will investigate the relationship between awareness and the e-commerce, particularly in Jordan.

Burcu Yilmaz has graduated from Computer Engineering Department of Atılım University in Ankara, 2009. She has been working as a Software Engineer at Turkey e-Government Gateway Project, TURKSAT Corporation, Ankara, since 2010.

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Dr Anwar Zahid is a Senior Lecture at the Faculty of Law, Universiti Kebangsaan Malaysia- UKM (National University of Malaysia). I received my LLB (Honours) degree from the University of Dhaka, LLM from Dalhousie University and PhD from the University of Manchester. My area of interest in teaching and research is international Business and Islamic Law.

Joseph Zernik. "Machine Learning" textbook found Joseph Zernik's data-mining in Human Rights research among "Notable uses", summed: "Data mining of government records - particularly records of the justice system (i.e., courts, prisons) - enables the discovery of systemic human rights violations in connection to generation and publication of invalid or fraudulent legal records by various government agencies."

Ewa Ziemia is an Associate Professor of Economics at the University of Economics in Katowice, Poland. Her principal research areas are focused on management information systems, e-business and e-government. She has published over 150 papers and 11 books. She has led and participated in several research projects. She is the editor-in-chief of OJAKM, the associate editor of numerous journals, e.g. IJITCS and IJELLO.

Anneke Zuiderwijk is a researcher in the Information and Communication Technology section of the Faculty of Technology, Policy, and Management at Delft University of Technology, the Netherlands. Her research focuses on the development of a socio-technical infrastructure that improves open government data use.

Web Content Accessibility of Municipal web Sites in Turkey

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Abstract: The accessibility of the public web sites is crucial for the successful implementation of the information society. Therefore, it is essential that all citizens must have equal accessible opportunities to all e-government recourses. This research evaluates the accessibility of each of the 30 metropolitan municipal web sites in Turkey by the disabled people based on the Web Content Accessibility Guidelines (WCAG) 2.0 and employing automated testing tool. It identifies the major problem of accessing the website content to those who have hearing, listening, impairments or other physical disabilities. The Intention of this study is to highlight the ignorance of the government and common people towards people with the disabilities. The Slight concern of the developers during the website development can assist these people in their website usage significantly. The Detailed results are presented after comprehensive evaluation of the metropolitan municipal websites against WCAG 2.0. The analysis of the results reveals a relatively low web accessibility of the municipal web sites and highlights several aspects.

Keywords: accessibility, WCAG 2.0., metropolitan municipal web sites

Uplifting Citizens' Participation: A Gov 2.0 Conceptual Framework

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Abstract: The rise of digital citizens is no longer a speculation; therefore, governments' use of Web 2.0 tools (hereafter Gov 2.0) should be a part of all current and future e-government plans. Recent literature has emphasised Gov 2.0 as a possibility for greater communication, participation, and collaboration with citizens. However, citizens' participation levels in Gov 2.0 have not met to the hype. Despite their importance and potential, our understanding of the value of Gov 2.0 is limited. Systematic studies addressing citizens' participation in Gov 2.0 are sparse. In the absence of prior work, this paper uses empowerment theory in a new context (Gov2.0) and investigates the role of citizens' empowerment in increasing citizens' participation in Gov 2.0. We conducted an extensive review of e-government and empowerment literature, in order to form a sound theoretical explanation of this phenomenon. This paper seeks to identify factors derived from empowerment theory that influence citizens' participation in Gov 2.0 to develop a

conceptual framework to enhance understanding of citizens' participation in Gov 2.0. Further, the paper extends the theory of empowerment by showing that higher levels of satisfaction and empowerment can increase citizens' participation in Gov 2.0. A further positive outcome of citizens' empowerment is higher levels of satisfaction with Gov 2.0. Three constructs have been found to influence citizens' participation in Gov 2.0, namely, citizens' empowerment process, citizens' empowerment outcomes, and citizens' satisfaction with Gov 2.0. Our conceptual framework indicates that these three constructs should feature and enhance trust, satisfaction, and commitment; and the outcomes lead to increased citizen loyalty, and higher participation levels in Gov 2.0. These suggestions make a strong case for citizens' empowerment in Gov 2.0 to enhance the public value. The framework is expected to benefit both citizens and government agencies that wish to enhance their Gov 2.0 activities. Citizens will enjoy a higher sense of control, including having an equal relationship with the government agency. Government agencies decision-makers can benefit from new insights into citizens' participation and enhanced citizen experiences. This paper is expected to make two significant contributions: (1) extension of empowerment theory and its role in increasing citizens participation in Gov 2.0; and (2) provide a framework for better understanding of citizens' participation in Gov 2.0. Both, preliminary evidence for the framework and general implications for research are discussed.

Keywords: e-government, Gov 2.0, citizens, government agencies, participation, empowerment

Public Service Integration in Jordan

Mohammed Alhusban and Carl Adams

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Abstract Jordanian government is now challenged to deliver an expanding set of services to a growing number of constituents whose expectations are in increase. Recent political, economic, health and social conditions are increasingly changing on the landscape, and have been impacted by the surrounding political unrest, resulting in Jordanian government having to overstretch its capabilities and cope. In this paper, the practicality of integrating online public services is investigated from government employee's views, in specific ministries for certain services. Licensing services have been considered in this paper, and that because those services have been flagged as the most commonly used online services by the study participants, and currently offered through several dispersed portals and service providers. The study aimed at answering questions related to the practicality of integrating public services in Jordan. Five areas have emerged as major themes in the context of this paper: The misconception of the definition of public

service integration with electronic Government, Drivers and Barriers from intraorganisational view, the readiness and willingness towards integration, and potential services where integration may occur. The preliminary results emerged from this paper show that there is a necessity to push further in the public service integration process, especially for specific services that require the involvement of several service providers. Integrating health and social services have been highlighted through the data analysis, especially for the recently established Syrian refugee camps in Jordan. Overall data analysis has revealed that the level of support provided by the E-government program plays a vital role in eliminating possible barriers stand out against public service integration, and promotes a better understanding of e-government integration. Result of this study points at service integration as the key element to more cost-effective service delivery – by stripping out unnecessary or unhelpful duplication, such as different bodies collecting identical data about same citizen.

Keywords connected government, citizen-oriented government, public service integration, collaborative government

Credible Elections and the Role of Social Media: The Case of Nairaland in the 2014 Osun Gubernatorial Election

**Charles Ayo, Jonathan Oluranti , Moses Duruji and Nicholas Omoregbe
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Abstract: The use of social media in elections appears to be gathering momentum that is altering the traditional practice of electioneering. This phenomenon is premised on the rapidly expanding access to internet, increased availability of internet-ready smartphones and other communication devices, which enable individuals to simultaneously share information with any number of peers or even the public. The electorates across many countries around the world are now taking advantage of the various web-based media platforms like personal websites, social networking sites, blogs, and newsletters for political communication. In Nigeria, the situation is not different from the general trend around the world. For instance, the turnout of events in the recently conducted gubernatorial elections in some states points to the important role social media can play in ensuring credible elections. It appears the electorates including those in Nigeria have abandoned traditional news break, thus making it difficult for politicians and their unscrupulous collaborators in the electoral commission to manipulate the electoral process or spin events to favour particular parties or candidates which is the prevalent practice that have characterized the electoral process in Nigeria. This paper attempts to gain a better understanding of the impact of political infor-

mation diffusion among the Nigerian electorates. The paper also attempts to investigate the extent of electorates' interactions in the course of the elections using social media platforms particularly Nairaland to which many Nigerians have subscribed and its impact in the 2014 Osun state gubernatorial election. The paper adopts qualitative approach in the gathering and analysis of data and based on our findings, the paper proposes ways in which the social media can effectively support free, fair and transparent elections in Nigeria especially as the country approaches the 2015 general elections. The paper concludes that the use of various social media channels in not only transmitting real-time information but also in removing censorship by gatekeepers went a long way to prove to the Osun state electorate the transparency of the election result in the midst of the highly competitive tension soaked election.

Keywords: social media political communication, Nairaland, social networks, elections

The use of Information and Communication Technologies for Promoting and Sustaining National Integration in Africa

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Abstract: The major argument advanced in this paper is that African governments should make use of information and communication technologies within their governing structures in seeking ways and means of promoting national social cohesion. We present a heuristic by developing a model – e-Cultural Synchronization -- for national integration in African nations, with a central focus on the synchronization of indigenous cultures as fulcrum. The rationale is grounded in the need for African states to pay more attention to the cultural fabric of their respective societies in efforts to reduce cultural tensions by demonstrating that there are indeed many aspects of African culture that are not antithetical, for instance, to democratic governance or other governing prescriptions that have been tried by some African leaders. The model utilizes the application of information and communication technologies as means of achieving cultural synchronization for stable governance. National integration continues to be a major challenge for several African states. Internecine warfare, pervasive poverty, weak infrastructure in several sectors poses problems for smooth governance. Conflicts at the level witnessed during elections in Kenya and the Ivory Coast have resulted in charges of crimes against humanity (approximating ethnic cleansing) by African heads of State. A former head of state of Ivory Coast – President Laurent Gbagbo, is presently facing charges of crimes against humanity at the International Criminal Court at The Hague, Netherlands. Even though the majority of African states

achieved independence since the late 1950s and during the 1960s there are still problems in fashioning and sustaining nationally integrated nation states resulting in conflicts. Countries such as Zimbabwe and South Africa pose different problems for national integration after independence. Their problems centre mainly on race and economics. Insurgencies are taking place in countries such as the Federal Republic of Nigeria, Mali, Uganda, Zaire, Somalia and Rwanda to name a few. The emergence of major non-state actors such as Al Shabab, Boko Haram, and Al Qaeda in the Maghreb continue to challenge the "State." The major sources for the preceding are religion and politics. Among other sources of conflict exacerbating the challenges for national integration are disputes over natural resources, socio-economic disparities and ethnicity. Several attempts made at national integration have centered on ideological choices, with a focus on democratic governance, with very little emphasis on indigenous cultural synchronization as a means of promoting national cohesion.

Keywords: e-cultural synchronization, national integration, ICT, conflict resolution, cultural synchronization

COI: A Framework of Software Development to Reduce ICT Investment and Increase Acceptability

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Abstract: E-Government is the use of information and communication technologies (ICT) by government agencies to ensure better delivery of government services. However despite many online benefits, after an initial trial of e-Government, many users revert to traditional ways. This failure to retain the interest of users contributes to the failure of e-Government in developing countries. In general, e-Government websites aim to transform service delivery and make it easier for citizens and businesses to interact with the government. The success of any service delivery depends largely upon its perception in the minds of users, which in turn determines users' retention and loyalty. Although online services have been deployed in parallel with the traditional ones, effective public services still tend to be the traditional face-to-face styled service not the electronic one. ICT as a facilitator for efficiency and effectiveness of old fashioned services must be one of the right answers for developing countries, instead of developing an online self-service. Previous researches show that technical development alone could not realize benefit from ICT. Many researchers attempt to address these issues from the human behaviour perspective instead of focusing on the technical aspects. Generally in order to develop an e-government system, a government

unit needs to invest in ICT infrastructure. Especially for small scale government units the ICT investment becomes significant. The investment includes servers, data centre, storage, network, software, ICT staff. We propose the idea of an ICT development framework named COI to reduce the cost on ICT investment, to reduce dependency and to pay more attention to acceptability by using a simple, open and user-friendly data format rather than sophisticated database management systems which require skilled ICT staff. The framework includes three main concepts. The first concept is to use commonly and widely used technologies and products. Local storage or hard disk can be used to store information. Publicly available e-mail systems or drop box services can be candidates for an information management facility. The second concept is to use an open, simple, and user-friendly electronic data format to store information. Clear text based data files or Microsoft spreadsheet Excel files can be candidate formats for storing electronic information. This concept increases the transparency, acceptability and reusability of an information system. The third concept is to develop software which is less independent from external environment. This framework has been adopted in three projects for public service enhancement in small government units around Thailand. They include the ESmartBox project, the SmartMOL project and the Phitsanulok Employment Promotion project. The result indicates that this framework reduces ICT investment and increases acceptability, transparency and information reusability considerably.

Keywords: ICT cost, acceptability, reusability, open format, transparency

A Decade of Studies Studied: Assessing Research Trends in e-Government

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Abstract: The purpose of this paper is to take stock of e-government studies to demonstrate the extent to which the disciplinary field has developed since being inaugurated, arguably, in the early twenty-first century. At least three challenges face researchers in gaining a holistic perspective of what we know about digital government. First, while a growing body of literature dissects peer-reviewed journals and conference papers for what they can tell us about what researchers are researching in the field, few of those meta-studies focus on more than one broad issue at a time. For instance, there are numerous papers examining the frequency of various research designs employed or tending to studies that deal with particular governance topics such as e-democracy. This study takes a tentative step toward enlarging our view of the field by examining matters related to delivery models, levels of governance, study designs, methodological approaches, and topics. Second, there is scant attention being paid to trends over time. Indeed,

with no discernable exception, previous studies present findings in the aggregate; that is, they report on total observations at the end of a given timeframe and not changes from one period to the next. It is difficult, then, to gauge if development in the rigor and maturity of the field is on track. The paper herein similarly reports the current status of research matters, but also reports changes occurring over the course of a decade. Third, conclusions reached in the literature rest on small sample sizes. Assessment of all e-government studies is certainly an ambitious if not impossible task, as is reaching agreement on appropriate sampling methods. This challenge also explains the limited understanding that we have about current research. The paper herein examines 585 articles published between 2004 and 2014 in two primary e-government journals, *Government Information Quarterly* and *Electronic Journal of e-Government*. The sample size is the largest to date. While there is certainly room to build upon this study, it opens the window to what we know about the field. The paper finds that the majority of peer-reviewed articles addresses government-to-citizen (G2C) issues at the federal level, and includes fairly even coverage of most e-governance issues. Contrary to previous literature, review of these articles suggests that most of them clearly articulate a research design, with few employing quantitative methods. The assessment does indeed support, however, a widely-held view that most research in digital government is a theoretical and on the whole lacks practical recommendations for the academic community and practitioners. Although necessarily limited in scope of coverage, and in piecemeal fashion, this review of research trends in e-government thus provides us with a unique perspective and a springboard from which to delve further into the matter.

Keywords: research trends, e-government research, topics of study, methodologies

How to Govern Smart Cities? Empirical Evidences From Italy

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Abstract: The aim of this paper is to understand which is the role of local political entities in designing the best government and governance mechanisms for implementing the Smart city and enhancing the best citizens' participation. The research method is based on both a deep literature analysis and a large empirical survey. Literature analysis examines more than 700 scientific papers looking for theoretical frameworks about the role of political local bodies in governing Smart cities. Empirical survey analyses more than 100 Italian cities, further selecting the ones implementing at least one smart initiative to individuate best practices in government and governance mechanisms. Findings show that there are no standards or best practices till now, even if some interesting governance models are emerging. These interesting cases are deepened analysing governance bodies settled to govern Smart cities in a participate way.

Keywords: smart city, government, governance, urban planning, citizens' participation

Designing Engaging e-Government Services by Combining User-Centered Design and Gamification: A Use-Case

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Abstract: In this case study, we combine the user centered design and the gamification design methodologies to design the eCH-BPM portal, a platform designed to enable public administration of Switzerland to publish and share their business process documentation in BPMN and discuss best practices in introducing Business Process Management (BPM) practices in the administration. The overall goal of the platform is to foster the development of a BPM mindset in the Swiss administration, in order to optimize and modernize the operations and deliver quality services. However, actively sharing process descriptions and template business processes, as well as actively participating in the community of practice for BPM in the public administration requires motivation and engagement on the part of public servants. A key factor in the success of the platform will be its ability to create, retain and expand a critical users' base. To address this issue, we designed the platform using user-centered design and gamification design, develop-

ing an original framework to combine both approaches that can be applied to the design of other e-government services. Both user centered design and gamification design, individually, are known to benefit various aspects and types of e-services and applications. Here, we present a unified methodology by combining both methodologies, for the design of e-government applications. We believe that User Centered Design and Gamification design can help improve e-government services, for example, by increasing participation and increasing interest in the service, and following the combined methodology will help us do so. The case study highlights the mistakes made, and the lessons learnt while designing the platform for researchers to further test and build on the proposed methodology. As an example we learnt that virtual rewards, which form the core of the gamification framework have to be meaningful in order to work effectively. Simply using a gamut of badges (virtual rewards) without keeping the user motivations and behavior in mind only leads to building an ineffective system.

Keywords: gamification, user centered design, BPM, process-sharing platform, Switzerland

Efficiency and Usability of Information Systems: E-Recovery System in Slovenia

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Abstract: In today's world, the work of public administration and its processes is based on the information technology. Complex information systems enable better working processes within and between governmental institutions as well as with private sector organisations and citizens. Especially complex systems are used within the compound activities, horizontally linking many governmental institutions that are targeting an increase in efficiency and flexibility. Within the public administration, tax administration systems are among the most complex. They connect governmental institutions (G2G) and their employees, demanding accurate data and transparent processes for their customers. In the case of Slovenia, one of the systems covers the process of tax recovery. It was set up at the Customs Administration of the Republic of Slovenia with the aim of more efficient processes of tax enforcement for non-tax claims of other state authorities. This system, called e-recovery, is used by more than 600 institutions and more than 170 executors, so it has to be easy to use, accepted among users and useful for them. Immediately after the implementation of the system in 2009, the backlogs were reduced practically to zero in one year, and the number of successful non-tax claims increased by 300%. Besides the improved efficiency of the system, there was strong interest in the satisfaction of e-recovery system users. The aim

of the research was to test the issues of system performance, ease of use, user support and user satisfaction with specific functionalities. Through empirical quantitative research, we tested the opinion of more than 170 executors, users of the e-recovery system. The findings show that the system was well accepted among users and found to be very useful. Users evaluated the majority of indexes above average but stressed the lack of introduction courses. They do acknowledge that their work is faster because of the application, but their motivation for work is not affected. The most stressed imperfections were the occasional system failures, upgrade delays and connection interruptions, since users access the system through the internet.

Keywords: information systems, e-recovery, user satisfaction, efficiency, usefulness, software functionality, tax recovery, e-recovery

A Six-Dimensional Assessment Tool for e-Government Development Applied to the Homepage Sites of 25 U.S. States

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Abstract: This work applies a six-dimensional assessment tool (6DAT). The 6 dimensions for determining site development and effectiveness include; site security, database development and maintenance, comprehensive internal (intranet) capability, lateral institutional interactivity (links to associated services), citizen interactivity and transparency of government process. Analysis using the 6DAT yields a rubric showing the presence or absence of three key indicators associated with each dimension. The results are summarized on a table of e-Government readiness on those six dimensions among 25 randomly selected United States state government homepages. It provides a useful diagnostic for relative e-Government development at the state level.

Keywords: e-government site assessment, state e-government in the united states, six-dimensional assessment tool, 6dat, assessment of subnational e-government

The Impact of e-Democracy in Political Stability of Nigeria

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Abstract: The history of the Nigerian electoral process has been hitherto characterized by violence stemming from disputes in election outcomes. For instance, violence erupted across some states in Northern Nigeria when results indicated that a candidate who was popular in that part of the country was losing the election leading to avoidable loss of lives. Beside, this dispute in election outcome lingers for a long time in litigation at the electoral tribunals which distracts effective governance. However, the increasing penetrating use of ICTs in Nigeria is evident in the electoral processes with consequent shift in the behavior of actors in the democratic processes, thus changing the ways Nigerians react to election outcomes. This paper examines the trend in the use ICT in the Nigerian political system and its impact on the stability of the polity. It assesses the role of ICT in recent electoral processes and compares its impact on the outcome of the process in lieu of previous experiences in the Nigeria. Furthermore, the paper also examines the challenges and risks of implementing e-Democracy in Nigeria and its relationship to the economy in the light of the socio-economic situation of the country. The paper adopted qualitative approach in data gathering and analysis. From the findings, the paper observed that e-democracy is largely dependent on the level of ICT adoption, which is still at its lowest ebb in the country. It recognizes the challenges in the provision of ICT infrastructure and argues that appropriate low-cost infrastructure applicable to the Nigerian condition can be made available to implement e-democracy and thus arouse the interest of the populace in governance, increase the number of voters, and enhance transparency, probity and accountability, and participation in governance as well as help stabilize the nascent democracy.

Keywords: e-democracy, ICT, election, governance, politics

Making a Case for e-Voting in Nigeria

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Abstract: The challenge of developing an acceptable voting system that can reduce the manipulation and falsification of election results has been a major issue in Nigeria over the decades. The consequences of the perception of voting fraud have led to social upheavals with negative implication for the polity. Post election experiences, such as eruption of violence, prolonged litigation and sometimes culminating in the collapse of the democratic experiment, have informed the mut-

ing of ideas to create a leak prove voting system to surmount the challenges of electoral manipulation. The open ballot system was adopted in the Third Republic to reduce incidences of election rigging associated with the secret ballot system which was in use before then. This was modified and used to conduct the aborted 1993 presidential election in Nigeria. Though most analysts saw the modified system as an improvement over the voting systems previously used in the country, the secret ballot system re-emerged in the Fourth Republic and for fifteen years has been in use with its attendant fraud-prone shortcomings. Calls for improvement informed the recommendation by the Uwise Commission and the National Conference for adoption of electronic voting system. This paper employs secondary sources and descriptive analysis in the gathering and analysis of data respectively. Findings reveal the unsuitability for the Nigerian political environment, of the various voting systems adopted in the country, particularly, the secret and the open ballot system. It therefore advocates a faithful application of the system of electronic voting which has been found capable of eliminating the flaws of traditional voting system and enhancing the credibility of election results in the country.

Keywords: e-voting, elections, electoral frauds, secret ballot, open ballot, Nigeria

Cyber-Attack as a Menace to Effective Governance in Nigeria

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Abstract: Cyber-attack is an attempt by hackers to damage or destroy a computer network or system for purposes of mischief, fraud, and/or hedonism. To say that the incidences of cyber-attack are increasing rapidly in Nigeria is not only an understatement but also a cliché. From the organized private sector to public service, hackers have not spared any entity. More recently, governments in both developed and developing countries have had to deal with this menace on a frequent basis. The government of Nigeria is not an exception the thorn in the flesh. Indeed some government officials have blamed ineffective governance on the menace of cyber-attack, thereby creating the impetus for this research. The study therefore investigates the incidences of cyber-attack in Nigeria and its impact on democratic governance. The study was based on descriptive and explorative research design. This involves the use of research instrument administered to retrieve vital information from the target audience. The information gathered were coded into scale variables that support empirical investigation of the subject matter. In this study a total of 150 questionnaires from which a total of 126 were retrieved and used for the analysis. The data analysis utilized frequency distribution

involving percentage and factor analysis. This method is frequently used in the Social Sciences research. Both factor analysis and relational analysis were applied. Factor analysis establishes the most prominent factor responsible for cyber-attacks motivation while the relational analysis was further utilized in examining the determined effect of incidence and nature of cyber-attacks on the assessment of the effectiveness governance in Nigeria. The evidence from the study provides significant result in support of a significant influence of cyber-attack menace on the perception of governance. Analysis of the motivating factors suggests that financial benefits and wide spread dissemination of the virus accounted for most factor responsible for the attacks. The study therefore recommends that government and law enforcement agencies should strategize on means of providing a more comprehensive data base to facilitate effective investigation and further research in this area.

Keywords: cyber attack, governance, e-governance, factor analysis, Nigeria

E-Governance: Strategy for Mitigating Non-Inclusion of Citizens in Policy Making in Nigeria

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Abstract: The Nigerian federation that currently has 36 states structure adopted the Weberian Public Administrative system before now as an ideal way of running government, which was characterized with the traditional way of doing things without recourse to the deployment of Information Communication Technology (ICT). Today e-governance is seen as a paradigm shift from the previous way of governance. Research has shown that, the adoption and implementation of e-governance is more likely to bring about effective service delivery, mitigate corruption and ultimately enhance citizens' participation in governmental affairs. However, it has been argued that infrastructure such as regular electricity power and access to the Internet, in addition to a society with high rate of literacy level are required to effectively implement and realize the potentials of e-governance for improved delivery of services. Due to the difficulties currently experienced, developing nations need to adequately prepare for the implementation of e-governance on the platform of Information Communication Technology (ICT). Hence, this study seeks to examine whether the adoption and implementation of e-governance in the context of Nigeria would mitigate the hitherto non-inclusion of citizens in the formulation and implementation of government policies aimed

at enhanced development. To achieve the objective of the study, data were sourced and analyzed majorly by examining government websites of 20 states in the Nigerian federation to ascertain if there are venues for citizens to interact with government in the area of policy making and feedback on government actions, as a way of promoting participatory governance. The study revealed that the adoption and implementation of e-governance in the country is yet to fully take place. This is due to lack of infrastructure, low level of literacy rate and government inability to provide the necessary infrastructure for e-governance to materialize. The paper therefore, recommends among others the need for the Federal Government to involve a sound and clear policy on how to go about the adoption and implementation of e-governance through deliberate effort at increasing budgetary allocation towards infrastructural development and mass education of citizens.

Keywords: citizens, development, e-governance, ICT, policy making, public administration

E-Inclusive Society in Malaysia: Ameliorating the e-Disadvantage Communities

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Abstract: The government's agenda towards an e-inclusive society in Malaysia are not without challenges; one of which is the digital divide. The empirical evidence from a cross-sectional investigation showed that 52.2% of the sample population are without internet access. Consequently, the impact and effect of non-internet access will be a paradox in attaining e-society. By understanding the impacts of the e-disadvantaged among rural communities and the poor, policymakers can develop a strategy for an inclusive society that leverages technology to support access for socio-economic assistance at the federal, state, and local levels. This can further democratize the government-to-citizen relationship and accountability for the government's Economic Transformation Program (ETP). Lastly, suggestions for policymakers as well as for future research to deeply understand this research gap on democratizing e-government system and information access will be described.

Keywords: e-government, e-disadvantage, digital divide, poverty, social computing

Decision Objects for IT Cooperation Decisions in the Public Sector

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Abstract: Various issues like the competition for qualified employees or constantly changing threats for IT security stand as contemporary challenges for IT departments of companies and public authorities. Diverse forms of IT cooperation offer a practicable way to tackle such issues. However, in Germany the federal government, federal states and municipalities still plan, order, develop and run their IT mostly independently on their own. Although benefits of IT cooperation are heavily discussed in the literature, IT cooperation in the public sector is characterized by low adoption. To investigate the reasons for the low adoption, we will explore the decision objects of IT cooperation decisions in the public sector, such as the characteristics of IT tasks and the characteristics of IT cooperation forms. Outsourcing projects or cooperation decisions that appear regularly in the private sector turn out to be difficult or nearly impossible in the public sector. For example, legal regulations regarding data security and data safety hinder public organizations to take part in certain kinds of private cooperation forms, like public cloud based offers. However, not every combination of public and private business is popular among citizens. A transparent overview of which IT task can be done in an IT cooperation is a helpful artifact therefore. In order to achieve these goals, a literature review is conducted and the characteristics of IT tasks, as well as cooperation forms are analysed. Following on from this, the characteristics are classified and structured. Existing literature provides an overview of whether or not an outsourcing project is an interesting option. The important aspect of the eligibility of a partner or IT cooperation form is not discussed yet. This issue is addressed by this paper, because IT cooperation alternatives have different advantages that should be used by the public sector.

Keywords: characteristics of IT task, characteristics of cooperation form, IT cooperation decision, public sector, public organizations

Information and Communications Technology in Government, an Historical Perspective

Terence Keefe and Paul Crowther

Abstract: The purpose of this paper is to address a paradox in e-Government, namely a reputation for failure existing alongside an apparent reality of successful

implementation. There are frequent and much publicised stories and statistics about the high rate of failure in e-government projects. Yet at the same time as there seems to be an almost universal adoption of Information and Communications Technologies by governments at all levels, local and national. Our approach is to explore e-Government's origins for an explanation, examining the issue from a historical perspective to see if there are lessons to be learned about the future development and implementation of e-Government. This study and analysis addresses the similarities and differences between the present situation and what has happened in the past. The aim is to use the perspective of history to comment upon the longer term issues and questions which have an impact upon the success and failure of e-Government projects. The study is focused on developments in the UK, but with some reference to experiences in the US, Canada and Australia. The bulk of the research comes from a library search of government studies and reports, supplemented by informal conversations with participants conducted over the last few years. We looked at the history of government Information Technology in the UK from its early role automating data processing to the point now where it is arguably an indispensable mechanism at the heart of both the operation of public administration and the relationship between citizens and government. The analysis suggests that the impact and implications of e-Government have evolved beyond improvements to operational efficiency and better service delivery. The outcomes are a number of observations about the way in which e-Government projects have come to be managed and assessed, together with some core questions to be answered by further research and discussion. Specifically questions are raised about the strategic nature of e-Government and how their value has come to be assessed. We ask whether it is helpful for e-Government to be regarded as a strategic aim as opposed to a strategic enabler, and whether the answer the answer contributes to a mistaken view of e-Government's success.

Keywords: e-government, computing, government, public sector, project management

A Model of Secure Interconnection of Registers Containing Personal Data

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Abstract: it is a challenge to provide secure interconnection of registers containing personal data when the compilation of personality profiles is strictly regulated by the law. In the paper such a model is presented that conforms to the strict re-

quirement of personal data protection legislation in Hungary. The model is based on encrypted anonymous linking codes, generated and encrypted separately by the operators of different state registers. The encrypted anonymous linking codes are stored in the so-called linking register and interconnections are created via this register. This process significantly reduces the risk of illegal compilation of personal profiles. In Hungary a project is in progress in which basic registers are to be interconnected on the basis of the described model.

Keywords: data protection, public register, public administration, privacy, encrypted anonymous linking code.

A Framework for Simple, Secure and Cost Effective Online Voting System

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Abstract: Voting is a fundamental right of every citizen and to strengthen this fundamental right, it is necessary to provide a facility to each citizen to cast their vote. Due to socio-economic problems people are moving from their native places for jobs and prosperity. It results in inability to exercise the above fundamental right. As reported by the Press Trust of India (2012, April), the Election Commission of India has expressed lack of faith in online voting by citing a number of valid reasons including non-compliance with coercion-protection. This paper while taking care of those and other concerns proposes a framework through which online voting may still be successfully carried out in India or in other such diverse settings. This framework seeks to address key concerns such as security of voters, confidentiality of votes and non-duplication of votes. By conducting online elections as per this framework, there is potential to reduce cost and time drastically. A significant benefit of this framework is that it permits cutting across diversity variables and applies equally to gender, age, literacy, income level and others. This paper describes voter registration, vote casting, and a compatible framework for both computer literate and illiterate users. It also describes use of video surveillance for the conduct of free and fair elections. Latest technology like biometrics is shown to aid voter authentication and to control unfair voting, among others. This paper describes how a parliamentary elections at various levels can be conducted in just a little more than half of the current budget, thereby delivering huge savings on costs alone. The framework proposed by this paper continues to be compatible with existing processes. It also describes how election process can easily be managed with the help of significantly very less number of security personnel and rather few polling staff. In the method proposed by this paper, most Government offices and institutions would not be affected by elections and there-

fore may continue to work as normal. Use of this framework will release public/private transport from the burden of elections and transportation will not get affected and which will result in no inconvenient to general public.

Keywords: online voting, e-voting, electronic voting, eDemocracy, eGovernance, secure online elections

How to Spread e-Government? A Two-Step Framework to Define Innovation Strategies

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Abstract: The potential of benchmarking as a tool for learning, information sharing, and goal setting or supporting performance management has been recognized since the 1980, but it is mainly from the 2000s that benchmarking in e-Government issue has received growing interest. International e-Government Benchmarks has supported policy makers, provoking valuable discussions, setting new ambitions and identifying countries to learn from. Nonetheless, benchmarking studies in the field of e-Government at international level are mostly based on models measuring online services in terms of availability and sophistication. Hence, after 10 years a transformation would be welcome to set a new generation of e-Government services, since it is important to understand and measure the change in users' needs and how actually governments are exploiting the benefits of e-Government. International e-Government Policies aim at facilitating the transition of current Administrations to a new generation of e-Government projects at local, regional, national and international levels, improving Public Administration efficiency and effectiveness, while maximising the advantages deriving from ICT for both Administration and its users. The aim of the paper is to propose a two-step e-Government maturity framework able first to compare different Countries, Areas or Cities, among defined maturity performances and then to understand the impact of context-specific variables on that maturity, in order to support policy makers decisions. Referring to the first step, e-Government maturity can be summarized through four different dimensions: i) *penetration*, in terms of usage of online e-Government services; ii) *process digitalization*, in terms of Public Administrations ability to produce efficiency and effectiveness in internal procedure and services supply; iii) *user's satisfaction* of online services, both in terms of overall evaluation of the experience and comparing it with expectations and objectives; iv) *standardization*, which means quality of services in terms of usability features, which allows ease to learn of services, minimizing services accessibility barriers. Nevertheless, undertaking an e-Government project, could have different meanings in different contexts and a Public Administration invest-

ing in e-Government generally has more medium-term objectives, such as gaining efficiency or increase the quality of services; thus e-Government maturity is affected by different factors and can have different meanings depending on the specific referring context. Therefore the second step involves a cross analysis on context-specific factors, in order to understand relative performances of single Administration analysed taking into account exogenous factors in putting those performances in the right perspective. The first performance benchmark is translated into a more specific analysis in order to understand: i) the impact of a specific context on e-Government maturity performances; ii) the differences between context of countries belonging to the same performance cluster; iii) the differences between countries with the same context but belonging to different performance clusters. This in-depth context framework allows to identify relevant considerations and implications, describing the state and the evolution of each life event and the e-Government analysed service. The conclusions, anchored to the high level political priorities, allow each Country (or Areas, or Cities) to identify different policies, specific to their context, to achieve strategic objectives.

Keywords: e-Government maturity, e-Government benchmark, International benchmark, public services, country ranking

Improving Usability of e-Government for the Elderly

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Abstract: Our research focuses on the question of acceptance of current e-government systems by elderly users. It describes how such systems should be designed and offered for this user group in order to provide an acceptable alternative to offline processes. In order to answer our research question, the research was structured into three phases along the development model of the ISO 9241-210. This enabled to identify not only the main factors of acceptance, but also the expectations of elderly users. Our research was conducted in parallel in Germany and Hungary in cooperation with the Fraunhofer FOKUS, the Federal Ministry of Interior, the Bundesdruckerei and the Corvinus University Budapest. The first phase provided results about the expectations and previous experience of the users with e-government systems. Our goal was to acquire information about the general experience of the age group with interactive applications so that a suitable test environment could be selected in the second phase of the research. The results made it possible to select an application in the second phase, which was used as a model in the remaining phases. The selected application was the AusweisApp of the electronic ID card. This was tested with 75 participants and a control group consisting of 20 students of the Humboldt-University. The obtain

results allowed us to develop a generalised solution, the IGUAN guideline. This guideline makes a standardised approach to the usability improvement process possible. It contains the special requirements of elderly users, and a catalogue of criteria, which helps to develop an application in line with the set requirements. The third phase of our research was used a proof of concept for the IGUAN. The guideline was evaluated and tested with an iterative prototyping. The successful completion of this phase indicates that the IGUAN can be used to measurably increase the acceptance of e-government systems by elderly users. We could therefore demonstrate that improvements in the interface make e-government application possible which are perceived useful and easy to use by elderly users. These improvements will measurably increase the user motivation and experience. This can however only be achieved with a structured design process, and requires a framework which takes the requirements of the elderly users into account.

Keywords: e-government, usability, acceptance, guidelines, ASQ, usability testing, structured approach, GUI improvement

Brazilian e-Government Strategies

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Abstract: The goal of this paper is to analyze the strategic direction of the Brazilian e-Government Program from 2008 to 2014 associated with the Brazilian ranking on the United Nations e-Government Survey. Federal government strategic plans from 2008 to 2014 were analyzed based on three categories: e-services, e-administration (interoperability and integration, standardization and structuring systems) and e-democracy (open data, transparency and e-participation). Semi-structured interviews were conducted with fifteen government executives responsible for the planning and coordination of public policies. The research demonstrates that the Brazilian e-Government Program acquired a more important role in the Brazilian political arena after the protests of June 2013. The "*Gabinete Digital*" ("Digital Office") was created and reported directly to the Presidency of the Republic. It has successfully launched many e-government initiatives that were being developed but were not considered as a priority. Another research finding was the emphasis on increasing the supply of e-services. This was explicitly observed in government strategic planning starting in 2011. As a result of those strategies, Brazil moved up 33 positions on the online index of the UN Survey from 2010 to 2012. The last presidential term was more focused on promoting interaction between government and society – through an increase of

transparency, the use of open data by the states and municipalities, and providing access to public information. As a result, Brazil rose seven positions on the e-participation index between 2012 and 2014. Despite numerous initiatives, Brazil's e-government index ranking in the UN Survey is advancing very slowly and still didn't reach the 45th global position it had in 2008, mainly because of low scores on the telecommunication infrastructure and the human capital indexes.

Keywords: strategic planning, electronic government (e-government), digital governance, social participation, Brazil

Cybersecurity Challenges to American State and Local Governments

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Abstract: In this paper, we examine cybersecurity challenges to American state and local governments. In particular, we address the extent and magnitude of cyberattacks against these governments, the problems these governments face in preventing attacks from being successful, the barriers internal to their organizations that make cybersecurity difficult to achieve, and actions that they believe should be taken to improve cybersecurity practice. Our research method consisted of a focus group of information technology (IT) and cybersecurity (CS) officials from one American state. Among other things we found that cyberattacks, mostly in the form of malicious emails, are constant, 24/7/365, and can number in the tens of thousands per day (at least among state government and larger local governments). The participants in our focus group noted that while they weren't perfect at it, they felt that for the most part they had the technical side of cybersecurity under good control. These governments' biggest cyber challenge is human error; that is, end users who (mostly by mistake and without malice) open an attachment or click on a link in a phishing email that then allows an attacker into the government's IT system. We also found that the probability of a successful phishing cyberattack is relatively high. These governments face several barriers when attempting to prevent cyberattacks and when endeavoring to mitigate successful ones, including: insufficient funding and staffing; problems of governance (namely, lack of control over all actors within a governmental unit due mainly to the federated nature of government); and insufficient or under-enforced cybersecurity policies. Our participants also noted that there are several common sense ways that state and local governments can improve cybersecurity. Among others, these include: frequent vulnerability assessment, continual scanning and testing, securing cybersecurity insurance, improving end user authentication and authorization, end user training and control, control over the use of external de-

vices (flash drives, etc.), improved governance methods, sharing information about cyberattacks and cybersecurity policies and practices among governments, and, finally, creating a culture for cybersecurity in governmental organizations. Areas for further research into state and local government cybersecurity include: the types of cyberattacks that state and local governments typically face; the types of actions that these governments should take to prevent the attacks from being successful and to mitigate the results of successful attacks; gaps between these governments' need to prevent and mitigate cyberattacks and their ability to do so, including barriers to effective state and local government cybersecurity and best cybersecurity practices; and recommendations for improving state and local government cybersecurity.

Keywords: cybersecurity, cyberattack, local government, state government

E-Government, e-Governance and e-Administration: A Typology of Corruption Management Using ICTs

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Abstract: There are growing concerns among development experts and researchers about Africa's transition from agrarian economy to industrial economy. They argue that the continent's ambition of being the new economic frontier and preferred destination for foreign direct investment is being threatened by faulty leadership predicated on corruption. In any case, this corruption postulation needs to be grounded in scientific evidence and data. What is clear in the literature is that investors, foreign or local, are not likely to play in an atmosphere of uncertainty. Among other variables, a stable democratic setting is a sine qua non for investment inflows. Apparently, democracy remains the best form of government as it guarantees inclusivity of the leaders and the led in the governance process. In recent memory, Information and Communication Technologies (ICTs) have been reshaping political development and democratization globally. And Africa has its slice of the pie. ICTs as a knowledge tool empowers the led with information about governance procedures for them to in turn hold their leaders accountable for actions and inactions with a view to reducing corruption-induced social tensions. Focusing on Nigeria as case study, this paper measures corruption using statistical model and discusses e-government, e-governance and e-Administration as a typology of managing corruption using ICTs. The expected research outcome is an information system blueprint for a democratic structure

that promotes developmental politics and attracts foreign direct investments. This way, Africa's dream of being the next preferred global investment destination will scale up to reality.

Keywords: corruption, democracy, e-administration, e-government, e-governance, ICTs

Curbing Insecurity in Sub-Saharan Africa Through ICTs for Development (ICT4D)

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Abstract: This paper presents figures to significantly gauge insecurity levels in Sub-Saharan Africa. A topic of growing debate globally is insecurity. And Sub-Saharan Africa has its fair share, ranging from the ebola virus disease (EVD), climate change vulnerability, environmental risk, food insecurity to terrorism. Insecurity has reputation for depleting socio-economic activities. The social contract between government and the governed makes it mandatory for any responsible and responsive government to avail its citizens socio-economic transformation. Researchers, practitioners and captains of industry have concurred that tackling insecurity requires a multi-prong approach spanning political, economic, technological and military solutions. Though the mechanics of insecurity may seem the same across climes, the same cannot be said of the ideology. Studies have shown that insecurity in Africa is hinged on poverty and ignorance. Using secondary data and modelling, this study applies Information and Communications Technologies (ICTs) in combating poverty and ignorance in Sub-Saharan Africa through e-Education, e-Health, e-Agriculture and e-Social Security. The research study provides empirical data for substantiating poverty-driven insecurity. It also outlines guidelines for designing and implementing ICTs policies, programmes and projects for sustained and sustainable development within the framework of Africa's economic status quo. The expectation is that these measures will engender social transformation and security.

Keywords: e-agriculture, e-education, e-health, ICTs, insecurity, socio-economic transformation

Electronic Enabled Citizens-Parliament Interaction: Imperative for Democratic Governance in African States

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Abstract: Pivotal to democratic governance is the legislature which provides a veritable interactive, participatory and consultative platform for citizens' input in the decision-making process. In an era of public disenchantment on democratic institutions, modern democratic parliaments utilize Information Communication Technologies (ICTs) to enhance their accessibility and interaction with citizens for inclusive decision making process. In spite of the unprecedented growth, diffusion, acceptance and usage of ICTs in Africa, legislative assemblies of most African countries are inaccessible and lack adequate meeting facilities to regularly interact meaningfully with the public. This research paper therefore, employs a combination of descriptive statistics of website survey and updated literature search to evaluate the extents of the usefulness of African parliamentary websites to engage citizens in legislative decision-making process. The research findings reveal the capacity of African parliamentary websites to enhance democratic governance such as required by modern democratic parliaments.

Keywords: parliament, legislative assembly, decision-making, democratic governance, Africa, citizens interaction

Electronic Petition and Democratic Participation in Nigeria

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Abstract: Citizen's participation in decisions on how the country is governed is crucial in a democratic polity. In Nigeria however, credible platform for citizens input in major policy decisions that affect their lives hardly exist. The Nigerian State is faced with the crisis of democratic legitimacy and accountability. Governance in Nigeria is characterized by corruption, display of contempt and disregard for the people, deteriorating political institutions, disrespect for human dignity and state-society disconnect. Hence, a growing sense of public cynicism and disenchantment towards the government. It is on this premise that this paper proposes e-petition as a simple, convenience, effective, affordable mechanism for citizens' democratic engagement. Using case study design and literature search, this paper reviews e-petition system and practice in advance democracies and develops an e-petition framework for integrating citizens input into public decision making across all levels of government in Nigeria. With the growing acceptance and usage of Internet and mobile technology in Nigeria, this paper ar-

gues that e-petition has the potential of reducing barriers to citizens 'participation in the democratic process. The adoption of e-petition will provide wider platform for the masses to raise issues of public concerns with public authorities and as well, a mechanism for resolution of grievances or demonstration of support for popular policy. With e-petitions therefore, political malaise and the crisis of democratic accountability and legitimacy is forestalled in Nigeria.

Keywords: ICT, petition, participation, democracy, decision-making, Nigeria

How to Foster Prosumption for Value Co-Creation? The Open Government Development Plan

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Abstract: The emergence of the Web 2.0 with vibrant online communities has shifted the governmental perspective from an administration with closed doors and one-directional communication to a transparent interaction and two-way communication urge. The challenges of our current society report citizen expectations for open data, e-participation and social media campaigns. The world wide usage of social media tools has opened new possibilities for authorities to engage their citizens in governmental work. In the mean time, citizens prove to be increasingly interested in engaging creatively as prosumers with the governmental agencies as long as they are offered the means to prosume. Like in the business world, they need an open platform which offers knowledge sharing, interaction, and the opportunity for creative initiatives, but these characteristics depend upon the level of governmental openness towards them through adequate tools and a transparency –oriented culture. The literature proposes stage models for developing e-government, but they all lack the connection with the degree of citizen participation and the value it provides for government activities. We must state the fact that there is a difference between usual citizen passive activity, a low involvement degree and prosumer creative engagement, the last demanding an increased organizational effort and loss of power for more valuable outcomes. Therefore, the present paper proposes an open government development plan to foster presumption on different levels of citizen engagement for value co-creation and government innovation.

Keywords: value co-creation, open government, prosumption, citizen participation

Benefits and Challenges in Information Sharing Between the Public and Private Sectors

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Abstract: Advancements in information and communication technology (ICT) helps to enable information sharing between organizations. A large number of researches have been conducted to identify benefits and also barriers in inter-organizational information sharing as key elements in adopting this process. However, there are only a few studies of information sharing focused on public and private sectors relation. Based on literature review, this paper provides an overview of the benefits and challenges of sharing information for both government and business' perspective of current practices, defines comparative and similarities, and discusses proposed solutions to lower barriers and increase benefits perceived by governments and companies. We find that information quality and comprehensive information are main benefits in public and private sectors information sharing, while technical barriers must be cleared up before other barriers.

Keywords: information sharing, inter-organizational, challenges, G2B, benefits, e-government

The use of Social Network in Enhancing e-Rulemaking

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Abstract: E-rulemaking is concerned with the use of ICTs to allow citizens to read the laws the government is working on, and submit their feedback so this feedback can be incorporated in the finalized laws. Forums have been the main technological tool used in e-rulemaking however they have shown many limitations, and are unable to fulfill all the requirements of e-rulemaking. It is thought that the use of social networks in e-rulemaking might remedy these limitations as SNSs showed a political impact in other political activism venues. However, little research has been conducted to investigate the use of SNSs in e-rulemaking. This research answers the following research question "How can social networks be used in enhancing e-rulemaking?" To answer this question, a proposed conceptual model and a research model were developed and tested through qualitative and quantitative methods. Five out of the variables studied (information collection, user interface, privacy, security, and use of emoticons in communications) were found to have a significant influence over citizen inclusion in e-rulemaking.

Accordingly the research contributed the determination of the variables that influence the use of SNSs in e-rulemaking. Moreover, the research contributes a conceptual and a research model illustrating the effect of these variables on e-rulemaking as well as an understanding of how social networking sites could be used to enhance e-rulemaking practices and citizen inclusion.

Keywords: social networks, social media, e-rulemaking, e-participation, inclusion

Building a Benchmarking Model to Assess Political Accountability in Parliaments

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Abstract: Effective parliaments are essential for strong and stable governments. The different types of initiatives processed in parliaments play a crucial role to address issues of health, social welfare, education and economy, and hold governments to account. In this context, benchmark indicators are essential elements in ensuring political accountability and transparency. Although in recent years different benchmarking proposals have been developed for purposes of self-assessment and to identify the minimum criteria for being a democratic parliament, little is known about how to measure productivity of politicians. This paper presents a benchmarking proposal, focused on a productivity and attendance model, as a tool to assess political accountability. This approach addresses the following key issues: what to measure, how to measure, the minimum criteria to be measured to obtain a set of indicators and what technical issues should be addressed to support this approach. It has been researched in the context of the Parliament of Canary Islands in Spain for all representative members of parliament and parliamentary groups in the last legislature. The initial findings suggest that an approach to assess political accountability focused on productivity should be linked with comparing parliamentary initiatives of the same type of complexity and not only based on computing quantitative outputs on presented initiatives. It ensures that a more robust productivity measurement is obtained and productivity indicators are calculated in a weighted way according to the complexity measure that entails each initiative type.

Keywords: political accountability, policing politicians, legislative transparency, benchmarking, benchmark indicators

Electronic Citizen Participation in Local Government Decision Making; Applications for Public Budgeting

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Abstract: This paper examines the use of electronic means of citizen participation (primarily the use of social media) in selected budget and finance functions of local government in the United States. E-government and electronic participation have received increased attention as tools that 21st Century governments utilize to interface with citizens in the conduct of the public's business. This study employs a survey approach to describe and catalog a purposeful sample of local governments in the United States as a preliminary effort to determine the range and scope and capacity of local government to utilize input gleaned from these forms of citizen participation as tools to guide decisions on resource allocation and spending decisions. A survey was administered to 250 local governments to build a descriptive data set. Jurisdiction size, finance capacity, and other organizational characteristics have been collected and assembled to produce a matrix of the types and usage of electronic forms of participation from each jurisdiction. In addition to the construction of a data set of these local governments, 15 jurisdictions from the State of Georgia have been selected for more in-depth analysis. Elite interviews were conducted with local government officials in those jurisdictions to develop a qualitative dimension to this study. Though there have been several similar studies conducted across the globe, the fast pace of technology and evolving patterns of adaptation and the struggle of local governments to keep pace presents a need for updating and analyzing current applications and lessons learned. This present paper focuses on one case study in this broader project. Survey results and preliminary analysis will be shared from local governments in the State of Georgia in the United States. Although there are inherent limitations in the presentation of single case study results, it is indicative and representative of trends discovered in the broader survey results. Preliminary findings and observations suggest despite important advances in the use of social media and related technologies to engage citizens, the application for budget and finance functions in local governments in the State of Georgia (and in other US local governments) remains uneven, reflects limited utility and still receives relatively low priority from government officials.

Keywords: public budgeting, electronic participation, decision making

An Analysis of the Brazilian Challenges to Advance in e-Government

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Abstract: Governments all over the planet have acted to publish their information and services in an online environment. While the world observes a rapid advancement in e-government, the Brazilian reality is different: low percentage of transactional services and low adherence of its population to e-gov. Despite being among the ten largest economies in the world, Brazil is ranked 57th in the e-government development survey conducted biannually by the UN. This paper aims to unveil the elements that prevent the development of the Brazilian electronic government by analyzing the three dimensions proposed by UN in the conceptual framework of the E-Government Development Index (EGDI). The research showed that the primary challenge to e-government in Brazil is related to human education factors: adult literacy; combined primary, secondary and tertiary gross enrollment ratio; expected years of schooling; and average years of schooling. The second main barrier to Brazilian e-government is the technological development index, as despite recent improvements, Brazilian statistics are still lagging behind those of developed countries. Although the Inherent Human Capital Index (HCI) and the Telecommunication Infrastructure Index (TII) are primarily responsible for the current Brazilian ranking, the historical analysis showed that the trend line of these indexes shows stability over the past eleven years. Unlike what is happening with the HCI and TII indexes, the outcomes presented a worsening in the trend line of Brazilian electronic government services' maturity. These results can assist the Brazilian government to identify strengths and weaknesses in its e-government strategy, serving as a guide for public policies specifically targeted to address the main problems related to e-government and implement actions that would allow e-gov services to reach transactional and connected levels, as well as the implementation of a national identity management strategy.

Keywords: electronic government, online services, Brazil, EGDI, United Nations

Smart Government Solutions in Emerging Economies: Making the Leap Ahead

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Abstract: Research on service delivery management reform remains OECD-country centric, which means it has limited applicability for emerging and developing economies that need to make a quantum leap in making basic services of sufficient quality available to all citizens. This paper reviews the experience gained so far in implementing a technology driven and citizen-centric service delivery reform model. Using relatively cheap technology, smart phone and dash board technology, the Smart Proactive Government model presented has, in a relatively short period of time, made inroads in intractable governance contexts such as India, Pakistan and, more recently, Albania. This contrasts with the mixed results achieved with the introduction of 'big IT systems' in public sector management. While the authors recognize that numerous challenges remain to be overcome, the approach presented constitutes a new way of using technology in improving the effectiveness and quality of public sector governance.

Keywords: ICT, cell phones, governance, public sector reform, change management, innovation, citizen engagement, performance monitoring

IT Project Prioritization and Scoring System for Thai Public Sectors

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Abstract: Many public sectors struggle to balance the long list of demand for implementing new information technology (IT) projects while maintaining/improving existing systems that support the core services. Determining how to prioritize several projects for many departments and various groups of users with different educational background is non-trivial. Often times, the person with higher rank gets to choose which projects should be implemented first and the organization ends up with biased project prioritization. In this paper, we introduce a Project Dependency Map and Scoring system (PDMS) for IT project prioritization and ordering. Unlike Program Evaluation and Review Technique (PERT) which is widely adopted for ordering tasks in a project, PDMS can be used to prioritize and order multiple projects for a long term IT investment planning. De-

pendency between projects along with the project type determine the order of the dependent projects, whereas independent projects can be prioritized and ordered according to the well-defined scoring system based on three different aspects: necessity, readiness, and worthiness. The quantitative scoring scale is derived from more than 4 years of experience working as the IT consultants in implementing IT Strategic Plan for five different public sectors and state enterprises of different sizes and functions. The result of the PDMS, can be indirectly measured by evaluating the number of successful projects which are executed and completed on time. Finally, we applied the PDMS approach at the Dairy Farming Promotion Organization of Thailand (DPO) and found that such approach was well accepted by the ICT board members.

Keywords: IT projects, prioritization, project dependency map, ICT master plan

E-Political Marketing Tools in Modern Democracies: The Nigerian Perspective

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Abstract: Despite an increasing presence of political consultants, all indications are that elections- promotional activities are relatively static in some countries. These election promotional activities in some nations include professionally produced television advertising; media relations experts who wage spin control; and planned events such as leader tours and television debates. Nowadays, campaigns are conducted by telephones instead of foot soldiers or door to door canvassing. Perhaps the most visible modernization in recent years has been parties' mediocre websites that provide daily campaign updates and which is sometimes mirrored by candidates' amateurish online presence. But, to what extent is American style of political marketing creeping into other countries' electioneering campaigns (Nigeria inclusive). This is the crux of this study. The study surveyed 400 political marketers from the two dominant political parties in Nigeria to identify the e-political marketing tools currently used to reach their electorates on one hand, and factors affecting the choice of the tools on the other. The result shows that there are two categories of e-political marketing tools in use. These are Internet marketing tools and mobile marketing tools. In the same vein, the factors that influence the choice of the tools are impact, convenience, expose reach, cost, time, and frequency. Based on these findings, political managers are advised to

take advantage of the tools which are in tandem with global best practices in modern democracies.

Keywords: e-political marketing, campaign tools, democracy, elections, voters, Nigeria

The Government's Role in Raising Awareness Towards e-Commerce Adoption: The Case of Jordan

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Abstract: Government initiatives play a major role in e-commerce adoption having the potential to make a positive contribution to e-commerce development or, more negatively, to place barriers in the way. Researchers have already tried to address certain barriers to e-commerce in Jordan; however, some of the challenges cannot be addressed without the government's support. This study develops and applies a novel research method to examine e-commerce activities and awareness by analysing relevant articles from a national newspaper (1281 articles). The articles were categorised and analysed into themes and reportage of e-commerce in Jordan. The newspaper provides a window on e-commerce activities and the perceived importance of the facilitators of e-commerce in Jordan. The study revealed that while businesses are aware of e-commerce, and there appears to be a desire to conduct e-commerce, there are limited initiatives for raising awareness about the use of e-commerce among citizens. Although there is growing use of social media for leisure, citizens have yet to transfer their online time to e-commerce activities. The reasons for this may be that there is currently little consumer protection for online shoppers, and there is the issue of credit in a Middle Eastern culture, where cash on delivery is still a major payment method. Clearly, cash on delivery limits transactions to a local area, while a major advantage of e-commerce is its global reach. Literature shows that trust is one of the key factors in establishing and maintaining customer relationships, but the study found only 7 articles that addressed this aspect. The articles also showed that although a temporary law was drafted in 2001, the pace of e-commerce overtook the legislation and new clauses were necessary. However, the e-transaction law which was to replace the 2001 legislation, has been delayed through both legal processes and setbacks. The government could take advantage of social media, the press, training and education, and advertising campaigns to increase citizen awareness of e-commerce, but a legal framework that gives consumer protection may be a more important first step in setting out an e-commerce framework and transaction space.

Keywords: e-government, Jordan, awareness, e-commerce adoption, trust, citizens

A Proposal for a Case Law e-Repository for ASEAN Economic Community With Particular Reference to Electronic Commerce

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Abstract: Chaired by Malaysia, the ASEAN Economic Community is taking place by December 2015 to create a single market comprising free movement of goods, services, investment, capital and skilled labour. To realise this, the ASEAN Charter emphasizes harmonised rules aside of the reduction/removal of tariff and technical barriers as this will place all ASEAN international traders on an equal footing apropos the law governing their transactions. To this end, ASEAN has paid particular attention to electronic commerce. However, the legal harmonisation is not all. There should be a coordinated system of dispute resolution to facilitate harmonisation. As there is no ASEAN Court, domestic courts have to settle disputes. In that case, unless they are coordinated or connected, domestic courts may come up with conflicting interpretations of law and legal decisions. To solve this issue, there should be a central e-repository system that will hold all the domestic courts' decisions classified into various categories of law. The legal community including the judges, arbitrators, lawyers, and academics will be able to know how differently legal rules have been interpreted and decisions made by the law courts and arbitration tribunals of different Member States. This will help them research further to develop a unified approach, namely ASEAN approach of interpretation, which will facilitate integration in the real world. By a theoretical and qualitative research, this paper focuses on the ASEAN legal harmonisation agenda, the likely difficulties in achieving uniformity in the judicial interpretation and decision making with examples of a couple of decided cases, and the role of an e-repository system to remove those difficulties. It concludes that the ASEAN should establish a case law e-repository implementing a modality framework suggested herein.

Keywords: legal harmonisation, judicial interpretation, ICT and e-Repository

Fraudulent new IT Systems of the Israeli Courts-Unannounced Regime Change?

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Abstract: Validity, integrity, and impacts of the new IT systems of the Israeli courts, implemented in the decade of the 2000s, are examined. The report is based in part on the Human Rights Alert, NGO, (HRA) submission for the Universal

Periodic Review (UPR) of human rights in Israel by the Human Rights Council (HRC) of the United Nations (UN) which, following professional HRC staff review, was incorporated into the HRC UPR report (2013) with the note: "Lack of integrity in the electronic record systems of the supreme court, the district courts and the detainees' courts in Israel". The current report is also based on the findings of the State Ombudsman's Report (2010), which noted that system development failed to comply with state law and standards. System analysis reveals development and implementation with no lawful authority, servers of unverified identity, and invalid implementation of electronic signatures, authentication procedures, authorities and permissions. Data mining reveals widespread issuance of invalid, falsified, simulated, and/or forged judicial records. Case studies document the implications of the operation of such conditions. The systems stripped judicial records of any validity and authenticity. Such systems, implemented through a costly, long-term project, overseen by key national judicial figures, are unlikely to be the outcome of oversight, or human error. The systems should be viewed as suspension of the law of the land, or denial of access to the civil courts. As such, they represent a regime change, or a constitutional crisis in a nation with no constitution. Corrective measures are proposed, calling for Publicity of the Law – transparency - and for the Separation of Powers – placing the development and implementation of such systems under accountability to the legislature. IT experts should assume more prominent duties in the safeguard of civil society in our era.

Keywords: e-justice, human rights, courts, prisons, banking regulation, State of Israel

Building and Evaluating Classification Framework of Critical Success Factors for e-Government Adoption

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Abstract: This research focuses on the critical success factors of e-government. Its purpose is to propose and assess a classification framework of critical success factors for adopting e-government in Poland. This framework should exemplify the “best practices” for the e-government, especially in the countries of the Visegrád Group and also in other transition economies of Central and Eastern Europe. The paper continues as follows. Firstly, the success factors for adopting e-government in Poland are investigated and the framework of critical success factors is identified. This framework embraces four categories of success factors, and they are: economic, socio-cultural, technological and organizational. All the factors are assigned to three stages: ICT access, ICT competences and ICT use.

Secondly, the framework is evaluated and the statistical analysis is conducted. The paper concludes with discussing its findings, limitations, implications, and avenues for further research.

Keywords: e-government, critical success factors, e-government adoption, the transition economies, the Visegrád Group, Poland

Participation and Data Quality in Open Data use: Open Data Infrastructures Evaluated

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Abstract: Infrastructures may improve the use of Open Government Data (OGD) by providing insight in how individuals can participate in data reuse and in the quality of open data. Yet, most OGD infrastructures do not support such activities. The objective of this paper is to evaluate the importance and usability of participation mechanisms and data quality indicators for open data infrastructures through quasi-experiments. A quasi-experiment is an experimental evaluation method in which researchers have control over the (non-random) assignment of participants to treatment and control conditions, the selection of control conditions and the organisation of the treatment, and over the measures. Moreover, quasi-experiments usually include a pre-test (i.e. a test before the treatment or control condition) and a post-test (i.e. a test after the treatment or control condition). The results of our quasi-experiments showed that the prototype of our OGD infrastructure improved OGD participation and data quality analysis by providing functionalities including discussion messages, social media sharing, linking items related to a dataset, Wiki descriptions and discussions, and data quality ratings and reviews. Participant observations showed that participants in the treatment group found it easier to conduct tasks with the prototype related to giving feedback on and discussing open data and rating and reviewing data quality than the participants in the control group. Our study suggested that participation mechanisms and quality indicators add value and improve the use of OGD. It recommends the implementation of such mechanisms and indicators in existing OGD infrastructures. To support the creation of transparency, citizen participation and innovation with OGD, our findings suggest that participation mechanisms and data quality indicators are a condition. Yet, these mechanisms and indicators are not sufficient for ensuring the generation of the OGD benefits, since there are still many factors which hinder the generation of these benefits. We discuss a number of these factors including factors related to OGD infrastructures and factors beyond OGD infrastructures.

Keywords: open data, participation, data quality, usability, experiments, infrastructure, social media

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E-Procurement: A Tool to Mitigate Public Procurement Fraud in Malaysia?

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Abstract: The major aim of this paper is to explore and analyse the views of Malaysian public officials on how e-Procurement helps mitigate procurement fraud. Inevitably, government activities have an intertwined relationship with the private sector manifested in the implementation of activities such as acquisition of works, supplies and services. While it is fully legitimate for private enterprises to bid for public works, in many cases there is inappropriate granting of public money to non-qualifying private business in a fraudulent manner. Concerns about public procurement fraud in Malaysia have been of practical significance for massive public spending and great deficiencies among various government departments. The visibilities of fraud losses in the public sector have undermined the delivery of public services. Decrease of fraud can improve the country's growth in terms of infrastructure, by providing facilities to improve healthcare and education, to combat poverty, and to fund security and defence. The prevalence of public procurement fraud has eroded public confidence of political and economic institutions. The implementation of E-Government has transformed the public service into a dynamic and diverse environment for government activities. Electronic Procurement (e-Procurement) can be used as a tool to mitigate fraudulent activities in public organisations. In other words, e-Procurement is one way of mitigating public procurement fraud in Malaysia by ensuring accountability, transparency and the achievement of best value for money contracts. In this study, the oral history technique via in-depth interviews and documentary analysis using a political economy approach are employed. We examine how e-Procurement is infused with power relations of dynamic institutions, various vested interests and public-private interactions. This study shows how e-Procurement helps to alleviate fraudulent activities in the Malaysian public procurement and it has a number of practical implementations and contributions. The experience and views on e-Procurement by Malaysian public officials can facilitate policy makers, enforcement agencies and researchers in understanding how to mitigate public procurement fraud using an automated and online environment. However, this study also concludes that e-Procurement is just a 'tool' to moderate public procurement fraud, not the solution to this problem.

Keywords: e-procurement, public procurement, fraud, public-private organisations, Malaysia

A Conceptual Model for Examining Mobile Government Adoption in Saudi Arabia

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Abstract: Recently, many governments have started to change the ways of providing their services, so they allow their citizens to access services from anywhere, without the need to go to a physical place of the service provider. Mobile government (M-government) is one of the techniques which fulfil that goal and adopted by many governments. M-government can be defined as an implementation of Electronic Government (E-Government), where mobile technology is used, with the aim of improving service delivery to citizens, businesses and all government agencies. Although M-government has emerged several years ago, these services are still in their early stage in developing countries in general, and in Saudi Arabia in particular. As any newly introduced concept into society, M-government is facing many difficulties in developing countries and not always accepted. There are many factors influencing the acceptance of M-government in developing countries, for instance the education level, the cost and complexity of use of technology, etc. Governments in developing countries, in general, and in Saudi Arabia in particular, are paying more attention towards the adoption of M-government services by its nationals. This could be done, for example, by considering criteria that help making mobile services easily accepted by citizens, for example by implementing services that are user friendly and that are adequate to citizen needs. *Our study is focusing on the adoption of M-government in Saudi Arabia.* Our research question is: "What are the factors which influence the adoption of M-government in Saudi Arabia?" Answering this research question will enhance the knowledge in this field, by developing a conceptual model for citizens' adoption of M-government. The developed model integrates constructs from the Technology Acceptance Model (TAM), User's Satisfaction, Perceived Service Quality, Perceived Mobility and Trust. The developed model will provide more knowledge to the field of m-Government, either on the theoretical or practical sides. Theoretically, this study aims to determine the variables that are influencing the user intention to use m-Government services. This is made by exploring the applicability of TAM and other external variables derived from the related literature, such as perceived trust, perceived Service Quality, perceived Mobility and user's satisfaction. Practically, our study will help decision makers in M-government projects, in general, and mobile service providers, in particular, to successfully implement M-government services. This is made by providing a better understanding of the variables of the TAM and other external variables. To answer our research question, mixed research methods will be used (qualitative

and quantitative methods). The relationships between these constructs form the basis for the research hypotheses which will be tested using a quantitative research approach. Specifically, a survey will be used for gathering data from a sample of Saudi citizens and statistical methods will be used for analysing the quantitative data generated from the primary research. Also, the qualitative data will be used to analyse and assist in explaining and refining the statistical results obtained from the quantitative results, specifically by investigating the participants' views.

Keywords: e-Government, m-Government, adoption, model

E-Service Adoption in Developing Countries With Instability Status: The Case of e-Government in Syria

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Abstract: Governments consistently strive to improve their online services for citizens & businesses. Enhancing digital capabilities at different levels to provide benefits to all stakeholders. Despite the potential benefits that eGov brings to stakeholders, the level of adoption is still low in developing countries. In countries that face instability, eService is still necessary and governments face extra challenges in their provision, however, academic literature that covers transformational eGov activity in times of geopolitical instability is uncommon. Our aim is to address this gap in the literature by identifying factors that might affect the success of such implementation. We use the example of Syria and other developing countries facing similar challenges to tackle this problem. Our work stems from a literature review that focused on factors affecting the development of eService. The ten principles of reinventing government by Osborne and Gaebler were used to identify eGov enablers, also desk research method was used to identify challenges and barriers: from these we derived a novel conceptual framework in which we suggest technology-related strategies that may assist in the effective implementation of eGov for countries with instability status where the Syrian case was used.

Keywords: eGovernment, Syria, eService, barriers, enablers, framework

Implementation of e-Government in Kurdistan Regional Government (KRG): Political, Social and Economic Constraints

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Abstract: The trend of implementing E-government is on the rise all over world, from developed to developing countries, all are in pursuit of gaining benefits from this modern technique of management. In order to add a unique angle to an investigation considering the implementation of e-government, an area of Iraq-Kurdistan Region is being targeted. This area suffers from high levels of economic and political instability, for which, improved patterns of governing can play proactive role, but before suggesting anything, it is necessary to predict the degree and nature of its benefits. The main aim of the research is to conduct a critical examination of the governing system, the political and economic issues specific to this region and to decide on the basis of these contextual factors whether the idea of implementing e-government in Kurdistan region might be seen as a tool for solving the issues Kurdistan region government might face. In this regard, the study at first attempts to examine the current status of the e-government implementation process in Kurdistan region followed by its analysis of government policies of Kurdistan region on e-government program, besides, it also seeks to understand the feasibility and propose a model for a successful implementation of e-government in Kurdistan while taking all possible issues and challenges into account. Grounded theory approach has been used as a main method in order to closely examine the process of e-government implementation in KRG, the factors associated with it and the problems that KRG might face in implementing e-government system. In the present study, multi-method research has been selected. E-government implementation in KRG was not studied with depth before this research and, therefore, exploration was required. For this exploration, qualitative method is appropriate; however, the outcome needs to be generalizable so to guide the government in improving the e-government implementation process. For this, quantitative research was needed. To fulfil both these requirements, I began with qualitative research method and once I had fully explored the phenomenon and was aware of the main factors that can influence the process, I conducted quantitative research with much larger sample .This enabled me not only to confirm the findings of qualitative research but also in quantifying the obtained findings. This quantification of the importance of factors was important to create a priority list for KRG listing all factors in descending order of their importance. Academics, to whom this research will be of most interest, the results and findings of this research, will contribute a lot on the subject of e-government and economics in KRG-Iraq.

Keywords: Kurdistan Region Government-Iraq, e-government, e-government requirements, e-challenges, policies

Challenges Facing e-Government and Smart Sustainable City: An Arab Region Perspective

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Abstract: Information and Communication Technologies (ICT) have affected recent public administration and governance. Electronic Government (e-government) services were developed to simplify government procedures and improve interaction with citizens, on one hand, and to create new governance models to empower citizens and involve them in the decision-making process while increasing transparency on another hand. According to the literature, implementing e-government applications and technologies would enable the country to address the fundamental questions of how cities function, how they are organized, and how businesses and processes could be made intelligent for citizens. By answering these questions, the country would be putting the grounds to enable the transformation towards Smart Sustainable Cities (SSC). Recently, the concept of SSCs gained importance as a mean of making ICT enabled services and applications available to increase the citizens' quality of life and improve the efficiency and effectiveness of the services provided by governing entities and businesses. There is still no common agreement on what a SSC means in practice; however a SSC is characterized by Smart Economy, Smart People, Smart Governance, Smart Mobility, Smart environment and Smart Living. Implementing e-government and transforming towards SSCs is faced with various challenges. Some of the challenges are common across the regions of the world and others are specific to one region or even to a country within a region. Despite these challenges, the Arab region has been embarking onto the e-governance wave for the past few years. It showed a notable progress in implementing e-government services; however, variance exists in the implementation of these services even among the countries of the region. Selected Arab countries have exerted considerable efforts in implementing e-government thus paving the way for smart governance, which is a main characteristic to consider for implementing a SSC. However, literature indicates a variance in the pace of the transformation towards SSCs. This variance is noted across countries in the Arab region and across the cities within one country of the region. Studying the challenges facing the implementation of e-government services therefore affecting the transformation towards the SSCs in Arab Countries is needed. This paper aims at exploring, the definitions of e-government and SSCs in addition to the challenges facing the implementation of e-government in the Arab region and the transformation towards

SSCs. This paper also presents practices from the Arab region about the realization of e-government and the transformation towards SSCs.

Keywords: Arab region, challenges, smart sustainable city, e-government, ICT

Implementing Successful IT Projects in Thailand Public Sectors: A Case Study

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kut's University of Technology North Bangkok, Bangkok, Thailand**

Abstract: Every public sector has to get involved in the IT project implementation for driving and promoting e-government development. However, implementing successful IT project is still a challenging issue as it requires participation from all stakeholders including politicians, chief executive officers in every sector, government officers, as well as citizen. However, most IT projects are being implemented because of the policies set forth by the policy makers or by the IT unit within the sector. According to our lesson learned from being IT consultants for many public sectors, we discovered that while these projects may very-well be aligned with the first two focused areas in the e-Government Roadmap, most of them fail. More specifically, some IT projects took longer than expected to implement and some were launched without users' involvement so they never get adopted by the users unless there is policy enforcement. Recently, we have observed interesting phenomenon within the public sectors. That is, the IT projects that do not get included in the IT strategic plan, which got initiated by the non-IT unit, are often successful. By carefully investigating into the project detail, we found that these projects had such a great impact on the project owners' operation, i.e., they can help reducing workload, use of paper, and time. Such projects normally attract users' engagement right from the very beginning. Hence, in this paper, we'll discuss different approaches in implementing different types of IT projects in the public sectors so that the IT development is strategically aligned with the e-Government roadmap while still meets the users' need.

Keywords: Lean Startup, IT projects, case study, public sectors, readiness assessment

Development of an e-Government Ontology to Support Risk Analysis

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Abstract: The complexity of governments is one of the biggest problems citizens face in engaging with them. This complexity is seen in the growing number of departments and services that a government is made up of and the need for citizens to interact with these departments or services independently. This research shows a lack of efficiency in the E-Government domain due to the vertical alignment of services and the need for complex collaboration across the departments, which all too often does not exist. We propose that an ontology could potentially help to foster interactions between departments and services, and thereby manage this complexity more efficiently. Although ontologies exist for different subject domains, the quality and suitability of these ontologies in the government domain at the present time gives rise for concern. Ontologies have the potential to play an important role in the design and development of government services. The key reason behind the development and design of an ontology for the E-Government domain is to use knowledge that is resident in the domain of governments to reduce risks associated with the delivery, combination and dependencies that exist amongst services so that the resilience of the E-Government domain can be improved throughout government. This paper addresses the issue of identifying and analysing risk in the development and deployment of E-Government services. Relevant information on risks that may occur with respect to services can be collected, compiled and disseminated which can serve as prediction tools for future governments as well as enable service providers make choices that would enable them fulfil service requirements adequately. The aim of this research is to contribute by constructing an ontology that is aimed at gauging the risks associated with using solutions across departments and even governments. Further, we also document how we have made use of queries to validate this ontology.

Keywords: e-government, ontology, relationships, reuse, risks

How Technology can Help in Reducing Romania's Budget Deficit

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Abstract: During the last years, in Romania, the budget is submitted by the Government to the Parliament with delays, the reason being large amount of information coming from all the public institutions and the lack of tools to handle

it. The information management is performed manually and, as a consequence, each change needs to be cascaded down manually, adding time pressure. Because of this specific way of handling information, not rare are the cases where, in the end, the numbers simply do not correlate. Offering the civil servants the opportunity to work with the help of a dedicated IT platform will allow for real-time collaborative work, contributing to better management of public money and to the reduction of deficit. This article presents the principles and the ways of functioning of this IT platform. In the coming period, this software could bring value-added for the development and reporting of the budget in accordance with ESA 2010.

Keywords: information, communication, technology, budget, management

Information and Communication Technologies for Development (ICT4D): A case study of Jigawa State Government in Nigeria

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Abstract: Historically, there has only been a limited focus on evaluating the impact of ICT projects vis-a-vis development, and little concrete analysis of these initiatives in terms of their long-term effects. Whilst there is research that documents the scale of disconnect between policy objectives and policy outcome in ICT4D, the findings are not applicable to Jigawa State. This study will develop and test a context-specific model of good practice for ICT4D applicable to decision and policy makers across Nigeria. The research approach used in this research was interpretive within multi-level Case Study context. The results from the research will contribute to an understanding of success factors in a comparable, context-specific case country and significantly influence policy making and implementation in Jigawa State in particular and Nigeria in general. For the first time in the Jigawa state, ICT4D policy will be based on empirical evidence. The outcome of this research will also assist in theorising and deepening the understanding of the application of ICT in development practice with specific reference to Jigawa in particular and Nigeria in general. The unique and novel combination of Sen's Capability Approach and Heek's Design Reality Gap Model in examining ICT4D policy outcome will provide significant new insights on how the gap between policy objectives and outcome might be eliminated.

Keywords: Capability approach, design reality gap, ICT policy, ICT4D, ICT4D project evaluation

Different Patterns of Usage of e-Government Services: A Preliminary Study

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Abstract: The aim of this article was to evaluate the conceptual framework that was proposed by conducting a scoping study. From the extant literature, this study identified several factors related to an individual's use of e-government services. In addition, previous studies showed that there are different patterns of use of e-government services, particularly for developing countries. Therefore, a scoping study was undertaken in order to understand the nature of how individuals determine their use of different e-government services, especially for Malaysian citizens. The template analysis proposed by King (2004) was employed for the data analysis. As a result, a number of determinants were reduced after the scoping study and the conceptual framework was revised and a list of hypotheses was formulated. The themes and codes generated from the scoping study helped the researcher in the second phase of the research –questionnaire design.

Keywords: e-government use, relative advantage, scoping study, adoption model

In-Depth Comparative Case Study in Participation: Interpretative Approach

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Abstract: The case study is the most dominant research method in the e-government field and researchers are using various methods, techniques and tools to conduct the case study research). Therefore, this paper compares the process of two case studies, provides insights and discussion for other researchers on the process of conducting robust case study research. The research method was conducted in the case studies of a grammar school in Hampshire, UK and a private school in Surabaya, Indonesia to get an in-depth understanding of the communication, interaction and participation process through technology in both schools. The case studies are interesting since the research was conducted in different countries, continents, multi-language and across social-cultural contexts. This paper captures the research processes in conducting case studies around e-participation within school education. Because the two case studies are in different countries, cultural environments and context enables some explicit comparison of processes and options, involved in conducting case study research. The

options and processes compared include preliminary research (examining context and case example selection), designing interview questions, selection of stakeholders and participants for in-depth interview, approaching and recruiting participants for in-depth interview, conducting in-depth interview, coding processing, and analysing responses. Also the paper compares coding manually and using software such as NVIVO 10. Additionally, the paper captures translation process during the research process as well as provides reflection on the methods and the options available for conducting case study research. Therefore, it is hoped that this paper makes a contribution to the e-government, particularly e-participation research area by providing step by step research process of conducting in-depth case study across country, continents and social-cultural contexts, challenges, and insights. Also the paper makes contribution in understanding options for processing and comparing responses in multi languages. Also this paper is focus on developing guidance for conducting case study research on a distance.

Keywords: in-depth, comparative, case study, e-participation, guidance, interpretative approach

Masters Research Papers

Measuring Success of Higher Education Centralised Administration Information System: An e-Government Initiative

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Abstract: The study undertaken and validated the DeLone& McLean (2003) instruments' through its six dimensions measuring the success of Higher Educational Centralised Administration System (HECAS) in Brunei. HECAS system success investigations were carried out both quantitatively and qualitatively, examined using SPSS and further analysed through statistical approach. The study focused on the constructs that were in the reach of control of stakeholders and has direct influence to HECAS success. HECAS degree of success was explored through System Quality, Information Quality and Service Quality dimensions. Out of these, system functionality to System Use, only Service Quality is significant that is related to System Use, while System functionality to Satisfaction, all variables were significant predictor of Satisfaction with 64% of the variance in Satisfaction is shared by three variables; System Quality, Information Quality and Service Quality. Satisfaction is determined by the System Use and the Benefit of the system is determined by User. Use of System and their level of Satisfaction with 41% of the variance are shared by the two variables. Finally, system success is determined by the overall system benefits that account 60% of the shared variance towards the success by the benefits. The DeLone& McLean 2003 model has been tested and it has implication in Brunei. The findings assist the decision maker to use the instrument to tune the different weight of other success dimension. The study add values and fill-in the gaps to the IS Success literature in Brunei that uses DeLone& McLean 2003 model as the IS success instruments.

Keywords: higher education, centralised administration information system, information system success, e-government initiative, instrument, Brunei

Insights, Issues and Challenges of Applying DBMS in Hospitals Within Developing Countries

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Abstract: Developing countries often face challenges in applying technology projects at the local level. This is particularly relevant to projects related to health services, such as hospital systems, since any implemented service is likely to directly affect citizens or patients. This paper reports on an investigation capturing insights from people working at hospitals in developing countries that have un-

dergone a transition from a paper based system to the implementation of a Database Management System (DBMS). Most rural hospitals in Nigeria still use paper as a means of creating patient records manually. One such hospital, Sapele General Hospital is considering moving towards a DBMS and is used as a case study to capture the challenges, opportunities, issues and concerns of people working at a hospital considering implementing a DBMS. The paper is informed by a literature review covering relevant previous DBMS implementations in hospital systems and the challenges they faced. It is also informed by interviews and surveys of both people working at hospitals in developing countries that have implemented a DBMS and people from the case study considering such an implementation. The paper provides various contributions. First, it provides insights and guidance on issues, benefits, challenges and practical considerations in moving from a paper based hospital records system to an electronic system – informed by previous implementations - and which can be used to inform similar hospital implementations of DBMSs. Secondly, it provides insights on current concerns and challenges that hospitals face in moving from paper based systems to electronic DBMSs. It will further capture a balanced perspective on some of the likely benefits and challenges in implementing a DBMS within the context of developing countries.

Keywords: hospital systems, electronic medical records (EMRs), ICT4D, database management system (DBMS), case study

E-Government Development in Bulgaria – Status-Quo, Comparative Study and Perspectives

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Abstract: Bulgaria is going through an enormous change as it takes its place as a full member of the European Community and embraces new technology. E-government systems are part of the plans for future growth but there are infrastructural, organisational and legal issues to be solved, both of which are barriers to expansion. The e-government development actions for Bulgaria are set in the Roadmap to the e-Governance Development Strategy 2014-2020 in the Republic of Bulgaria in which all administrations providing public services are expected to deliver them online by the end of 2018. A comparative study on e-government development in both Bulgaria and the United Kingdom has been used to find out what the governments are doing to improve the electronic services provision. This should help identify priorities in the development of useful electronic services (e-services) in Bulgaria. This work also reviews some of the successful e-government projects which have recently been implemented in Bulgaria and have had very

high value to the public and the Bulgarian economy. One of them is the Customs Agency's e-Portal and other two are the National Revenue Agency's Information system "Mutual assistance for collection" and the Data warehouse "Management information system". Adopted innovations, recent initiatives and best practices are also covered in the paper. Finally, the future perspectives and world tendencies enhancing innovative public services, SMART governance, open data and big data are discussed showing the way forward for the Bulgarian e-government.

Keywords: Bulgaria, e-government, e-services; innovations, e-administration, e-procurement development

Non Academic Paper

An Integrated Web-Based System for Managing Payrolls of Regionally Spread Governmental Offices

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Abstract: A system managing to automatize the payroll administration of a big governmental agency and at the same time to deal with drawbacks like constant need for adaptation and customization, is of high importance since it can reduce internal bureaucracy and support the efficient management of Human Resources used for payroll administration. This is important especially in the current period of economic crisis where governments are trying to work towards a smaller and at the same time more efficient public sector. The aim of the current document is to present a case-study of a web-based integrated centralized payroll system for the Greek Ministry of Education. This system, called DIAS Payroll System, is customizable and configurable, reassuring its consistency with labour, insurance and tax laws changes. It is also designed for ease of use providing a user-friendly interface avoiding user errors, omissions, and wrong choices through prohibition or warning messages, providing automatic calculations and automated reporting capabilities. The main goal of the system is to give users the opportunity to process the payroll process with the click of a button. It integrates personnel and payroll related data collection, processing, automatic calculations, fast data retrieval and payroll audit in an efficient and less time consuming way. Moreover, the system presented provides multiple user data access. According to the level and the permissions of each user, the application interface is organized appropriately rendering only the content that the user is authenticated to deal with. Furthermore, the system's design flexibility allows the use of the system from any other governmental agency with slight modifications and additions. The DIAS Payroll System is considered advantageous as it provides a user friendly environment, it increases security and minimizes human calculation errors. It can help any governmental agency to streamline efficiently the time consuming and complex tasks of employee payroll scheduling and planning.

Keywords: e-government, payroll system, web-based, education, security, hierarchical

Abstracts Only

The Implementation of e-Government in Developing Countries: The Case of Saudi Arabia

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Abstract: Technology is now present in almost all areas and practices globally, and this has led governments around the world to adopt technology in the public sector. Therefore, electronic government has been introduced as a means of the automation of government services. New technologies and trends appear every single day, and governments need to meet the citizens requirements and expectations in order to succeed in the E-Government program. However, there is no notable involvement of citizens in the design of E-Government services in Saudi Arabia, and the actual design of E-Government services does not include the real needs of citizens. This dearth of citizen involvement may lead to many issues when deploying electronic services. This study aims at investigating and explaining the pre- and post-conditions for a successful implementation of E-Government programmes in developing countries, with a predominant focus on the Kingdom of Saudi Arabia. The purpose is to capture the views and experiences of stakeholders of the initiative in order to gain an in-depth understanding of the issue. From this analysis, it will then be possible to identify tools and practices which could provide solutions and a strategy for implementation, which may also provide a model for delivery in other similar states. Qualitative methodology has been adopted in this study for the data collection and analysis, and in particular the grounded theory approach. Although the researcher is interested in the potential of mobile government as an enhancement force for the E-Government project in developing countries, where the usage of mobile technology is coming to be favoured by citizens, this research will not set any hypothesis. It will instead try to formulate the issue by viewing it from different angles.

Keywords: e-Government, grounded theory, m-government, mobile technology, Saudi Arabia

Roles of E-Service in Economic Development; Case Study of Nigeria, a Lower Middle Income Country

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Abstract: E-Government activities are still very low in Nigeria, a lower middle income country, and this is hindering E-Service adoption (Mundy and Musa, 2010).

E-Service is inextricably linked to E-Government and they will not develop separately, but as one progresses the other moves forward. Having a new technology like E-service opens new opportunities for government, private and public sectors (Goran and Erik, 2014). Despite the fact that the new technology will not be without a hindrance, the overall benefits of using outweigh its lapses. Nigeria has overtaken South Africa as top Africa economy (Aljazeera news, 2014). There is still more to be done in increasing the revenue of the country, reducing the huge external debt owing the World Bank (World Bank, 2014). Furthermore, there is a need to sustain the new status as top economy in Africa (Aljazeera news, 2014). There are many unresolved problems like corruption. This leads to slow movement of files in offices, embezzlement, election irregularities, and port congestions among others (Dike, 2003). Adoption of E-Service will help to reduce these problems and increase the revenue base of the country. This study will examine e-Service roles in economic development in Nigeria, a lower middle income country. A literature review of previous works related to this study will be done and necessary recommendations will be suggested and offered to the authority in Nigeria on how best the e-service adoption will add more success to the economic development.

Keywords: E-Government, E-Service, Roles, Economic Development, Nigeria

Turkey e-Government Software Development Process

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Abstract: E-government services are an effective and transparent way for governmental administrative activities to render its ease of service to users. The success of the services offered; depends on its ability and the needs of the customers. The aim of this paper is to outline the software development strategies and its underlying technical solutions used to develop government gateway services for its citizens and governmental agencies of Turkey. The software development process of Turkey s e-government project contains five main parts: determination of requirements, Government agency web service development, and e-government gateway software development, integration test of Government agency services along with e-government gateway software, and lastly software maintenance after deployment. Different government agencies have varying hardware and software systems utilizing distributed architecture. Communication amongst these heterogeneous systems can be flexible, platform independent and nimble through its use of service oriented architecture. Using this type of architecture consumer applications are rapidly integrated with published producer services. E-government application and portals consists of many small web ser-

vices. These services are part of a live and continuous improvement process. Life-cycle tracking of such software is very difficult. Choosing the correct development method for improving e-government services yields a fast, accurate and reliable way to build upon and improve the service. Kanban methodology provides a real time collaboration with institutions from the analysis of the requirements to deployment of the software to live system. E-government systems are a fast and secure way of presenting governmental services its citizens. It is important to ensure the security of a system which can access the users private information. By applying continuous integration during software development cycle, the errors and security vulnerabilities are detected in the early stages along with compliance to various security standards. Like all e-government systems, Turkey s e-government software needs areas of improvements. Test driven development is one of the candidate topic. Software development cycle; at times, is pushed out quickly and without verification and writing unit tests. Also, due to security disadvantages, performing e-Democracy services tends to be difficult. For future periods some planning must be done for more transparent and reliable software in order to be accepted by all civilians.

Keywords: Turkey, e-government, software development process, Kanban method, continuous integration

Improving Rural Healthcare Delivery in Nigeria using Distributed Expert System Technology

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Abstract: Provision of adequate healthcare for the citizens is the responsibility of governments. This involves recruiting qualified medical personnel, and providing quality medical services nationwide. The ratio of medical doctors to patients in Nigeria is 1:6,800, which means the citizens are grossly underserved in terms of medical services. Hence, there is need for new strategies that will ensure that more citizens access healthcare services, particularly people in the rural areas. In this paper, a framework for an SMS-based expert system for rural healthcare delivery is proposed, which takes advantage of the wide coverage of telephony services in the rural areas in Nigeria. A preliminary evaluation of the expert system for pulmonary heart disease that was developed reveals that it emulates human

expert capability at a reasonable level. This makes it suitable for deployment on a national scale to cater for the shortage of medical practitioners particularly in the rural areas.

Keywords: Medical services, healthcare delivery, expert system, mobile technology, e-governance, Fuzzy logic

Enabling Socio-Economic Development of the Masses Through e-Government in Developing Countries

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Abstract: The masses connote the lower strata of the society, comprising the low income, and lower-middle income earners, and the less-privileged people in the country. Data from the World Bank reveals that greater percentage of the population live in the rural areas in most low resource countries (developing countries). A major global challenge is how to facilitate a transitioning of the masses to higher social and economic status. This paper performs an objective critique of existing e-Government initiatives that are geared towards enabling socio-economic development of the masses in many developing countries; using Nigeria as a case study, it argued that a change of direction is required. Second, we discussed how e-Government could be a veritable tool for inspiring developments of the masses in developing countries. The propositions of this paper would give impetus for new pragmatic e-government initiatives for socio-economic developments of the masses in developing countries.

Keywords: Developing countries, e-Government, masses, e-Technology, ICT, socio-economic development,

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