

e-Business & e-Government SIG
British Academy of Management Workshop



E-BUSINESS & IS RESEARCH: WHERE ARE WE GOING?

3rd and 4th May, 2007, Brunel University



Organisers:

Dr. Michael Bournakis, Brunel University
Dr. Savvas Papagiannidis, Newcastle University
Prof. Feng Li, Newcastle University



E-BUSINESS & IS RESEARCH: WHERE ARE WE GOING?

Thursday 3rd May, 2007: Elliott Jaques Building - MBA Conference Room

12:00-12:45	Registration and Lunch (BRESE Room)
12:45-13:00	Welcome notes – Prof. Feng Li & Dr. Michael Bourlakis
13:00-13:50	Prof. Zahir Irani: “Investment Evaluation: Navigating Through the Problem Domain”
13:50-14:40	Prof. Feng Li: “E-Business & Information Systems: Our Common Research Agenda”
14:40-15:00	Coffee Break (BRESE Room)
15:00-15:30	Prof. Steven Guan: “Capturing User Preference: An Adaptive Catalogue for M-commerce”
15:30-16:00	Dr. Richard Duncombe: “E-commerce Innovation in SMEs: A Motivation-Ability Perspective”
16:00-16:30	Prof. Ray Hackney: “Inter-organizational Knowledge Networks: A construction and sustainability analysis”
16:30-17:00	Dr. Nandish Patel: “Deferred Action: Theoretical model of process architecture design for emergent organization”

19:30-22:30 Dinner and networking: Nonna Rosa

Friday 4th May, 2007: Elliott Jaques Building - MBA Conference Room

09:00-09:45	Prof. Guy Fitzgerald: “The development of an e-Business portal that changed a company”
09:45-10:15	Dr. Fintan Clear: “eGovernment and Disability: Digital Equality?”
10:15-10:45	Dr. Eric See-to: “Will Mobile Video become the Killer Application for 3G? – An Empirical Model for Media Convergence”
10:45-11:00	Coffee Break (BRESE Room)
11:00-11:30	Dr. Lampros Stergioulas: “Business process-oriented learning: the emerging role of corporate Information Systems”
11:30-12:00	Dr. David Wainwright: “Information Systems and E-Business: IS IT Confusing for Teaching, Research and Practice?”
12:00-12:30	Dr. David Bell: “Innovation or Observation: A design research approach to e-Business future states”
12:30-13:00	Dr. Habin Lee: “Collaboration Support in Mobile Business Processes: Integrating Service, Component and Agent Technology”
13:00-13:05	Closing note – Prof. Feng Li & Dr. Michael Bourlakis

Investment Evaluation: Navigating Through the Problem Domain

Zahir Irani, Brunel University

ABSTRACT

The management of Information Technology (IT) and Information Systems (IS) is considered a complex exercise by academics and practitioners alike. The reason for this is that there are portfolios of tangible and intangible benefits that are offered to an organization following the adoption of IT/IS, which in turn, all need managing to ensure realization. Organizations need to also take into account the direct and often larger indirect costs which, are typically associated with IT/IS deployments. To provide managers with a critical insight into the management of new technology, this presentation uses a case study research strategy to examine the technology management experiences of a leading UK manufacturing organization during its adoption of a vendor supplied information system. Following the lack of attention given to human and organizational technology management factors while implementing their information system, the vendor-based information system was later abandoned and deemed a failure. In addressing those technology management factors that were later identified as important, it was found that key employees were able to overcome a number of organizational barriers, and develop and implement a bespoke information system that significantly improved the organizations competitive position. Technology management taxonomies that contributed to the failure and later successful implementation of their information system are identified and discussed. The organization's experiences in solving the problems associated with the implementation of their information system offer a learning opportunity for those companies that are seeking a competitive advantage through technology management.

Keywords: investment, evaluation, costs, benefits, ERP, technology management

E-Business & Information Systems: Our Common Research Agenda

Feng Li, Newcastle University

ABSTRACT

E-Business has evolved considerably in the last 10 years and it is has now become firmly established as an emerging field of inquiry with a growing number of researchers. This raises serious conceptual and practical issues with regard to its relationships with Information Systems, especially in terms of focus, boundary, target audience, as well as key research questions. There are many mutually beneficial opportunities for collaborations in research and publications and in influencing public perceptions. This presentation will highlight some of the key issues with regard to the relationship between e-business and information systems research, explore issues of common interests and identify ways forward.

Capturing User Preference for Product Brokering

Steven Guan, Brunel University

ABSTRACT

The possibility of using mobile devices conveniently for web browsing and online transactions is a long overdue promise made by developers of wireless technology. Despite continual improvement in bandwidth and capabilities of mobile devices, these hardware upgrades have not brought about the wireless revolution that has been widely anticipated. This disappointment has generally been attributed to a lack of content as well as usability issues. With reference to the latter, this paper presents a novel model for catalogue navigation as a solution to improve user experience when using devices with small screen size for browsing. Through a bookmark system coupled with preference inference mechanism, an adaptive catalogue has been created that dynamically guides a user towards items that are of interest to the user. The approach emphasizes a minimum attention user interface that allows user to browse through a catalogue quickly with minimal cognitive effort. The performance of the technique has been evaluated and the results proved to be promising.

There are two contributions from this research work. Firstly, a novel paradigm for product catalogue navigation is proposed. In this model, content of each catalogue page is dynamically determined by the system the first time a catalogue page is presented to a user. Such an implementation brings about the adaptive nature of the catalogue whereby catalogue content may be organized in accordance with the preference of the user.

Secondly, a preference inference system is developed that makes use of the concept of clustering to group common characteristics among the products that have been bookmarked by the user. Through defining an objective function to describe how well a feature set describes a group of products, Genetic Algorithm is used as an optimizer to search for the most defining feature set. This common feature set is then treated as the inferred preference of the user to use as a yardstick in finding suitable products for the user.

E-commerce Innovation in SMEs: A Motivation-Ability Perspective

Richard Duncombe, The University of Manchester

Alemayehu Molla, RMIT University

ABSTRACT

Small and Medium Size Enterprises (SMEs) innovativeness to use e-commerce has received significant research attention. This paper continues with this tradition and offers a theoretically-grounded and deeper insight into the e-commerce innovation process in SMEs. This is achieved by proposing a motivation-ability based four-state developmental framework. Each of the four states is then described in terms of organisational readiness, organisational capability, e-commerce capability, e-commerce motivational factors, and commodity chain position. SME managers can use the framework as a decision making tool to critically stock-take their innate state and to set realistic goals and expectations with regards to future e-commerce investments. The utility of the framework is demonstrated through case studies of 14 small scale enterprises located in the Indian state of Karnataka. The result suggests that rather than static models of e-commerce adoption, temporal models that are dynamic in nature and that recognise e-commerce as an ongoing innovation process have more explanatory power to understand innovation in SMEs in such an environment.

Keywords: e-commerce evaluation, e-commerce in SMEs, e-commerce strategy, global e-commerce, IT in developing countries, e-commerce in India, e-commerce theory, Motivation-Ability Theory

Inter-organizational Knowledge Networks: A construction and sustainability analysis

Ray Hackney, Brunel University

ABSTRACT

The research considers the complex and dynamic arrangements for potential and actual knowledge sharing in an inter-organizational network. The issue is to determine the nature and extent of the degree of agreement that may be achieved as competitors either co-operate or continue to compete in the face of challenging and pervasive market conditions. The theory relating to network formulation is reviewed and a substantive empirical analysis undertaken of the experiences from automobile distributors in a large USA city. A framework is proposed identifying the factors necessary to initially construct the network and then to further sustain it over time. A number of lessons learned are developed which are believed to be of value to researchers and practitioners engaged in these processes.

Inter-organizational networks become highly prevalent as organizations are motivated to collaborate with business partners to achieve their goals and objectives. Traditionally, each organization has focused, and specialized, capabilities that are drivers of its value creation in the marketplace. No organization can be expected to have capabilities in all areas of need. Hence, they may collaborate with other firms to secure resources in areas outside their domains. However, while inter-organizational networks are common among business partners very few organizations implement arrangements to collaborate with recognized competitors.

There are compelling reasons for many organizations to consider co-operating to in an attempt to 'freeze-out' competition. Knowledge sharing in situations of an inactive, non competitive marketplace is readily achieved due to the obvious lack of vested business interests. It is of course the compounded complexity of facilitating such agreements in an environment of overt competitiveness that is difficult. The salient approach to formulating a web presence frequently involves the former but rarely the latter where there are clearly a number of major challenges.

Deferred Action: Theoretical model of process architecture design for emergent organization

Nandish V. Patel, Brunel University

ABSTRACT

The paper addresses theoretically the problem of designing process architecture for emergent business process and emergent organization. The methodological approach is to build a theoretical model of process architecture design based on the Theory of Deferred Action. The Theory of Deferred Action is classed as an 'action and design' theory. Such theories aim to improve design and better predict design. In the findings the paper presents a theoretical model of process architecture design for emergent organization, identifies its core components, and illustrates its applications. Theoretically proposes process architecture design for emergent business processes that accounts for the wider emergent organizational needs. The research limitations and implications are a better understanding of process design for non-standardisable business process (emergent processes). The model however lacks directions for developing reasoning with formal models. The original value of the paper is the theoretical model of process architecture design for emergent organization. The role of organizational actors involved in emergent business processes as 'active designers' of emergent business processes is proposed. Improved understanding of designing for emergent business processes and emergent organization.

Keywords: deferred action, theoretical model of process architecture, emergent business processes

The development of an e-Business portal that changed a company

Guy Fitzgerald, Brunel University

ABSTRACT

Guy Fitzgerald will talk about some research he has been engaged in with the Aeroengine Division of Rolls Royce. It is the story of how they developed an e-business portal, using DSDM (Dynamic Systems Development Method) that dramatically changed not only the company but the sector as a whole. He will use this case to discuss the relationship between e-business and traditional information systems.

eGovernment and Disability: Digital Equality?

Fintan Clear, Brunel University

ABSTRACT

When the World Wide Web Consortium (W3C) launched its initiative to develop guidelines promoting accessible Web site design for people with disabilities, Berners-Lee, father of the Web, observed in 1997 that "The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect" (W3C, 2007). According to figures cited by the Disability Rights Commission (DRC, 2006), there are some 9.5 million adults affected by disability in the UK, and naturally eGovernment policy sees the Web as an important mechanism by which services to those with disabilities can be mediated. Nevertheless, any presumption that all are in a position to use the Internet and Web equally would be flawed. Following a brief examination of the origins of UK disability legislation and the passing of the Disability Discrimination Act in 1995, the concept of digital inequality is explored from quality of access and usability perspectives. As part of this, 'Web Content Accessibility Guidelines' (WCAG 1.0) developed by W3C (1999) are examined and critiqued. One principal lesson from the study shows that if concepts of accessibility are embedded in website design, then not only are the needs of disabled people served, but general usability for all improves. At the same time such a design approach can help cater for the needs of people temporarily incapacitated (such as when driving or working in noisy conditions) as well as being able to accommodate the needs of an aging population when disability appears to be an inevitable consequence for most.

References

DRC (2006), *Disability Rights Commission Disability Briefing, Making Rights a Reality*, DRC

W3C (2007), *Web Accessibility Initiative*, available at: <http://www.w3.org/WAI> (accessed 18-04-07)

W3C (1999), *Web Content Accessibility Guidelines 1.0*, available at: <http://www.w3.org/TR/1999/WAI-WEBCONTENT-19990505> (accessed 18-04-07)

Will Mobile Video become the Killer Application for 3G? – An Empirical Model for Media Convergence

Bruce, Xin Xu, Hong Kong University of Science and Technology

Will Wai-Kit Ma, Hong Kong Shue Yan College

Eric W.K. See-to, Lancaster University

ABSTRACT

The advent of 3G mobile network accelerates the convergence of media, and provides more opportunities for mobile operators to increase their revenues and profits. Encouraged by the success of ringtones, and pictures taken by camera phones, some analysts and operators believe that mobile video entertainment will be one promising candidate for 3G killer applications. Operators have spent billions to upgrade their infrastructure and launch a variety of mobile video contents, such as full-length movies, mobile-TV programs, and music videos. However, recent studies do question the mobile video hype. According to a survey conducted by RBC Capital Markets, about 75 percent of roughly 1,000 people polled said they had no interest in watching TV on their cell phones. Another study by In-Stat revealed that one in eight respondents indicated they were interested in purchasing mobile video services from their wireless carriers, and two thirds of mobile phone subscribers are not yet ready for video services on their handsets. These contradictory customer expectations highlight the unpredictability of user acceptance for mobile video entertainment applications, and the need for more robust theory.

User adoption of mobile applications has been examined by a number of Information Systems (IS) studies. The literature furthers our understanding of why users adopt mobile applications, but provides little insights into explaining user acceptance of mobile video applications. Mobile video applications have two special characteristics: (1) they are the results of media convergence onto the mobile platform; and (2) they are adopted for entertainment. The first calls for attention on how the mobile platform constrains the value of mobile video applications. The second requires an end user perspective, emphasizing user experiences. Insights into end users' psychological process when evaluating the converged media are much needed. There is a niche to provide a theoretical framework to explain the contingency fit in putting video into mobile platform.

Integrating research on Information Systems, Flow theory, and Media Psychology, we take a unique approach – platform migration of video applications from TV or desktop to mobile devices – to theorize and model user acceptance. Our key proposition is that the interaction between media types and the platform-specific constraints is the key determinant of user evaluation. Particularly, users' involvement in the media is determined by both the entertaining time span on the original platform and the attentional constraint of the new platform. The mismatch between the two spans can result in lower level involvement, which in turn cause no or even negative user emotional responses.

The model was tested with experimental data. We found that attentional involvement is a key determinant of enjoyment, which in turn determines user acceptance. In the case of media convergence, the attentional constraint of the target platform (mobile) can significantly influence user experience (attention and enjoyment) during content delivery, which may lead to rejection of the services. The duration of the content, such as video clips, may interact with both platform constraint and interruptions in determining usage experience, which is open to further research.

Our findings suggest that mobile carriers may fall into another trap of “providing more is better.” It is more important to wisely allocate the R&D investment into the most appropriate area, instead of adopting a media convergence strategy that “provides everything elsewhere to the mobile subscribers.” Our model also suggests that system designers should pay more attention to user experience during content / information delivery. Users are also concerned about the process of information delivery, how they like the process, and how deeply involved they can be in the process, especially when they face media transferred from another platform. To answer the question of “what are the right media that business players should choose for their convergence strategy”, practitioners should follow the basic principle of selecting entertainment contents that fit the attentional constraints of the new platform. Recently some mobile carriers have announced the introduction of full-length movies and long TV programs as new services. Our model casts doubts on the success of these initiatives. Content developers may take into account the attentional constraints of the mobile platform when they design their offerings. Practitioners can also consider offering new forms of contents that are “made for mobile”. Recently Vodafone launched "24: Conspiracy", a new made-for-mobile drama inspired by the blockbuster Fox TV series "24". These “mobisodes” consist of a series of one-minute video clips that will evolve its own style, its own stars and possibly award categories in acting, writing, directing and editing. As the original '24' fills each 60-minute episode with a precise hour of action, so '24: Conspiracy' fills each 60 second mobisode with a parallel slice of cliff-hanging narrative.

Keywords: media psychology, platform migration, digital convergence, mobile entertainment

Business process-oriented learning: the emerging role of corporate Information Systems

Dimitra Pappa, Brunel University

Lampros K. Stergioulas, Brunel University

ABSTRACT

With market complexity constantly increasing and compromising productivity and organisational performance, enterprises are confronted with a number of vital business challenges to improve their operational efficiency. New approaches are needed, in order for companies to effectively plan, structure and manage their activities to gain or maintain their competitive advantage. The quality of a company's workforce and its ability to adapt to changes is vital for business success. Particularly in knowledge intensive business environments, employees represent the organisation's "intellectual asset", being the carriers of knowledge. Ensuring that employees have the right skills for the job is essential for the growth and success of an organisation. The continuous investment in human resource development is critical in the present economic context. The goal of training services is to transfer to employees all the knowledge needed to cover any deficits hindering the independent fulfilment of their daily business tasks. Accelerating skills acquisition ("Time2Competency") can help organisations better cope with changes in processes, products and organisational structures.

Within an organisation, learning essentially complements business process improvement activities aimed at improving the operational effectiveness of the organisation. Nonetheless, traditionally, organisations have handled learning management and business process management as two completely disjointed activities. The systems for planning and executing training processes are not coupled with business processes modelling and business information systems and the respective executive responsibilities are assigned to different administrative entities. The task of training management is part of the work of human resource managers, who rely on traditional methods in order to assess the training needs of the employees, and often lack a full overview of the actual corporate context in which training is applied. As a result, in many organisations there is a mismatch between the training provided and the actual business needs: training is not provided on time and/or does not fully address the training needs of the employees with respect to their changing business duties. It is clear that the two activities (business process improvement and training) are complementary and the benefit for organisations can be enhanced if they are applied in a coordinated fashion. Aligning individual training with business priorities, so as to reduce the time to fill competency gaps and to build proficiency according to evolving business needs and daily work processes, emerges as a key challenge for corporate success. Business process-oriented learning can enable organisations to adapt to changes in their organisational structure, effectively introduce employees to new tasks, streamline business operations etc.

Essentially, business process-oriented learning entails integrating learning into the daily working tasks and putting in place mechanisms for the effective management of

business processes, organisational roles, competencies and learning processes. This calls for an integrated view over corporate information systems to support the complete life cycle from the business need that triggers learning to the assessment of the actual impact learning made on business performance.

In the present paper we shall look into the new role Information Systems are called to play in the context of business process-oriented learning, using the case of the PROLIX project. The EU Integrated Project PROLIX (Process-oriented Learning and Information Exchange, IST-FP5-IP) aims at the development of an interoperable service-based architecture for business process oriented learning, to interlink e-Learning to corporate knowledge management and business-intelligence systems, so as to reduce the time to fill competency gaps and to build proficiency according to business needs and daily work processes.

PROLIX is building a system to enable business process driven learning at the workplace. Linking business processes and learning is a particularly complex task. Business processes define organisational roles and associated functions, each with its own specific competencies requirements (i.e. the competencies profiles of organisational roles). Learning processes are defined based on the lacking competencies of individual employees assigned to specific organisational roles. Whenever there is a gap between the competencies profile of the individuals assigned to a specific role and of the role itself, organisations need to design suitable training plans, in order to close it.

In this paper we shall present the building blocks of the PROLIX architecture and describe a typical application scenario, to discuss the workflow of business process oriented learning and the role of organisational Information Systems.

Innovation or Observation: A design research approach to e-Business future states

David Bell, Brunel University

ABSTRACT

The adoption of Service Oriented Computing (SOC) as a means to support intra- and inter- organizational collaboration is a popular pursuit within many e-business domains. The financial service sector has been a keen participant in such collaboration with examples in single service payment provision and inter-organization trading platforms. A proliferation of technology inspired integration solutions – such as Web Services and Grid computing – have left organization with limited direction on how such activities should be undertaken. Without guidance, future business eco-systems cannot be identified, designed, developed and managed in an effective manner.

Web services provide the means to modularize processes, enabling loosely coupled and novel synthesis. Grid computing removes the binding between functional components and specific hosting platforms, enabling processes to be deployed dynamically over a network (e.g. intra-, extra- or inter-net). Applying the constructs of grid computing to the service orientation of enterprise capabilities will allow business service eco-systems to construct and utilize more specialised services. In order to innovate in such a manner research is required to provide ideas, guidance and education.

Observing current e-Business collaboration is able to uncover characteristics of success and failure, highlighting particular problem areas. Consequently, organisations will tend to follow successful norms and steer clear of already identified problem areas. In contrast, the innovative solution of recognized problems may open the way to more agile and dynamic service eco-systems. How can research be carried out in support of such innovation? This presentation proposes that design research methods enable research to identify suitable problems and construct a novel future state in response. The systematic construction of a synthetic future state enables both process and product theories to be identified. It is important to understand that the result is an effective solution that may not (and generally does not) coincide with the best or optimal solution. This may be explained as a symptom of satisficing (Simon 1996) where the “search is for satisfactory solutions, without explicitly specifying all possible solutions.” The discovery-justification of natural science parallels the build-evaluate pairing of design science (March et al. 1995). Discovery processes in the natural world relying on observation followed by theory justification. Whereas, the design research “build” processes result in the creation of physical artifacts whose creation process and subsequent form are evaluated. Recognising a need to formalise research investigating synthetic phenomena provides a further impetus to design research adoption.

Design research is presented as a basis for investigative research with an industrial context – investment banking e-Business integration. Design research with respect to this work is methodologically based on and adapted from the approach described by

Nunamaker et al. (2001), the design artifacts of March and Smith (1995) and the guidelines presented by Hevner et al. (2004). The three frameworks are brought together within a macro research framework.

Information Systems and E-Business: IS IT Confusing for Teaching, Research and Practice?

David Wainwright, University of Northumbria

ABSTRACT

An apocryphal paper by Lynne Markus (1999) was titled “*Thinking the unthinkable: what happens if the IS field as we know it goes away?*” In 2007, the question is more relevant than it has ever been. This is now conflated or even obfuscated with the development and emergence of areas such as electronic (and latterly mobile) business, commerce and government. Markus’s thoughts were based on a review of the rapid developments in computing, MIS and communications and their fusion into something that was very new, challenging but as yet very ill defined. E-business and E-commerce was in its infancy but certainly heralded an acceleration of the ubiquitous nature of ICTs and also presented a direct challenge to current academic theory and practice within the Computing and IS fields.

This short discussion paper presents a view (polemic) of these rapidly emerging changes and the implications for university teaching, theory development, research agendas and also professional practice. It is hoped that this will promote debate amongst the relevant communities leading to action to redefine what we currently mean by the terms Information Systems and Electronic Business. This may then inform our research and teaching to be more relevant to user, organisational and societal needs in the future.

References

Markus, L. (1999) Thinking the unthinkable: What happens if the IS Field as we know it goes away? *in* Currie, W., Galliers, B., (Ed) Rethinking Management Information Systems, Oxford University Press, pp. 175-203.

Collaboration Support in Mobile Business Processes: Integrating Service, Component and Agent Technology

Habin Lee, Brunel University

ABSTRACT

Business Process Management (BPM) plays an essential role in today's organizations and numerous Workflow Management Systems (WFMSs) have been developed to support it effectively. The focus of WFMSs so far has been on execution and coordination of structured business processes, whereas the support for ad-hoc collaboration has not been paid enough attention. Ad-hoc collaboration includes activities that might arise frequently in an ad-hoc fashion for knowledge exchange, collaborative problem solving, or real-time remote assistance for field workers. These activities are less structured than business processes, cannot be scheduled beforehand, but play crucial role in many areas of business. This paper proposes an approach to integrate collaboration among process actors as a major construct of BP modelling and implement the collaboration as reusable software components based on a multi-agent platform. While multi-agent systems (MASs) are considered as one of the most appropriate technologies to implement the collaboration and coordination of process actors such as required by this research, implementing a MAS application requires understanding on ontology, knowledge representation language, agent communication language (ACL), agent internal architecture and so on. This is a big barrier to the wide adoption of MAS technology by industrial software developers who are not familiar with those concepts. To overcome the barrier, this paper also proposes an application framework wherein MAS based collaboration components are reused, and explain how the framework has evolved via applications to real BPs.

International Journal of Business Science and Applied Management

A fresh approach to business and management research



The International Journal of Business Science and Applied Management is seeking submissions for Vol 2 Issue 2 that will be published in mid-2007. Following the first two issues the forthcoming issue will contain 3-4 articles, book reviews, announcements for forthcoming conferences and any other material that may be of interest to the academic community.

The guidelines for submitting articles to the journal can be accessed at: www.business-and-management.org.

Authors are invited to submit theoretical and empirical papers in all categories of business such as e-business, general management, international business, strategy, marketing, supply chain management, organization studies, entrepreneurship, enterprise, innovation and human resource management. This list is not meant to be exhaustive, but rather an indication of the areas of concern of the journal. We welcome paper submissions on the basis that the material has not been published elsewhere. We also aim to develop a journal that will appeal to both business and management practitioners. On that basis, papers that include practical applications to any business and management field are welcomed.

The International Journal of Business Science and Applied Management endeavours to provide rapid and informative feedback to authors. Our objective is to obtain reviews from referees within 10 weeks of the initial paper submission.

Prospective authors are encouraged to contact the co-ordinating editor Dr. Michael Bourlakis (michael.bourlakis@brunel.ac.uk).

We are looking forward to receiving your paper.