CULTURAL BIAS IN INFORMATION SYSTEMS RESEARCH AND PRACTICE: ARE YOU COMING FROM THE SAME PLACE I AM?

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ABSTRACT

This article summarises an ICIS panel discussion held in December 2005 in Las Vegas on the influence of national (or ethnic) culture on IS research and practice. Based on the views of the panel members and the question and answer time with the wider audience, it was generally agreed that culture has a tremendously significant influence on IS research and practice. This influence is expressed in a bias in how research is conducted and published and how practice is conducted. The bias is usually in favour of the dominant cultural perspective. The effects of

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these biases, both positive and negative, are discussed and possible solutions discussed.

Keywords: cross-cultural research, cross-cultural practice, IS research, IS practice

I. INTRODUCTION

Cultural values, attitudes, and behaviours prominently influence how a given group of people views, understands, processes, communicates, and manages data, information, and knowledge [Pauleen and Murphy, 2005]. Cultural differences can be understood as cultural bias, a bias so deeply ingrained that it is unconscious, unless explicitly examined. This article will explore how cultural bias may be affecting current IS research and practice.

The seemingly inexhaustible array of definitions of culture comprises over 160 definitions identified as long as 40 years ago [Kroeber and Kluckhohn, 1963]. While this range of definitions could be interpreted as representative of the complex nature of culture, in fact the notion of culture is so deeply ingrained that it has become almost synonymous with our identity, to the extent that everyone believes they understand culture [Westrup et al., 2002].

Relevant to this article are the following definitions: culture as "collective programming of the mind that distinguishes the members of one group from another" [Hofstede, 1984: 21]; and culture as traditional — historically derived and selected — ideas, along with their attached values [Kroeber and Kluckhohn, 1963]. Schein [1985] emphasised that culture is a set of valid knowledge, created and shared by a group of people, to solve the problems they face in their environment. In essence, the content of culture consists of a set of underlying norms and values of behaviour, shared by a group of people tied together by powerful affiliations or bonds.

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Each of these definitions can be applied to IS and used to distinguish, for example, researchers from practitioners, developers from end users, journal editors from article authors, teachers from students, not to mention the differences amongst colleagues from different countries. This article explores the questions of what constitutes culture and how it affects IS research and practice.

Taking a closer look at how culture may affect IS research and practice, Nisbett et al. [2001], drawing from psychology and cultural history, argue that the considerable social differences that exist among cultures affect, among other things, tacit epistemologies (theories of knowledge, including what counts as knowledge and degrees of certainty about knowledge) and the nature of cognitive processes: the ways by which people know the world. Comparing eastern and western traditions, Nisbett et al. [2001] grouped the cognitive differences between ancient Chinese and Greeks under the headings of holistic versus analytical thought. Holistic thought involves an orientation to the "context or field as a whole, including in particular the relationship between a focal object and the field and a preference for explaining and predicting events based on the existing relationships" [p.293]. Analytic thought is defined as "detaching the object from its context, a tendency to focus on the attributes of the object, to assign it to categories and a preference for using rules about the categories to explain and predict the object's behaviour" [p.293]. Nonaka and Toyama [2003] and Glisby and Holden [2003] suggest that eastern people tend to think about their work in terms of the whole picture, while western people tend to think of their work from their own individual vantage point.

According to Chia [2003], it has been a western tradition to regard a knowledgeable person not as one who has the ability to perform a task, but as one who can understand and render articulate and explicit — particularly in writing — the underlying causes of events. In traditional Chinese culture, on the other hand, learning and knowing came through direct, sustained, experimental practice. Chia [ibid., p.959] goes on to suggest that "the current preoccupation with explicit knowledge creation and management may need to be tempered by

an equally important emphasis on direct experimental action as a valuable source of meaning, innovation, productivity, and enhanced performance".

These cognitive patterns have tended to persist into modern times and arguably at some level most of our current research epistemologies, research methods, and publication strategies tend to be based on the analytic construct and the need to create explicit knowledge. With regard to research methods there is an increasing acceptance of qualitative and interpretative methods, but the necessity of writing and publishing in strictly predetermined ways remains as strong as ever. On the other hand, global enterprises are accommodating — if not exploiting — alternative ways of conceptualising problems, creating strategies, and making decisions. Are we now seeing changes in IS research toward the practitioner's position?

It has been claimed that the previous, standard anthropologically derived concepts of culture are out of touch with the 'connectivities' and networks of the modern global economy [Barham and Heimer, 1998]. Research highlights the active role of people and the emergent, contested and ongoing nature of culture, and people's reaction to dynamic contexts [Giddens, 1984, 1990; Myers and Tan, 2002; Walsham, 2002]. Holden [2001, p.162] calls for "a paradigmatic shift in the way culture is viewed and suggests that researchers reframe culture as infinitely overlapping and perpetually redistributable habitats of common knowledge and shared meanings". This notion that culture can emerge from shared local contexts has been endorsed by Myers and Tan [2002].

These contrasting views on culture have been mirrored in recent discussions about 'cultural convergence and divergence' [Hunter and Black, 2000]. At their extremes, convergence is the notion that globalisation and technology are driving the world's cultures together into a single culture, while divergence is resulting in local cultures' 'circling of the wagons' to try to hold on to what they value.

Given the potential impact of culture on the understanding and processing of information and knowledge, the consequences for IS research and practice are

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clearly evident. The objective of this article is to explore whether cultural bias is indeed an important issue and if so, to explain the consequences as they relate to IS research and practice.

The term 'cultural bias' is intentionally used in the article title, and it represents a two-edged sword. Cultural bias can certainly be seen as a negative term and tends to be understood this way, but the corollary is that cultural bias also represents the potential upside of cultural diversity. In other words, the bias that is inherent in culture is a potential asset in cross-cultural research and practice; the challenge is in facilitating discussion of the biases and perhaps incorporating them in research design and practice.

In the next section of this article, Robert Davison from City University of Hong Kong and Soon Ang from Nanyang Technological University, Singapore, look at cultural bias in IS research. This is followed by a section on cultural bias in IS practice, co-authored by Macedonio Alanis, Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico, and Stefan Klein of University College Dublin, Ireland, and University of Munster, Germany. The article concludes with a summary of the main points and a call for a continuing and healthy discourse on the role of culture in IS.

II. CULTURAL BIAS AND INFORMATION SYSTEMS RESEARCH

If we accept that cultural bias is a deep, inherent, and generally unexplored part of individuals, then in IS research we need to investigate how such bias in IS researchers affects their research. Because cultural values, attitudes, and behaviours affect a researcher's understanding, processing, and analysis of data and information, it is reasonable to suspect that researchers may be producing culturally biased research. This would particularly be the case in research relating to global IS, cross-cultural research, and any research that involves multicultural research populations. Questions that arise include:

- Is IS research inherently biased in favour of a particular way of processing and evaluating information and knowledge? And if so, what are the ethical and practical consequences?

- How does positivism vs. interpretivism align with such differences in cultural biases?

- What can researchers do to ensure that cultural bias in research is minimised or at least taken into consideration from research design and initiation through to analysis and publication?

IS IS RESEARCH INHERENTLY CULTURALLY BIASED? – Robert Davison

Preamble

When originally asked to speak on this topic, I was well aware of the controversial nature of the subject and the hackles that might well be raised through too intimate a treatment of the issues. In the material that follows, I am intentionally restricting myself to national culture. It seems only reasonable that I should reveal my own cultural background. I was born and educated (up to a Masters Degree) in the UK, whereupon I moved to Hong Kong where I completed my PhD and have lived since 1991. I carry a British passport, am a permanent resident of Hong Kong (which I call home), have visited over 40 countries (mostly in Asia and Europe), and so suspect that I have been influenced by a variety of cultural values and norms from around the world. Quite what that makes me, culturally, I am uncertain. Culture (in its various forms) is a critical component of my research, my teaching, and indeed my life, informing much of what I do, or at least providing a series of lenses through which I see and interpret the world.

Introduction

I should remark that not all IS research is necessarily culturally biased, nor indeed that cultural bias is necessarily problematic, but nevertheless that some IS research is biased — and for me this is a cause for concern. Cultural bias

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applies both to the way research articles are written (and by prepolation, to the topics that are selected for investigation as well as the way research is designed and undertaken), and to the way research is reviewed (and by extrapolation, to what is published and read). In the following few paragraphs, I first situate cultural bias in its academic context, before providing some fictitious examples of cultural bias in IS research. I follow the examples with an exploration of some of the sources of bias, before considering what we might have to do in order to minimise it.

Cultural bias is not unique to the IS discipline. Indeed, I suspect that cultural biases are legion in academia, quite apart from other domains such as politics and organisations. A dozen years ago, Donald Hambrick [1994] the then President of the (US) Academy of Management (AoM) (the AIS's sister organisation in the management discipline), called for greater awareness of management practice beyond the US, a call that is now being repeated. In an opinion piece for an AoM divisional newsletter [Davison, 2006], I queried whether the membership of the AoM really wants to be more international, and by implication, less US-biased in its scholarship. The same query can legitimately be asked of the membership of the AIS: do we want to be truly international in membership, in outlook, in appreciation of differences? Do we want IS, as a discipline, to be accepting of different international perspectives? Should our journals be equally willing to publish research articles that are relevant not only to US businesses but also to Fijian NGOs? Perhaps more importantly, echoing Hambrick [1994], do we want IS, as a discipline, to matter internationally, for the AIS to make a contribution to the way information systems are designed, developed, and implemented in organisations internationally?

Scenarios Involving Cultural Bias
Before proceeding deeper into this analysis of cultural bias, let me offer a couple of sample scenarios that I feel incorporate elements of cultural bias in a problematic way. While both of these examples are entirely fictitious, they are derived from real situations that I have experienced as an editor and a reviewer.

Scenario 1. As the Associate Editor of a mainstream IS journal, I receive a submission from four authors located in Ethiopia. Their article describes the design and implementation of a Geographical Information System [GIS] that can be applied to participatory resource mapping [PRM], an important technique for land use surveys in rural areas. Although the English is not flawless, the article is nevertheless quite well written and is moreover interesting.

I select two reviewers, one of whom, a Zambian, has direct experience in the use of such GIS-PRM systems in the African context. The second reviewer, a West European who was born in West Africa but educated in the UK, Italy, and France, has previously expressed an interest in reviewing papers involving GIS applications for this journal.

The Zambian reviewer rates the article highly, pointing out that it is highly relevant for both academics and practitioners. This reviewer writes a lengthy report that explicitly seeks to help the authors improve their presentation of the material and develop their ideas further. The European reviewer, on the other hand, indicates that the topic will be of little interest to most readers in developed countries and therefore does not merit publication. The reviewer admonishes the author that it is critical to select a topic that has global relevance if it is to be publishable.

Scenario 2. As a reviewer for a mainstream IS journal, I am reviewing a paper on global virtual teams — a study involving teams of software engineers based in the US, Greece, Thailand, and Kuwait. The authors do not mention which language was used for communication between team members, nor do they identify the nationalities and cultural affiliations/memberships of the various participants. The cultural and social phenomena particular to the software engineering environment in the four countries are not mentioned. All the supporting literature that drives the research model is from papers describing situations and analysing data collected in the North American context. The findings of the paper are assessed in the context of the previously analysed

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North American literature, but are not assessed in terms of their relevance for the other three countries where the research was conducted.

Discussion/Analysis

In thinking about the causes of cultural bias, as exemplified in the fictitious scenarios above, I realised that the much-maligned 'globalisation' may be partly to blame. This is most explicitly reflected in the comments of the European reviewer, who indicates that research topics must have global relevance/applicability if they are to be publishable. Quite why an Ethiopian topic or context should be less globally relevant than a topic or context relating to any other nation state is not clear, at least superficially, yet herein lies the paradox of globalisation. IS journals regularly publish articles that are situated in the context of a single nation state, with little or no attempt to explain why or how the findings are relevant beyond the borders of that state, let alone globally. The decision by the authors of the paper in the second scenario not to include contextual material from Greece, Thailand, or Kuwait, nor to write about the implications of their research for these contexts, instead restricting both the components of their research design and their later analysis to the North American context, is further illustrative of this paradox. The politically incorrect 'interpretation' that I reach of the European reviewer's comments is that a globally relevant topic is one that is directly related to the immediate needs of the journal's readership, many of whom are located in developed countries. More troublingly, however, the same topic, by virtue of its now established global relevance, is "globally relevant", i.e. lessons learned in that context should apply globally. The decision reached by the authors of the four-country virtual team paper to write up their research in an ethnocentric manner can be interpreted similarly. However, Hofstede [1987] implicitly ridiculed these positions on global 'relevance' in his critique of western theories in general, and McGregor's X-Y theory of human resource management in particular, in terms of the applicability of these theories to southeast Asian cultures. As Hofstede [1994] remarks, "McGregor's theories were written from an individualistic, fairly masculine cultural background, which make little sense in

collectivist, moderately feminine Indonesia". The cultural bias that the reviewers and authors are espousing is precisely this: that what is good for one culture is good for all. But such generalisation does not make much sense.

However, just because practices vary from culture to culture, from country to country, does not mean that we cannot learn from them. Imagine a New York-based IT consultant being invited to speak at a professional conference in Ghana. The Ghanaian context is certainly radically different to that of New York, yet his audience will most likely listen politely and ideally discuss how the ideas may be transformed in order to recontextualise them for local application. But would an audience of New York IT consultants be willing to listen to their Ghanaian counterpart? I would hope that the answer is yes, but I am not sure. As for IS academics, are we willing to listen, to reflect, to recontextualise knowledge from dissimilar cultures? Or can we only export our own cultural values?

What might we have to do in order to minimise the negative impact of this cultural bias, this sense of unease with cultural diversity? Well, firstly, we have to want to minimise it, and I am not sure that we (collectively) do. I will organise my thoughts here according to stakeholder group: what would authors, reviewers, editors, and readers have to do so as to minimise cultural bias? You have to decide if you are comfortable with the role changes I am suggesting and the consequent changes in your behaviour.

Authors. Authors would need to be much more careful in the way they write their articles in order to avoid inappropriate cultural bias and lack of cultural specificity in the literature that they cite, the research models and instruments that they develop, the assumptions and assertions that they make, or the interpretations, generalisations, and conclusions that they draw. This implies that a study that declares "we collected data from students at a large south-eastern university", without specifying south-eastern *where* (Brazil? China? Turkey?) would fall foul of this requirement. But then consider a study of IT implementation in SMEs in Peru that makes no mention of the salient features of the Peruvian context, such

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as the cultural values of the Peruvian participants, and which — by way of a literature review or theoretical development — only refers to previous work undertaken outside Peru. The same study does not attempt to explain the relevance of the findings in terms of the Peruvian context, but it does generalise its findings and draw general conclusions. In this case, perhaps paradoxically, it is the lack of cultural reference that is problematic; we need to consider the problem in the light of Peruvian circumstances, as well as theories that may have been developed elsewhere. It would be helpful if all authors, no matter where they conducted their research, indicate contextual indicators as keywords for their research, i.e., a specific country, culture, organisation type, or other context that highlights the nature of the contribution.

Reviewers. Davison et al. [2005] list a number of ideal attributes of reviewers: notably the preference that they be humane, competent, open-minded, unbiased, unprejudiced, and ethical. Reviewers need to be open to assessing all research on an equal footing, irrespective of the cultural milieu(x) where it was undertaken. They should be sensitive in their comments to authors, in particular with regard to the practical resource constraints imposed on researchers in developing countries, who may not have the same extent of access to library resources that most of us take for granted, even the impoverished state of Internet communications, where dial-up modems are the norm. Reviewers would also need to be willing to work with promising authors to help them develop their work so that it could become 'consumable' [Robey and Markus, 1998] yet not necessarily conformist, communicating what they want to say, not what we think they ought to say.

Editors. Recognising the implicitly political nature of the publication game [cf. Lee, 1995], editors have a responsibility to authors from developing countries in particular to make them feel welcome at any IS journal, with the corresponding expectation that their work will be evaluated solely on the basis of academic merit. Editors must thus educate reviewers on the expected standards (all too

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often reviewers have little guidance from editors) and should seek to encourage authors, avoiding where possible the default decision of rejecting manuscripts.

Readers. Readers are of course more than just readers; all too often, readers are both authors and reviewers as well. As readers, they need to appreciate culturally unbiased research, just as, as authors, they need to write it, and as reviewers, they need to assess it. Readers would ideally be as interested in an article about eGovernment in the USA as in one about eGovernment in South Africa, or India. As a community of scholars, we need to attach equal value to a study of virtual team trust in Massachusetts (USA) as to one in Lop Buri (Thailand). Readers can also exert a useful influence on editors, whether as reviewers or by directly writing to editors and encouraging them to become more broadminded in what they publish.

Summary

All of the above suggestions indicate the pressing need for some strong ethno-decentring in the research that we undertake, quite apart from the development of a much more tolerant research culture. Authors, reviewers, editors, and readers must all review the way they work, as well as the biases that they harbour. It is important that the authors pay attention to context in their articles (and indeed that reviewers insist that authors do so), since this information is of significant value to readers, who need to be able to interpret the implications of the research for their own context. Editors, meanwhile, need to be open to research conducted in all contexts and cultures, and thus be prepared to confront their own cultural biases, as well as those that may have been inherent in articles previously published. The forthcoming special issue of *MIS Quarterly* on IS in developing countries is an important step in the right direction. In a similar vein, I am currently editing a special issue of the *Information Systems Journal* on IS in China. It is my sincere hope that these special issues will be well received, well read, well cited, and that the lessons we glean from the papers in those special issues will have relevance beyond the immediate cultural context wherein they were learned. But special issues do not amount to much if journals are not

prepared to publish articles about these contexts on a regular basis and in regular issues. Some journals do, but there is room for improvement. The very fact that we have a special issue is partly indicative of that need. The challenge is to make the mainstream more diverse, more inclusive, and less culturally biased. This may require something of a revolution in attitudes and practices, a revolution against the entropy of the status quo. We should promote cultural differences and learn from them, not seek to eliminate or ignore them.

CULTURAL INTELLIGENCE: RE-FRAMING CROSS-CULTURAL IT RESEARCH FROM COMPARATIVE TO CAPABILITY - Soon Ang

What are some of the research strategies that we could proactively adopt to try and counteract some of these cultural biases that we may have in cross-cultural research?

From Comparative to Capability Focus

If you examine IS research, you will notice that cross-cultural IS research is one of the least studied topics in the discourse. A comprehensive review of culture and IT research by Leidner and Kayworth [2006] identified only 51 papers that had focused on the impact of national cultures on IT. All these 51 papers were comparative in nature. They explored the impact of national culture on different IT domains such as design, adoption, use, and implementation. The underlying orientation of these papers is towards *discovering* the cultural variations in IT practices and usage patterns that occur across nations. So the research question that underlies the comparative focus is "what is the impact of national or organisational cultures on IT?"

If you approach organisations, given the impetus of globalisation, global outsourcing, and offshoring, they are not interested in how to conduct cross-cultural IT research. If I were to approach someone in Standard Chartered or Tata Consulting, and say I want to conduct a comparative focus study in cross-cultural IT practices and usage patterns, the response would be: "I'm not

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interested. I'm not interested in comparative research/discovering cultural differences. I know there are cultural differences. What I would like you to do is to focus on the capabilities of individuals and organisations in helping me bridge these cultural differences".

Cultural Intelligence: The Capability to Function Effectively Across Cultures

Accordingly, in the last five years, I have embarked upon a major effort to re-orientate cross-cultural research both in management and in IT from a comparative to a capability focus. We created a new construct called 'cultural intelligence' (CQ) and developed a theory around this concept [Earley and Ang, 2003]. Cultural intelligence is defined as the capability of an individual, group, or organisation to function effectively in situations characterised by cultural diversity.

The Four Factor Model of Cultural Intelligence

We probed into the theoretical roots of intelligence and especially the contemporary viewpoints of intelligences by Howard Gardner [1993] and Robert Stenberg [1985]. The consensus in intelligence research is that the concept of intelligence is both complex and multi-dimensional. We therefore operationally defined CQ as a complex and multi-dimensional construct comprising four factors. The four factors of cultural intelligence are:

1. Motivational CQ, defined as the capability to engender the drive or desire to cross cultures;

2. Cognitive CQ, defined as the capability to acquire the appropriate culture knowledge required to cross cultures;

3. Metacognitive CQ, defined as the capability to engage in strategic cultural thinking and planning required to cross cultures; and

4. Behavioural CQ, defined as the capability to enact verbal and non-verbal behavioural flexibility in crossing cultures.

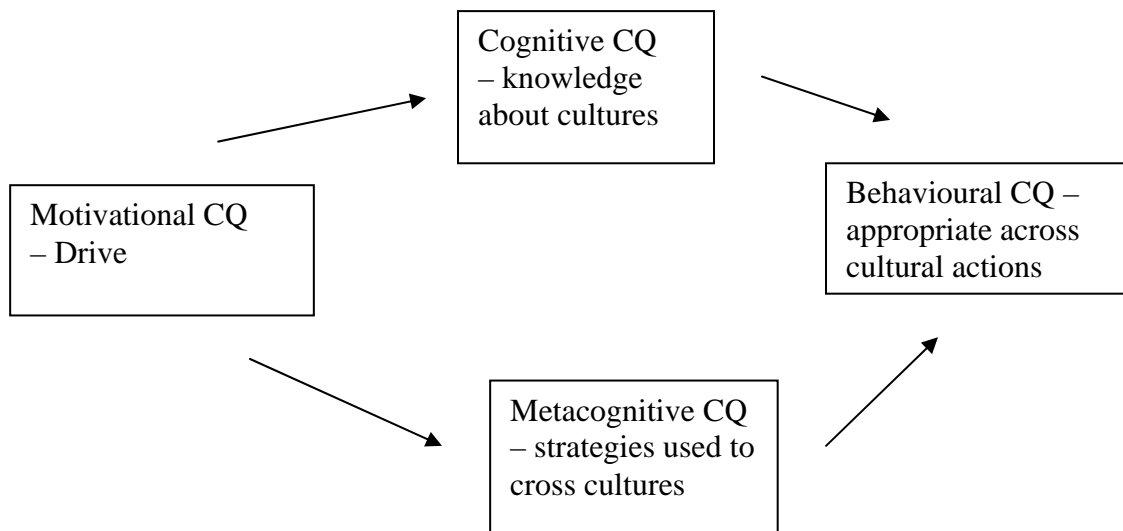Figure 1 depicts the four interrelated factors of cultural intelligence.

Figure 1. The Four Factor Model of Cultural Intelligence

Motivational CQ: the Drive to Cross Cultures. Our field research showed that cultural intelligence begins with motivational CQ. We discovered that individuals need to start with an inherent motive, drive, or desire to cross cultures. Research by motivational psychologists shows that there are two main sources of motivation [Deci and Ryan, 1985]. The first is intrinsic motivation, where the drive comes from one's inherent desire to cross cultures: for example, a woman who was born in one nation and is voluntarily working in another because she likes the novelty and the new culture. The second is extrinsic motivation. Multinational enterprises (MNEs) such as Coca-Cola or SIEMENS, create extrinsic incentive systems to encourage their executives to live and work across cultures. Before a potential executive can be promoted to the upper echelons of senior management, the potential executive must go through three or four rounds of culturally tough work assignments. Thus MNEs create strict incentive systems to direct their potential executives' energies towards crossing cultures effectively.

Cognitive CQ: The Cultural Knowledge Necessary to Cross Cultures. Once you possess the energy to cross cultures, you may then channel the energy towards acquiring the cultural knowledge. Culture is defined broadly as shared values, beliefs, and behaviours deemed appropriate within a society. Put simply, culture can best be understood with the metaphor of a tree. At a deeper, and less observable level (the roots of a tree), culture is best represented as a set of programming for people within a nation: the 'software' of the mind [Hofstede, 1991]. Culture therefore reflects the patterned ways of thinking, feeling, and reacting to various situations and actions [Kluckhohn and Strodtbeck, 1961]. Culture is acquired and transmitted mainly by symbols, including their embodiments in artefacts, language, social structures and familial systems, political, economic and legal ethos, and philosophies. The symbols, structures, systems, and artefacts represent the surface level of culture, akin to the various parts of the tree—the trunk, branches, leaves, and flowers—that are visible to the naked eye.

Metacognitive CQ: The Strategies to Cross Cultures. With the motivation to cross cultures, you are also more likely to develop the necessary strategies required to cross cultures. Metacognitive CQ refers to the strategies one uses to plan, monitor, and check cultural assumptions as one interacts with another in an intercultural encounter. Metacognitive CQ requires an individual to be highly self-aware and to regulate their own thinking processes. The key in metacognitive CQ is to consciously avoid swift stereotypical judgements, or negative emotions towards strange, unexpected, and seemingly offensive behaviours of others from another culture.

Behavioural CQ: The Behavioural Flexibility to Cross Cultures. The fourth component of CQ is behavioural CQ: the capability to enact the appropriate verbal and non-verbal behaviours in crossing cultures. Of the four factors, the behavioural CQ or the action, is perhaps the most important factor and yet the most difficult to develop (Earley and Ang, 2003]. In intercultural encounters, one can observe only one's own behaviours and actions: both verbal and non verbal

enactments. We discovered that the most trivial claims of non-verbal behaviours are often the most culturally offensive. For instance, some cultures require people to maintain eye contact as they interact, but others regard eye contact as aggressive and confrontational. Moreover, while some cultures avoid eye contact, others will regard people who avoid eye contact as untrustworthy or evasive.

Psychometric Instrument and Criterion Validity of the 20-item CQ Scale

With this theory in mind, we went on to develop an instrument to test this theory. Ang et al. [2006] gathered over 2,150 participants in our construct testing process in seven cross-national samples of participants around the world. To date, the measurement has demonstrated that the four factor structure is stable temporally and is culturally equivalent. More importantly, the measure discriminates from general intelligence (g), emotional intelligence (EQ), the Big 5 personalities of extraversion, neuroticism, conscientiousness, openness, and agreeableness, and the cross-cultural adaptability inventory that is usually used in cross cultural training [Ang, et al., 2006; Ang, Van Dyne, & Koh, 2006].

In terms of the research findings on criterion related ability, we conducted a number of field studies with global IT professionals from Tata Consulting and InfoSys. For example, we conducted an executive development programme on cultural intelligence with Tata Consulting and their client organisations such as Singapore Airlines and Standard Chartered. We also developed a management innovation tool: the cultural intelligence multi-source feedback system (CQ-MSF) for leadership development. The results showed that, over and above general intelligence (g), emotional intelligence (EQ), openness to experience, and the cross-cultural adaptability inventory, different combinations of the four factors of cultural intelligence predict different criteria that are of key importance to the organisations.

CQ strategy and action led to better task performance as evaluated by the bosses and clients from another culture. CQ strategy and knowledge led to better

cultural judgement and decision making by the IT professionals. CQ drive and action led to better effective criteria such as cultural adjustments and mental well-being.

Summary

The greatest insurance that we can have in countering cultural biases in IS is to conduct high quality, cross-cultural research that is both rigorous and particularly relevant to the practising IS community. I suggest that we continue with our comparative focus in IS research particularly in discovering more cultural variations in different IT themes of interest. But more urgently, we should expand our focus on the capability issues that most organisations are interested in. I propose cultural intelligence as a theoretical lens to use in future capability research.

III. CULTURAL BIAS IN IS PRACTICE

IT, IS, Information Management, and now Knowledge Management are all concerned at some level with the processing and management of information and knowledge. So we need to ask to what extent do the often unrecognised cultural biases of IS designers and developers influence the information systems they develop? And when the great majority of information systems design occurs in just a few particular cultural or sub-cultural milieux, such as Silicon Valley, we need to investigate whether such systems are the most appropriate for people outside these milieux.

If the proposition that cultural bias affects systems design and development is correct, then a number of practical and ethical questions are raised. These include, but are not limited to:

- How do built-in cultural biases in information systems affect users who do not share those biases?

- What are the ethical issues associated with 'compelling'/requiring users to think and work in culturally incongruent ways?

The goal of this section is to articulate these issues and to offer some preliminary approaches to addressing them.

CULTURAL BIAS IN IS PRACTICE: COMPARING LATIN AMERICA AND THE UNITED STATES - Macedonio Alanis

Latin America in general, and Mexico in particular, is a region of contrasts. While Mexican corporations like Cemex represent world class success stories for their effective and innovative use of information technologies [Flores et al., 1996], in other enterprises the use of IT is just starting to mature.

Numerous cultural differences exist between the people of Mexico and those of the United States in their use of IT. A recent study of cultural differences between Mexico and the US [Gabrielidis, 1997] found that in both countries, citizens prefer collaboration and adaptation rather than rivalry and evasion. Mexicans qualified higher in interdependence measures, but they also ranked higher in independence (auto-analysis), a result that differs from the traditional concepts of collectivism. Not only do Mexicans exhibit higher consensus levels than individualist cultures (e.g., the US and Canada), but they can also express greater satisfaction with their decisions [Morales et al., 1995].

This section focuses on two aspects of the impact on IT practice of cultural differences between Mexico, and the US: the use and effect of groupware tools, and a discussion of the outsourcing market.

Groupware Technologies
The concept of groupware, along with Internet technologies, digital networks, very fast data transmission, videoconferencing, satellite communication, and e-commerce has achieved greater worldwide acceptance [Dennis et. al., 1998; Simon and Marion, 1996]. Organisational work is centering more and more on teamwork, but traditional computer systems are limited in their ability to create an

environment that supports collaboration [Vandenbosch and Ginzberg, 1996]. Contrary to this, groupware design promotes the co-operation and co-ordination necessary to aid individuals working together in organisations.

Groupware technology is designed to allow several people in different places and at different times to work on common projects, communicate through e-mail, voice, or video, learn from each other, and co-ordinate between team members, while modifying established organisational work methods [Ellis et al., 1991]. Its complexity ranges from very simple applications (newsgroups and e-mail), to more complex programs (form routing, document administration), and finally to very sophisticated solutions (interactive systems that link employees with clients) [Aannestead and Hooper, 1997].

A study of groupware effectiveness in Latin American Corporations [Alanis and Diaz 2003] found that, despite ethnic differences between Latin America and the US and Canada, groupware tools are transforming the traditional modus operandi of Latin American organisations, resulting in distributed work schemes. Large companies in Latin America, and particularly in Mexico, are promoting collaborative work and adopting groupware tools, despite their cost and workplace implications. The majority of the large corporations sampled have already acquired a groupware tool. The results showed that groupware tools are becoming essential for Latin American corporations, especially those that wish to obtain an advanced degree of communication and reciprocity with other organisations worldwide. The study found a generalised positive tendency in secondary effects produced by groupware (e.g., higher productivity, collaboration, and user satisfaction, among others). The outcomes did not generate any adverse changes within the enterprises.

From this study it can be inferred that selecting the right tools and having viable objectives can help overcome any problem that cultural differences might cause. This discussion is particularly relevant to large corporations looking at Third

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World countries, particularly in Latin America, to expand their supply and production channels with foreign offices and personnel.

The Offshore Outsourcing Market

Among the most interesting developments in the software industry is the growth of the offshore outsourcing market in several regions of the world [Rajkumar and Mani, 2001; Trejo, 2000]. It is estimated that by 2008, India could generate 2.2 million jobs and US$50 billion in revenue [Shina et al., 2000]. Other countries including Ireland, Russia, Israel, China, and the Philippines already have a good reputation in this industry [Buschmeyer, 2001]. However, although several academic programmes teach software development, few focus on the issues that arise when the client and developer are in different countries, speak different languages, or have different cultures.

For higher education institutions, understanding the dynamics of the offshore outsourcing market is critical to help their students develop the skills demanded by this relatively new job market. Institutions in developing nations require specialists to staff, manage, and sell the services of offshore outsourcing companies. Institutions in 'client' nations also need to train specialists who can identify and assess opportunities, coordinate outsourcing efforts, and realise the advantages of this new market for their companies.

In a study comparing buyers' expectations and suppliers' beliefs [Alanis et al., 2004], both groups ranked quality and cost related issues higher than cultural issues. The major differences between buyers and suppliers were in the areas of project management activities and projects suitable for offshore outsourcing. Both groups rank quality and cost related issues higher than cultural issues.

In project management activities, both groups value requirement administration and configuration management, while the supplier group considers change more important and the client group consider testing and documentation more important. The major difference is in the importance of documentation, since the

supplier group considers it of moderate or little importance, while the client group considers it one of the most relevant factors.

Although cultural factors and geographical proximity ranked lower in general, respondents felt that language skills are important. This indicates the need to reinforce English as a Foreign Language programmes in universities of supplier nations as well as foreign language training in the schools of client nations, to improve cultural awareness and to better use instant communication tools.

While the issues of groupware technology implementation are similar in different countries, the offshore outsourcing market presents different challenges. Not only do different cultures have different perspectives on the problems, but also different nations play different roles. While some economies are basically clients of offshore outsourcing services, others are focusing on supplying those services. Users and educators must be aware not only of cultural differences but also of role differences while preparing their programmes and plans.

Summary
Cultural differences may affect the way our discipline evolves in each part of the world. Although there are some basic principles that do not change, there are also many principles that may vary among cultures. Studies comparing the effect of cultural differences in practice have found that those differences can be overcome, given the right tools and objectives. However, other important differences—such as language or communication needs—could be addressed in the educational systems. This includes encouraging the teaching of foreign languages and the awareness of different positions based not only on nationality but also on the role that different individuals play in the development and use of information technologies.

CULTURAL BIAS IN IS PRACTICE: A EUROPEAN PERSPECTIVE - Stefan Klein

One way to address bias is to make one's own position transparent. Hence, I would like to address issues of cultural bias in IS practice from a European perspective. Moreover, as culture is a multi-faceted phenomenon, it seems appropriate to look at different levels: starting from a supra national perspective, I will briefly look at emerging practices on the Web as communication infrastructure, practices of packaged software providers, and finally reflect on IS inherent conceptual issues.

The Setting: Cultural Bias in Europe

In Europe, or more specifically within the European Union, there is a clear ambivalence of goals: on the one hand, much emphasis is put on European economic and political integration. Numerous projects have been initiated to facilitate trade and to look for standardisation and harmonisation in and indeed for the Single Europe. While European institutions aim for a high level of inclusion, smaller member states in particular often feel that their identities (and needs) are not well represented in the Single Europe, which some would claim has a bias towards the larger countries, namely Germany, France, and the UK.

On the other hand, it has been recognised that cultural diversity is a core part of the European identity [Rifkin, 2004, pp. 247-248] and indeed may be crucial for Europe's level of innovation. On many levels, projects have been initiated which aim to develop and preserve Europe's cultural heritage and diversity. DigiCULT (www.digicult.info) is one example. Its mission is "… monitoring and assessing existing and emerging technologies that provide opportunities to optimise the development, access to, and preservation of Europe's rich cultural and scientific heritage, within the emerging digital cultural economy".

However, despite such efforts, many incidents provide evidence that xenophobia within and across the EU is widespread and undermines the project of a single, culturally diverse Europe. Several IT companies have recognised xenophobia as

a problem and are actively advocating policies of corporate citizenship that acknowledge diversity.

One example of European corporate citizenship is SAP, which has the following guiding values:

- "Creativity: one of the key factors behind innovation. SAP provides a stimulating and open environment in which it can flourish, in business and the arts.

- Diversity: SAP respects and protects diversity. We do our utmost to encourage tolerance and understanding, whether at work or in the community.

- Commitment: acting responsibly begins at home. Our employees are actively engaged in the local communities where they work, around the globe". (www.sap.com/company/saplabs/israel/careers/index.epx)

ICT Infrastructure: The Web

The Web as a global communication infrastructure has been heralded as a medium, which can facilitate cultural diversity. Indeed, many regional and local initiatives advocating and preserving cultural artefacts — be it language, certain practices or physical artefacts such as pieces of art or architecture — have successfully used the Web to articulate their views. The Web has provided the tools to represent these artefacts and to communicate them within their community as well as outside.

However, we have to concede that despite many commendable efforts, the Web certainly has a strong bias towards dominant languages and cultures: currently the bias is towards English. We might argue that the English bias is not technologically enforced or sustained but rather the result of the underlying economies of attention, leading to the winner-takes-it-all phenomenon [Adamic and Huberman, 1999].

ICT Industry: Packaged Software Providers

Production of software is characterised by high fixed costs for the development of the first product with negligible cost for copies and distribution (so-called 'first copy cost'). In line with the economies of first copy cost all large software companies operate globally. Adaptations for different cultural settings, which are usually necessary in regional markets to, at least in part, compete with regional competitors, come at an extra cost. As a result we often see 'localisation' reduced to the translation of the user interface, a translation that often pays more allegiance to the source language (English) than the target language(s). In the words of a Microsoft Web site "Localization is the process of customizing your application for a given culture/locale. Localization consists primarily of translating the user interface. …" (http://msdn.microsoft.com/library/default.asp?url=/library/en-us/vsent7/html/vxoriLocalizationPlanning.asp)

As a provider of ERP systems, SAP puts more emphasis on capturing different business practices in order to be able to support them in and with their system(s). Over time, SAP has built an excellent reputation in modelling a huge variety of regionally different business practices and requirements, in particular accounting and HR. This is reflected in their statement:

 "SAP Operate Globally, Act Locally. To succeed in the international marketplace, you need a detailed understanding of the culture, customs, and conditions in all your markets. You also need the flexibility and responsiveness to take into account diverse legal frameworks, different languages and lifestyles, and a wide range of other local business requirements. …
- Take account of a wide variety of customs, codes, cultures, and currencies
- Meet local country requirements within the context of global strategy …"
(www.sap.com/industries/oil-gas/pdf/BWP_Global_Solutions.pdf)

In this sense, SAP is building its business model on capturing cultural—i.e., business practices, regulation etc.—differences and addressing the resulting needs.

ICT Foundations: Conceptual Bias

SAP's development of reference models, capturing a growing range [and instances] of business practices, is based on a representational view of IS: Formally representing information, process and structures is seen as the precondition to informatisation [Zuboff, 1988] and automation. While informatisation is seen as a way of empowering individuals and of increasing transparency within and across organisations, it implicitly assumes that the informational model of an organisation [or any other part of reality] is an appropriate way of engaging with [and controlling] relevant parts of reality.

This position does however not reflect that information [or for that matter process] models are inherently biased: they take an almost sterile, formalised view of what is relevant to be modelled. As this view does not take the diversity and cultural embeddedness of practices into account, it may even be dysfunctional from a management point of view [e.g. Lilley et al., 2004, pp. 21-34].

Summary

In our brief Euro-centric tour, we have identified ambivalent responses to cultural diversity and different types of bias. On the positive side, there seems to be a growing recognition that cultural diversity — within and across the European Union — is and indeed should be a core part of a European identity. This realisation resonates with IS companies' statements about their values with respect to corporate citizenship; the capability to embrace cultural diversity is a key component of innovation.

Looking more specifically at IT, we again found ambivalent results, eventually interpreted as economic and conceptual bias:

- The economic bias of the winner-takes-all

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While we can argue that information technology is interpretatively (and culturally) flexible [Orlikowski and Iacono, 2000] and can be used to foster cultural diversity, the underlying economic mechanisms favour one-size-fits-all models.

- The conceptual bias

  Even where customisation is a core part of the offering, as in SAP's case, the underlying logic is skewed towards abstract, i.e., de-contextualised, reference models, which capture different business practices. Moreover, with few exceptions, IS have a bias towards formalisation and representation.

Finally, I leave it to the readers' judgement whether they perceive the existing practices of recognising and supporting cultural diversity, from policies of corporate citizenship to localisation practices, as adequate.

IV. CONCLUSION

This article is the result of a process that lasted over a year and was itself subject to many different cultural biases; to follow our own recommendation, it is important to bare them to the reader. The original idea of developing a multi-cultural panel to discuss cultural biases in IS research and practice was raised during ICIS 2004 in Washington, D.C. The next several months led to a proposal for a panel that was eventually accepted for presentation at ICIS 2005 in Las Vegas. That was just the start: beginning in September of 2005, an asynchronous discussion channel was established and used to clarify positions and connections across different perspectives.

We are proud of the final result: both of the oral panel presentation as well as the current article explaining the main points and positions of the several panellists.

The presence of culture — either as an additional explanatory variable or the key one for behaviors of interest in the IS literature — is becoming more prevalent in IS research; moreover, even in journals where culture is not the key focus, it is

becoming relatively common. Therefore, an enhanced understanding of how potential biases in the cultural background of researchers or practitioners themselves, and how that may affect what they write or do, has become critical. Our article strongly argues that IS research is at a crossroads regarding the acknowledgement of the researcher's own culture and therefore bias as a backdrop for high quality and transparent results. First, Robert Davison argued convincingly how cultural bias affects not only the author's viewpoint, but also the reviewer's, the reader's, and even the editor's, and he proposes ways to improve the current situation. Soon Ang proposed elsewhere and discussed here the theoretically strong and eminently practical concept of Cultural Intelligence, elaborating on how that may also affect one's own bias. Next, Macedonio Alanis described key similarities in IS practices between Mexico and US, with emphasis on parallel perspectives on cost/quality, use of groupware technology and importance of language as bridging the cultural difference gap. Finally, Stefan Klein described the ambivalence in recognizing the value and application of different cultures to European IS practices.

We hope that this is the beginning of a healthy discourse that will lead to a much more transparent treatment of a researcher's and practitioner's own culture and how that may bias his or her practices, what is written, and what is concluded.

REFERENCES

Adamic, L. A. and Hubermann, B. A. (1999) "The Nature of Markets on the Internet", Palo Alto, http://www.parc.xerox.com/istl/groups/iea/abstracts/ECommerce/webmarkets.html

Alanis. M. and Diaz, J., (2003) "Groupware Effectiveness in Large Latin American Corporations", Hawai'i International Conference on Systems Sciences (HICSS-36), IEEE, Big Island, Hawaii, January.

Alanis, M., Mendoza, A. and Alanis, D., (2004) "The Offshore Outsourcing Market: The Impact of Clients' Expectations and Suppliers' Beliefs on the IS Curriculum", 2003 International Conference on Informatics, Education and Research, Washington, D.C., December.

Aannestead B. and Hooper, J. (1997) "The Future of Groupware in the Interactive Workplace," *HRMagazine*, 42, pp. 37-42.

Ang, S., Van Dyne, L., and Associates. (2006) *The Measurement and Criterion Validity of 20-Item Cultural Intelligence Scale (CQS).* Technical Report, Nanyang Business School, NTU Singapore, and Eli Broad School of Management, Michigan State University.

Ang, S., Van Dyne, L., & Koh, C. (2006). Personality correlates of Cultural Intelligence, *Group & Organization Management*, 31, p.100-123.

Barham, K. and Heimer, C. (1998) *ABB The Dancing Giant*, London: Financial Times/Pitman.

Buschmeyer, J. (2001) "Offshore Outsourcing: Rationale, Types and Challenges", Seminar zur Wirtschaftsinformatik im Sommersemester.

Chia, R. (2003) "From Knowledge-creation to the Perfecting of Action: Tao, Basho and Pure Experience as the Ultimate Ground of Knowing", *Human Relations,* 56(8), pp. 953-981.

Davison, R. M., de Vreede, G. J. and Briggs, R. O. (2005) "On Peer Review Standards for the Information Systems Literature", *Communications of the AIS*, 16(49), pp. 967-980.

Davison, R. M. (2006) "Internationalising the Academy: Do We Really Want To?", *Organisational Communication and Information Systems Division Newsletter*, http://division.aomonline.org/ocis/index.php?option=com_content&task=view&id=38&Itemid=44. (current Jan. 5, 2006).

Deci, E. L., and Ryan, R. M. (1985) *Intrinsic Motivation and Self-Determination in Human Behavior*, New York: Plenum.

Dennis, A. R., Pootheri, S. K. and Natarajan, V. L. (1998) "Lessons from the Early Adopters of Web Groupware," *Journal of Management Information Systems*, 14(14), pp. 65-86.

Earley, P. C., and Ang, S. (2003) *Cultural intelligence*: *Individual Interactions Across Cultures*, Palo Alto: Stanford University Press.

Ellis, C. A., Gibbs, S. J.,and Rein, G. (1991) "Groupware: Some Issues and Experiences," *Communications of the ACM*, 34, p. 38.

Flores, G., Bitar, J., Vieira, L. and Kirschmer, M., (1996) "CEMEX: Shifting Attitudes Between Staff and Customers," in P. Lloyd and R. Whitehead

(eds.) *Transforming Organisations Through Groupware*, London: Springer Verlag, pp. 80-88.

Gabrielidis, C., Stephan, W. G., Ybarra, O., Dos Santos Pearson, V., and Villareal, L. (1997) "Preferred Styles of Conflict Resolution," *Journal of Cross-Cultural Psychology*, 28, pp. 661-677.

Gardner, H. (1993) *Multiple Intelligence: The Theory in Practice*, New York: Basic Books.

Giddens, A. (1984) *The Constitution of Society: Outline of a Theory of Structuration*, Cambridge, England: Polity Press.

Giddens, A. (1990) *The Consequences of Modernity*, Cambridge, England: Polity Press.

Glisby, M. and Holden, N. (2003) "Contextual Constraints in Knowledge Management Theory: The Cultural Embeddedness of Nonaka's Knowledge-Creation Company", *Knowledge and Process Management,* 10(1), pp. 29-36.

Hambrick, D. C. (1994) "What if the Academy Actually Mattered?", *Academy of Management Review*, 19(1), pp. 11-16.

Hofstede, G. (1984) *Culture's Consequences: International Differences in Work Related Values*, Beverly Hills, CA: Sage.

Hofstede, G. (1987) "The Applicability of McGregor's Theories in South East Asia", *Journal of Management Development*, 6(3), pp. 9-18.

Hofstede, G. (1991) *Culture and Organisations: Software of the Mind*, London: McGraw Hill.

Hofstede, G. (1994) "Management Scientists are Human", *Management Science*, 40(1), pp. 4-13.

Holden, N. (2001) "Knowledge Management: Raising the Spectre of the Cross-Cultural Dimension"*, Knowledge and Process Management,* 8(3), pp. 155-163.

Hunter, G. and Black, J.E. (2000). "Using Repertory Grids to Conduct Cross-Cultural Information Systems Research", *Information Systems Research*, 11(1), 93-101.

Kluckhohn, F. R., and Strodtbeck, F. L. (1961) *Variations in Value Orientations*, Evanston, IL: Row, Peterson.

Kroeber, A. L. and Kluckhohn, C. (1963) *Culture: A Critical Review of Concepts and Definitions,* New York: Vintage Books.

Lee, A. S. (1995) "Reviewing a Manuscript for Publication", *Journal of Operations Management*, 13(1), pp. 87-92.

Leidner, D. E. and T. Kayworth, (forthcoming, 2006) "A Review of Culture in Information Systems Research: Towards a Theory of IT-Culture Conflict", *MIS Quarterly*.

Lilley, S., Lightfoot, G. and Amaral, M. N. P. (2004) *Representing Organisation Knowledge, Management, and the Information Age*, Oxford: Oxford University Press.

Morales, D., Moreira, H., and Vogel, D. (1995) "Group Support for Regional Development in Mexico," presented at 29th Annual Hawaii International Conference on System Sciences, Hawai'i 2-6 January.

Myers, M. and Tan, F. (2002) "Beyond Models of National Culture in Information Systems Research", *Journal of Global Information Management*, 10(1), pp. 24-32.

Nisbett, R., Peng, K., Choi, I. and Norenzayan, A. (2001) "Culture and Systems of Thought: Holistic vs. Analytic Cognition", *Psychological Review*, 108, pp. 291-310.

Nonaka, I. and Toyama, R. (2003) "The Knowledge-Creating Theory Revisited: Knowledge Creations As A Synthesising Process", *Knowledge Management Research and Practice*, 1, pp. 2-10.

Orlikowski, W. J. and Iacono, C. S. (2000), "The Truth Is Not Out There: An Enacted View of the "Digital Economy", in Brynjolfsson, E. and B. Kahin (eds) *Understanding the Digital Economy*, Boston: MIT Press.

Pauleen, D. and Murphy, P. (2005) "In Praise of Cultural Bias", *Sloan Management Review*, 46(2), pp.21-22.

Rajkumar, T. M. and Mani R. V. S. (2001) "Offshore Software Development: The View from Indian Suppliers", *Information Systems Management*, 18(2), Spring, pp. 63-73.

Rifkin, J. (2004) *The European Dream*, New York: Penguin.

Robey, D. and Markus, M. K. (1998) "Beyond Rigor and Relevance: Producing Consumable Research about Information Systems", *Information Resources Management Journal*, 11(1), pp. 7-15.

Schein, E. H. (1985) *Organisational Culture and Leadership*, San Francisco: Jossey-Bass.

Shina, R., Srinivasan, R. and Venkataraman, R. (2000) "A Software Subcontinent, *The McKinsey Quarterly*, 2.

Simon, A. R. and Marion, W. (1996) *Workgroup Computing*, New York: McGraw Hill.

Sternberg, R. J. (1985) *Beyond IQ: A Triarchic Theory of Human Intelligence*, New York: Cambridge University Press.

Trejo, A. (2000) "Desarrollos y tendencias en el mercado de servicios de outsourcing", *Revista RED*, 10, (119) pp.14-17.

Vandenbosch, B. and Ginzberg, M. J. (1996) "Lotus Notes and Collaboration," *Journal of Management Information Systems*, 13(3), pp. 65-81.

Walsham, G. (2002) Cross-Cultural Software Production and Use: A Structurational Analysis, *MIS Quarterly,* 26(4), pp. 359-380.

Westrup, C., Al Jaghoub, S., El Sayed, H., and Liu, W. (2002) "Taking Culture Seriously: ICTs, Cultures and Development", in Madon, S. and Krishna (eds) *ICTS and Development: New Opportunities, Perspectives and Challenges*, Aldershot: Ashgate.

Zuboff, S. (1988) *In the Age of the Smart Machine: The Future of Work and Power*, New York: Basic Books.

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