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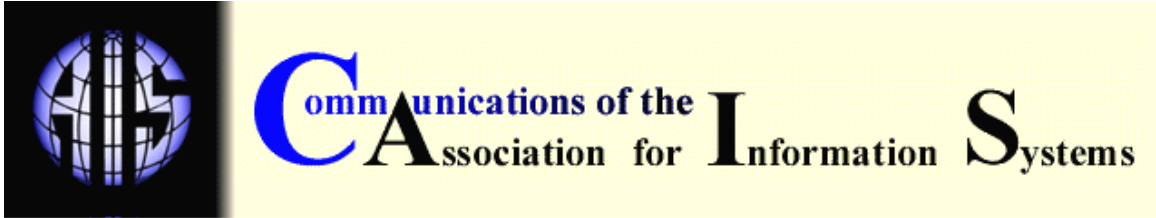
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ICTs, GLOBALIZATION AND LOCAL DIVERSITY

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ABSTRACT

This paper is based on a panel discussion at the 2002 International Conference on Information Systems in Barcelona. Three panellists responded to a set of questions on the meaning of the term globalization to them, and the role of information and communications technologies (ICTs) in globalization processes. The panellists also highlighted the importance of local diversity in understanding globalization and ICTs, drawing from their varied research in contexts such as western country financial markets, health systems in Guatemala, and e-commerce in Mexico. A further output of the panel, and this paper, is the identification of key research questions and theories for future IS research in this important area.

KEYWORDS: globalization, role of ICTs, local diversity, power relations, social networks, structuration theory, culture

I. INTRODUCTION

The precise nature of the phenomenon known as globalization is highly complex. For example, Beck [2000] distinguishes between 'globality', the change in consciousness of the world as a single entity, and 'globalism', the ideology of neoliberalism which argues that the world market eliminates or supplants the importance of local political action. Despite the complexity of what is meant by 'globalization', most commentators would agree that major social transformations are taking place in the world, such as the increasing interconnectedness of different societies, and the compression of time and space. The importance of information and communication technologies (ICTs) to the changes that are taking place is also widely accepted. For example, Castells [1996] argues that we are in the 'information age' where information generation, processing, and transformation are fundamental to societal functioning and social change, and where ICTs enable the pervasive expansion of networking throughout the social structure.

However, does globalization enabled by ICTs imply that the world is becoming a homogeneous arena for global business and global attitudes, with differences between organizations and societies disappearing? Many authors take exception to this conclusion. For example, Robertson [1992] discussed the way in which imported themes are 'indigenized' in particular societies with local culture constraining receptivity to some ideas rather than others, and adapting them in specific ways. He cited Japan as a good example of these 'glocalization' processes. Whilst accepting the idea of time-space compression facilitated by ICTs, Robertson argued that one of its main consequences is an exacerbation of collisions between global, societal, and communal attitudes. Similarly, Appadurai [1997] coming from a non-Western background, argued against the global homogenization thesis on the grounds that different societies will appropriate the 'materials of modernity' differently depending on their specific geographies, histories, and languages. Walsham [2001] developed a related argument, with a specific focus on the role of ICTs, concluding that global diversity needs to be a key focus when developing and using such technologies.

A survey article in the sociology literature [Guillén 2001] considered a wide body of empirical and theoretical evidence as to whether globalization can be considered a civilizing, destructive, or feeble force. Guillén concluded that globalization is not a feeble phenomenon, but is neither an invariably civilizing nor a destructive force. Its impact varies across countries, sectors, and time, and:

'Understanding globalization will require us to gather more and better data about its myriad manifestations, causes and effects'.

The aim of the 2002 ICIS panel, chaired by Geoff Walsham, was to contribute to this endeavour, by drawing on the experience of three panellists, the audience and the panel chair to debate the following questions:

- What is globalization?
- What are important aspects of local diversity and why do they matter?
- What is the role of ICTs in globalization/glocalization phenomena?
- What are key questions for IS researchers in this arena?
- What theories can help us to address these research questions?

Subsequent to the panel, each of the three panellists (Michael Barrett, Sirkka Jarvenpaa, and Leiser Silva) prepared a written version of their response to the above questions and their contribution to the debate. These three contributions now follow. To help the reader, a summary table of the panellists' responses to the panel questions is given in Table 1.

Table 1. Summary of Panellists' Responses to the Panel Questions

PANEL QUESTION	BARRETT	SILVA	JARVENPAA
What is globalization?	<ul style="list-style-type: none"> • Process of social change • Many manifestations • Connected to issues of self-identity 	<ul style="list-style-type: none"> • Traditional ways of life affected by common cultural goods and global markets • Common techniques of discipline 	<ul style="list-style-type: none"> • Interdependence and diversity in economic, political and social environments
Role of ICTs in globalization?	<ul style="list-style-type: none"> • Central role • Common practices and standards across time and space e.g. in financial markets • But local diversity matters 	<ul style="list-style-type: none"> • ICTs as vehicles for globalization • Not accepted in homogeneous way • IS practices transmitted through individuals 	<ul style="list-style-type: none"> • Diversity e.g. national identity important • For example, e-commerce in Mexico has unique features
Important aspects of local diversity?	<ul style="list-style-type: none"> • MNEs balancing global integration with local responsiveness • Cultural diversity affects ICT implementation • Contested centre/local power relations 	<ul style="list-style-type: none"> • Local contradictions and rationalities e.g. in Guatemalan health sector • Language issues • Power relations between developed and developing countries 	<ul style="list-style-type: none"> • Inadequate infrastructure, etc. • Shift to productivity and competitiveness • Non-economic interests: approval, power, status
Key research questions?	<ul style="list-style-type: none"> • Role of ICTs in globalization processes • ICTs' involvement with power and politics • Cultural diversity and local work arrangements 	<ul style="list-style-type: none"> • Critical research on local intentionality, power relations • Focus on understanding local diversity and practices 	<ul style="list-style-type: none"> • Role of social networks and public institutions • Role of MNEs • Technology diffusion and deployment
Valuable theories?	<ul style="list-style-type: none"> • Giddens' social theory 	<ul style="list-style-type: none"> • Of power, discourse and relations between developed and developing countries 	<ul style="list-style-type: none"> • Of culture, social networks and public institutions

II. PRESENTATIONS BY PANELLISTS

MICHAEL BARRETT

The word globalization is a relatively new word in our vocabulary; our grandparents didn't grow up with it and its popularity only emerged in the last 15 years or so in the management literature. In the IS literature, it received relatively scant attention with the research being sporadic and diffuse [Roche and Blaine 2000]. This situation is somewhat surprising given the close link between IS and globalization. What is also striking is the lack of consensus by researchers on globalization and its effects. Guillén [2001] spells this diversity out well when he notes how divided researchers are concerning key questions about globalization: Is it happening? Does it produce convergence? Does it undermine nation-states? Is globality different from modernity? Is there a global culture?

Despite the difficulty in pinning down and gaining agreement on the elusive concept of globalization, I think it is important to attempt to articulate a view as to what globalization is. I will start by emphasising that it is not some impersonal force but rather a process of social change with many manifestations. Globalization as a change process involves an increasing interconnection between societies, economic integration between businesses, time-space compression or the speeding up of processes, as well as the stretching of social and work relations (time-space distancing) facilitated by standardized mechanisms and systems. An important aspect of the globalization process is that the change at the macro level or institutional level is intimately connected to reflexivity at the individual level; that is individuals are continually reconstructing their self-identity in light of new knowledge and changes within institutions.

ICTs play a central role in globalization facilitating the above-mentioned changes. For example, electronic trading in financial markets [Barrett and Walsham 1999] enables interconnection of financial markets, allows trades to be completed quickly, and by traders who can share some common business practices across time and space. Common technological standards, such as electronic data interchange standards and messages, allow for such global interconnectedness between markets. However, there is always local diversity as individuals appropriate these technologies, systems, and standards differently within their own particular markets. Furthermore, this shift to electronic trading has implications for traders who will be likely to seek to reconstruct their identity in this new virtual marketplace. What new skills do they need to trade effectively? More generally, how do they operate effectively as part of an on-line trading community?

In considering the importance of local diversity in processes of globalization, it is useful to consider the broad international management literature which influenced some strands of IS research. In this literature, a key focus is on the structural configurations and strategies for international firms [Bartlett and Ghoshal 1989]. As companies seek to globalise, they are often seen to follow a developmental path from 'international' (autonomous international divisions) to 'multi-national' (increasing duplication of the value chain across countries and local autonomy) to 'global' (increasing geographic integration of activities and strategies) and ultimately to a 'trans-national' configuration. The views in this literature differ as to the importance of local diversity, with some authors emphasising convergence and global homogeneity [e.g. Levitt 1983]. However, from relatively early on, concomitant with the development of a 'trans-national' organization, researchers focused on how multi-national enterprises (MNEs) seek to balance global integration and co-ordination of operations, with local customization and responsiveness [Bartlett and Ghoshal 1988, 1989, Harzing 2000].

The earlier IS literature paralleled this influential international research with a focus on the effect of IT on the structure of international firms in seeking to coordinate and control interdependencies among geographically dispersed operating units of a global network organization [Jarvenpaa and Ives 1994] or a trans-national organization [Boudreau et. al. 1998]. However, this particular stream of IS research says little about local diversity specifically. More recent IS research has emphasised the importance of local cultural diversity [Walsham 2001]. For example, concerning cultural diversity, Barrett et.al. [1996] highlight the way cross-cultural differences within teams adversely affected the software development process in cross-cultural teams, and implied the need for local diversity of IS design and use [Walsham 2002].

The debates on the homogenization of business processes are similar to those on cultural diversity. Enterprise resource planning (ERP) systems enable management control within MNEs through global standardization of processes. Managers of large MNEs implementing ERP systems face key trade-off decisions between global best-practice standards in IT and local adaptation [Hanseth and Braa 1998, Davenport 1998]. For example, they require careful customisation to reflect differences in national legislation in areas such as accounting and taxes.

Other research highlighted the tension and the contested power relations and negotiations between global ICT strategies and those of local financial markets. Barrett and Heracleous [1999] analyse the importance of local diversity in business practices to maintain effectiveness of

the local London Insurance Market while achieving global compatibility with other financial centres. In summary, the IS literature is increasingly recognizing the importance of local diversity in processes of globalization and I believe this is an important area of IS research which needs further work.

Among the numerous possible questions for IS researchers, the following key research questions developed from my own research:

1. What is the role of ICTs in the globalization process?
 - a. How do you balance local diversity of processes and global interconnectedness?
 - b. What is the appropriateness of technology discourses on the globalization process in specific markets?
2. How are ICTs involved with power and politics of economic globalization?
 - a. What is the interplay between ICT developments by MNEs and local financial centres?
3. To what extent is cultural diversity necessary to facilitate work arrangements such as global IT sourcing?
 - a. How do you manage cultural diversity?
 - b. What new business models and governance arrangements are appropriate to manage work distributed across time/space/culture?

Many theories may be helpful in understanding these research questions. I found Giddens' social theory [Giddens 1979, 1984, 1990, 1991] valuable [Barrett and Heracleous 1999]. A structurational approach to understanding processes of globalization places a basic emphasis on the local and global dialectic constituted as the interplay between local involvements and globalizing tendencies [Giddens 1991]. Globalizing tendencies include time-space distancing and disembedding mechanisms which, together, involve the 'stretching' of social relations. For example, earlier I mentioned how ICTs, including electronic trading systems, global networks, and EDI standards and messages, act as disembedding mechanisms, permitting the stretching of trading practices across financial centres. In that same example, I highlighted how these shifts in institutional practices are linked to changes in trader identity and how they will operate in on-line trading communities.

Furthermore, power is central to Giddens theory of structuration and he provides useful conceptual linkages between the (re)production of structures of domination, structural contradiction, and conflict. Specifically, structural contradictions may lead to conflict as struggles between individuals and groups where there are divisions of interest and people who are able and motivated to act [Giddens 1979, 1984, Walsham 2001]. Recently, Walsham [2002] highlighted the value of these concepts for ICTs and globalization in examining cross-cultural software production and use.

LEISER SILVA

Giddens¹ opens his Reith lectures series on the theme of globalization by recounting the experience of one of his colleagues who was invited for an evening of entertainment in a remote village of Africa. She was expecting to experience a local manifestation of entertainment; instead she was surprised to realize that the diversion consisted in watching the video version of a Hollywood movie. This anecdotal episode reflects what globalization may represent intuitively for most of us: a world in which the traditional ways of life are being affected by the expansion of common cultural goods and the extension of worldwide economic markets. Globalization, then, renders an initial impression of homogeneity.

¹ http://news.bbc.co.uk/1/hi/english/static/events/reith_99/week1/week1.htm

This tendency to resemblance was earlier observed in organizations. Indeed, organizations within the same field will tend to look alike, given common adoption of techniques of discipline, ways of production and structures [Clegg 1990]. This phenomenon is what organizational theorists call isomorphism [DiMaggio and Powell 1991]. Techniques of production and discipline, along with discourses of homogenization will be available or enforced through government agencies, international associations, or professional bodies. For example, international organizations for standardization such as ISO offer practices and techniques which international bodies such as the European Union enforce on their members and suppliers². That is why it is not surprising for travellers to find that organizations such as banks or restaurants not only look alike on appearance but also embrace similar managerial structures [Ritzer, 1999].

ICTs are regarded and studied as vehicles of globalization, in the sense that they are key for the communication of ideas, and are instruments for extending the scope of control of organizations around the globe [Castells 1996]. This, however, is not to say that ICTs are accepted in a homogeneous manner wherever they are implemented [Walsham 2002]. For example, Sahay [1998] describes how a geographic information system developed in the West produced different results than those expected by its developers when the system was implemented in India. Sahay shows how conceptions about time and space inscribed in the system by the developers were interpreted differently by users in India. Thus, ICTs in the context of globalization are studied from different angles. However, I want to concentrate here not on ICTs *per se* but on the practices associated with information systems that are not transmitted through electronic channels but are conveyed by individuals.

An illustrative study described the process by which the Ministry of Health of Guatemala in 1998 decided to outsource the development of the information systems of its two largest hospitals [Silva 2002]. 1998 was an important year in the political life of Guatemala, since it was just one year before presidential elections. The situation of the hospitals was on the top of the political agenda of all the candidates running for president throughout the campaign. Opposition parties were pointing out the deplorable state of the hospitals and were blaming inefficient administration and corruption. Consequently, the government in turn, interested in winning the forthcoming elections, decided to implement computerized information systems with the purpose of improving administration and curbing corruption. This decision created big pressure on the Ministry of Health since authorities wanted the systems to be ready before the elections.

In this context the authorities of the Ministry of Health hired a practitioner who had an MBA from a North American University. His specialty was MIS. His immediate decision was to outsource the development of the information systems. When asked about the decision to outsource, senior management in the Ministry answered that they followed that path mainly through trusting their recent hired person, who told them that it was the most viable alternative if the systems were to be delivered on time before the elections. They confessed that they did not perform either a cost benefit analysis or long term strategic planning. The person in charge of the outsourcing project said that the idea of outsourcing came to his mind as a technique learnt during his MBA studies; so he structured the deal and selected the vendor accordingly.

This case illustrates the idea that even if organizations may look alike on the surface, the Ministry of Health looked to the researcher not different from other organizations that outsource their systems, a closer look at the micro-politics and context of the organization may reveal many contradictions and different personal rationalities.

From our point of view as researchers, these findings are interesting for two main reasons:

1. They show that in theorizing about the adoption of outsourcing information systems we need to consider some other elements beyond the traditional and economic explanations [Lacity and Willcocks 1998; Lee and Kim 1999]. That is, organizations may adopt outsourcing as an improvisation particularly in politically-loaded organizations, as was the case in the Ministry of Health of Guatemala.

² <http://www.iso.ch/iso/en/commcentre/news/euro.html>

2. Most importantly for the purpose of this paper, it is that the ideas of outsourcing were learnt in an industrialized English-speaking country and, then, were transplanted to Guatemala.

This example shows how discourses can travel from one place to another, using individuals as envelopes. Moreover, it shows that the adoption of discourses occurs in a power relation. In the Guatemalan case, the discourse of outsourcing travelled between two different areas of the world with clearly marked differences. On the one hand, there is a developing country with scarce economic and educational resources, while on the other there is a country that spends substantial resources on education and research [UNDP, 2001]. In the case, this power relation is manifested when the authorities reveal the main reason for hiring the coordinator of the outsourcing project: he was deemed to be an expert given the origins of his MBA. This situation calls for reflection. For developing countries it suggests that a critical stance is fundamental in the adoption of new practices; and for industrialized nations it highlights their responsibility in the generation of knowledge.

The findings of this case were brought about by adopting an interpretive stance. Interpretive researchers approach their task by drawing on techniques that emphasise language and intentions. They assume that situations, objects and actions can afford different meanings for different subjects. Hence, interpretive researchers rely on interviews, observations, and the examination of documents as their major sources of data. In addition, this type of research calls for adopting theoretical tools as lenses for making sense of data [Walsham, 1993]. The Guatemalan hospital case adopted an interpretive approach. It was instrumental to enable the subjects to point out the intentionality and drivers of their actions, as well as for mapping the power relations. Without that approach, it would have not been possible to establish the motivations and constraints of the authorities in deciding to outsource. Thus interpretive research can help us to understand diversity and the interplay between localities and powerful discourses.

All in all, this type of study can be of benefit for both practitioners and researchers in their quest for understanding of the relationship between ICTs and globalization. Practitioners can see differences and idiosyncrasies that are concealed beneath apparent homogeneity. By learning about differences, practitioners can adapt their techniques and practices accordingly. Adaptation is relevant given the extensive efforts organizations make to operate globally. With our research, we can contribute by relating the context in which particular technologies and techniques seem to work and, most importantly, in providing analysis and explanations for those outcomes.

Another connotation of this discussion is the call to assume a clear responsibility in our research and in our teaching. It is not uncommon in developing countries for individuals in authority positions to have studied in industrialized, English-speaking countries: hence the relevance of our research and teaching as generators of discourse. We can contribute greatly to the discourse of globalization and ICTs with our focus and understanding of diversity. This goal cannot be achieved by concentrating our research exclusively on developed nations.

SIRKKA JARVENPAA

I define globalization as dealing with the interdependence and diversity in economic, political, and social environments. Diversity refers to the quality of being different, or of having variety. Progress on globalization depends on the ability to thrive with local diversity. Many authors warn of a prevailing disregard for local diversity and how this disregard is threatening progress on globalization. For example, Stiglitz [2002], in his book *Globalization Discontents*, highlights the harmful consequences of the 'one-size fits all' economic policies of such organizations as the World Bank. Kogut [1999] also reminds us that there is no true globalization without strong national identity.

To understand how local diversity affects globalization, we studied AMECE, the Mexican Electronic Commerce Association. With nearly 19,000 member companies, AMECE is a privately held standards organization in Mexico that is committed to promoting the diffusion of e-commerce in Mexican small and medium-sized firms. It is a member of both the EAN (International Article Numbering Association) and the UCC (U.S. Uniform Code Council) worldwide networks. The

organization developed an electronic invoicing system and an electronic catalogue that allows member companies to market their products and services to domestic and international customers. AMECE also offers strategy development and training programs on e-commerce competencies.

What we found is that in Mexico, e-commerce is largely limited to the business-to-business arena and is seen as a horizontal integration of the value chain in an industry. What's more, the small and medium-sized companies that largely compose the Mexican business landscape suffer from insufficient technology infrastructure and lack the information and business culture to embrace technology and change in their operations. Business-to-consumer electronic commerce is growing even more slowly—hindered by inadequate infrastructure, low IT literacy, high access costs, low diffusion of credit cards, and an unreliable postal system [Palacios, 2001].

The primary drivers for e-commerce in Mexico are improved firm productivity and greater competitiveness as the economy moves from a closed market to a more competitive environment. Mexico experienced large-scale privatization of government-owned businesses, and the US and Mexican economies are set to become tariff-free by 2009. AMECE sees e-commerce as paramount to improving Mexican competitiveness in the increasingly interdependent economy.

A focus on productivity and competitiveness was not a priority under the formerly closed economy. Industries and firms were heavily regulated and protected by the Mexican government, a mistrusted institution that engaged in secrecy, corruption, and information hiding. However, as the economy opens and the protectionist policies are eliminated, more international companies are establishing a presence in the country and luring customers away with cheaper prices and a greater set of choices. Thus, those firms that want to survive must focus on their competitiveness.

AMECE also aggressively sought improvements in productivity, establishing an annual productivity award to companies operating in Mexico. However, in a strong collectivist culture like Mexico's [Hofstede, 1980], economic interests such as productivity cannot be separated from noneconomic interests such as approval, power, and status in personal and professional networks. Business transactions and personal and professional networks are fundamentally shaped by social and kinship obligations. Defined as "embeddedness" by social network theory [Granovetter, 1992], these networks play a dominant role in a firm's economic interests. Embeddedness engenders trust, which is critical for the successful functioning of any economic transaction, but particularly so in the Mexican context where there is also a lack of strong institutional structure. Social and business networks engender a "mental frame" toward conducting transactions that relies on social obligations to protect against self-interested and opportunistic behavior. People and firms use each other for hostage and protection. Firms do business with firms they know because they can use their power within the network to hold the network, not just the opportunistic party, hostage to unmet obligations and responsibilities.

Another defining characteristic of the Mexican business culture is high uncertainty avoidance [Hofstede, 1980]. In other words, people prefer to conduct business with those whom they have interacted with in the past. High uncertainty avoidance is also associated with a bias toward short-term rather than long-term plans. The focus tends to be internal, rather than on environmental trends or the future, since a firm has very little control over those trends. In such a culture, getting people or firms to embrace change is difficult.

While the Mexican culture seeks stability not change, the liberalization of markets is creating high levels of dynamism and uncertainty. Turbulence invariably makes social networks unpredictable and unstable and negatively impacts trust. This turbulence breeds distrust that is further fueled by weak institutional structures like financial and legal systems. E-commerce may further threaten stability because it promotes greater virtualization of relationships, eroding the social networks that are the linchpin of economic transactions and heightening the level of distrust between parties.

What we found within AMECE's small member firms is a desire to focus on doing business as usual. The firms perceive themselves to be far removed from the economic shakeup and participate rather reluctantly in AMECE activities that engage them in emerging trends and

encourage them to plan ahead. The greatest pressures from liberation appear to be felt by the largest Mexican companies—those that also compete overseas—or by foreign firms with established Mexican operations. The competitiveness of these firms is critically dependent on the overall productivity of their value chains, including many small local firms that are not motivated to change.

Much of the diffusion of business-to-business e-commerce can be credited to mandates from these larger firms feeling the pressure from globalization. Sometimes a mandate is accompanied with assistance in training, but the small firms largely shoulder the burden, particularly the financial costs. The financial obligations are crippling small firms as different large players mandate different e-commerce solutions for the same business processes. For example, one small packaged food manufacturer handles orders via phone, fax, EDIFACT, and even through an Internet-based electronic market, depending on the customer. This diversity in solutions depletes firms' already scarce resources. Thus, technology investments are seen as benefiting the big firms on the backs of the small ones.

Moreover, small firms deploy technology to meet the requirements of a mandate only at a minimal level. So technology is used at the interface processes with business partners but not internally, resulting in the loss of potential direct benefits to a small firm. For example, because of a mandate from a retailer (e.g., Wal-Mart), a small manufacturer would invest in the technology to place bar codes on its products, but would not invest in the technology to use the bar code information in the internal inventory control process.

In summary, culture, social networks, and public institutions [Orlikowski and Barley, 2001; Guler et al, 2002] create business landscapes of great variety that need to be considered in the global diffusion of e-commerce. Employing constructs from social network theory, we can begin to understand how social networks develop and function in different local environments and how they both constrain and help technology adoption and use.

I would like to encourage future investigations on the following research questions:

1. How do social networks and public institutions shape e-commerce technologies, and vice versa?
2. What role should large multinationals play in the diffusion of innovations to smaller companies on whom they critically depend for their competitiveness?
3. How do large firm mandates affect the depth and breadth of technology diffusion in smaller firms?
4. How can greater deployment of technology be promoted, not just its acquisition?
5. How can greater standardization be achieved across e-commerce solutions in the value chain?

III. CONCLUSION

The variety of the contributions from the panellists indicates many different ways of thinking about the topic of globalization and the role of ICTs. However, it is worth noting, in conclusion, clear similarities or points of agreement amongst them. Firstly, globalization is viewed as a complex, messy and dynamic process of interdependence with many local specificities and features. ICTs are seen as central to globalization processes, but local diversity is critically important to the way in which events and processes unfold in particular contexts. Many aspects of diversity can be identified including centre/local power relations, cultural difference, local contradictions and rationalities, infrastructural elements, and non-economic interests such as approval and status.

Even in these short contributions, the panellists list a wide range of key research questions for future work. These questions include the involvement of ICTs with power and politics in globalization processes, relationships between developed and developing countries, the role of MNEs, and technology diffusion and deployment. Valuable theories for working in this research domain include those of particular authors such as Giddens, and more generally theories which

deal with topics such as power, discourse, development, social networks and the role of public institutions. We hope that this paper stimulates other IS researchers to join with us in further exploration of this important research area.

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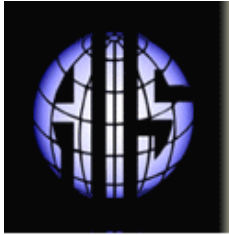
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