Sorry, the World is not Flat: A Global View of Organizational Information Systems Issues

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***Abstract*—Information systems (IS) research paradigms, models, and findings are largely developed in the context of the U.S. and Western Europe; therefore, they are applicable primarily to the Western context and have limited relevance elsewhere. In response to this incomplete view and potential bias, the World Information Technology (IT) Project was launched more than five years ago to examine many topics, including the nature of organizational IS issues in various parts of the world. Using a common survey instrument, data were collected from IT employees in 37 countries. These 37 countries provide a good representation of the world as they exhibit different economic, cultural, political, religious, and regional differences. Results demonstrate the fallacy of the Western views and reveal that the globe does not always follow them. While there are a few common issues among the 37 countries, namely: IT reliability and efficiency, and security and privacy; more significantly, there are important differences. A cluster analysis of the country data corroborates the findings and divides countries into two groups: those with strategic issues and those with tactical and operational issues. Overall, the study underscores the importance of visioning beyond ethnocentric views and expanding our horizons to the global IT landscape. Particularly, business and IT executives need to address country and regional differences when pursuing international endeavors.**

***Index Terms*—Global framework, information technology (IT) infrastructure, IT occupational culture, national culture, organizational issues, the world IT project.**

I. Introduction

While information systems (IS) are utilized in all corners of the world, it is ironic that much of the reported results and research in IS and information technology (IT) are dominated by U.S.-centric or Western-centric views. On the one hand, studies conducted in the context of Western countries have produced valuable findings, theories, and models because all people, including IT users and IT workers, share a number of common traits and behaviors and because all national economies are guided by some universal principles. On the other hand, both theory and empirical evidence suggest that the world is not flat, given dramatic national differences at individual and organizational levels. At the individual level, people living in different countries differ in their intelligence quotient [27], educational attainment [42], personality traits [29], cultural values [17], cognitive styles [1], and decision-making processes [6]. Specifically, Henrich *et al.* [16] posit that most people are not Western, Educated, Industrialized, Rich, and Democratic (i.e., are not WEIRD), and that there are dramatic differences between the Western countries and their non-Western counterparts in terms of values, behaviors, and reasoning strategies. For instance, employees in Western countries tend to rely on rational analytical reasoning, while non-Westerner workers prefer intuitive methods [39]. IT users in Western versus non-Western countries also exhibit differences in perceptions of human–computer interactions [40].

Cross-national differences are also pronounced at the organizational level due to differences in national income, demographics, industrial development, labor market position, education, laws, infrastructure, etc. For example, most Western countries differ from non-Western ones on the network readiness index, i.e., the ability to apply and utilize information and communication technology (ICT) [9]. Moreover, Choden *et al.* [7] show that the diffusion of ICT may be influenced by country-specific factors. Thus, the findings, conclusions, and recommendations are applicable primarily to the Western context and have limited relevance elsewhere. Practitioners and researchers working in the area of global IS/IT may take the recommendations of these studies in good faith and mistakenly apply them to other nations. The consequences may be misguided and costly.

One important stream of research dominated by the U.S. view is key IS management issues. We use a broader term and refer to them as organizational IS issues. The IS management issues in American corporations were initially examined periodically every three or four years, dating back to the early 1980s. For over a decade now, they are assessed annually under the sponsorship of the U.S.-based Society for Information Management (SIM) and reported in the *MIS Quarterly Executive* (*MISQE*). The results are based on the responses provided by members of the SIM organization. Inspired by the U.S. studies, some researchers have conducted similar investigations in other countries, albeit they are becoming dated, e.g., in the U.K. [11], Canada [14], China [24], Taiwan [8], Thailand [38], and Nigeria [30]. Each study has been conducted individually on an ad hoc basis without contributing to a cumulative set of findings. There are instances

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where investigators have examined a few countries together or a few regions of the world, e.g., Luftman *et al.* [25] and Luftman and Zadeh [26]. Again, these studies offer only partial views of the world.

Clearly, what is lacking is a world view developed by systematic efforts to examine organizational IS issues across the globe. Recognizing this pervasive bias, the World IT Project was launched in 2013 by Palvia *et al.* [31], [33]–[35] and has completed data collection in 37 countries with more than 10 000 responses from IT employees. The project examines various issues, such as organizational IS issues, technology issues, and individual issues. The focus of this article is organizational IS issues and it complements the U.S.-based surveys and key issue studies published in *MISQE*. Specifically, the following research questions are addressed.

1) What are the global organizational IS issues?
2) How do the global organizational issues compare with the U.S./Western organizational IS issues?
3) What are the country differences and similarities with respect to organizational IS issues?
4) How do economic factors influence these issues?
5) Can countries be grouped based on the similarity of organizational IS issues?

A note on terminology: IS management issues refer to the issues that are important to the organization. They have been referred to in the literature as "key IS issues," "IT issues," or "key IS management issues." As they may not be all within the domain or control of management alone, we prefer to use the broader term "organizational IS" issues.

II. Literature Review

The literature on critical organizational IS issues dates back to 1982 when Ball and Harris [4] surveyed the membership of the Society for Management Information Systems for key IS issues. This society, based in the U.S., was later renamed the SIM. Subsequent reports started appearing every 2–4 years based on a survey of the same membership. Since the early 2000s, SIM started conducting these surveys annually, and the SIM-sponsored U.S. report is published annually in the *MISQE* (e.g., [22], [23]). These prior studies have used different methods for eliciting the top issues, e.g., ranking, rating, and Delphi studies, making comparisons across studies difficult.

Inspired by the U.S. reports, several authors have conducted similar studies in different countries. Studies have been conducted in Canada [14], China [24], Estonia [19], India [36], Nigeria [3], Taiwan [8], Thailand [38], and the U.K. [11]. There have also been attempts to report issues in major world regions, e.g., Europe, Asia, and Latin America [25], [26]; however, countries within these regions exhibit heterogeneity, making the results less useful. These studies include only a few countries and are spread over two decades. They use different data collection methods making cross country comparisons extremely difficult.

III. Methodology and the World IT Project

The World IT Project, the largest academic study in the IS field, was conceived more than a decade ago by Palvia *et al.* [31], [33]–[35]. In summary, the World IT Project captures the organizational, technological, and individual issues of IT employees across the world and correlates them with national, cultural, and organizational factors. Data were collected from 37 countries, representing different economic, political, cultural, religious, and regional settings. This article focuses only on the organizational IS issues.

TABLE I
Global Ranks of Organizational IS Issues

Organizational IS Issues	Global Rank (Our Study)	U.S. Rank – 2019 (*MISQE*)
IT reliability and efficiency	1	Not in top 10
Security and privacy	2	1
Alignment between IT and business	3	2
IT strategic planning	4	Not in top 10
Project management	5	Not in top 10
Knowledge management	6	Not in top 10
Continuity planning and disaster recovery	7	Not in top 10
Business agility & speed to market	8	7
Revenue-generating IT innovations	9	9
Business productivity & cost reduction	10	10
Attracting and retaining IT professionals	11	Not in top 10
IT service management (e.g., ITIL)	12	Not in top 10
Enterprise architecture	13	Not in top 10
Business process reengineering	14	Not in top 10
IT cost reduction	15	8
Globalization	16	Not in top 10
Outsourcing	17	Not in top 10
BYOD (Bring Your Own Computing Device)	18	Not in top 10

The World IT Project is headed by a core team of five IS investigators based in four countries: U.S. (two investigators), Canada, Turkey, and India. The team developed a standard survey instrument based on existing instruments and scales. Pilot tests were conducted in several countries. In the end, there were a total of 160 items in the instrument.

The organizational IS issues in the instrument were adapted from the key issue studies published annually in the U.S. Both older and recent studies were consulted. Given the Western perspectives inherent in these studies, it was also necessary to consult many international studies. A special effort was made to minimize overlap among various issues (see [32]). An important consideration in the compilation of the issues was that we focused on organizational issues. Certain issues are primarily technical in nature and are better addressed by technologists in the organization. These were excluded, e.g., data analytics, cloud computing, and digital transformation. The final list of the 18 issues is given in Table I. Each issue was rated on a five-point Likert-type scale, with 1 representing "most important" and 5 representing "not important."

Our goal was to get data from countries representing every major region of the world. Local country teams were recruited as they were the ones who understood the local culture and knew how to best approach local businesses to participate. They were also charged with translation/backtranslation to the local language of the instrument, if necessary, in order to ensure that the wording and meaning were appropriate for the local culture. We achieved a good representation of IT employees by instructing the country teams to collect at least 300 data

points from small, medium, and large organizations in a variety of industries. Most countries in our pool achieved this sample size.

IV. Analysis and Results

The respondents from the 37 countries represent a wide variety of backgrounds. The sample demographics are broadly representative of the IT occupation, with the typical profile being a young (under 40) male with at least a college degree and about 10 years of experience working in the IT sector. The most common IT roles include a programmer, an analyst, a project manager, and a system administrator. The field is dominated by men; the male/female ratio being about 3:1.

A. Global Analysis

Table I lists the ranks of the 18 issues for the global dataset, i.e., based on all data from the 37 countries—listed by rank order. A lower number denotes a higher rank and thus higher importance. For comparison purposes, we have included the ranks from the 2019 U.S. study by Kappelman *et al.* [22].

IT reliability and efficiency came at the top of the list. Reliability refers to components of a computer system (e.g., software, hardware, or a network) that consistently perform according to specifications. Efficiency refers to doing things in a right manner and focuses on maximizing output with minimum resources. Our data contain many countries where the IT infrastructure may not be fully developed and stable, sometimes even in primitive stages, thus, affecting both reliability and efficiency. This concern did not even appear in the U.S. top list as seen by the top IT management of organizations. IT systems and infrastructure are generally fully developed in most organizations in the U.S., and thus, management does not perceive it to be a problem and a reason for concern. However, as Section IV-B points out, reliability and efficiency are important concerns in the U.S. as well when viewed from the broader range of IT employees.

Security and privacy was ranked high in both the U.S. and our global dataset, as security breaches and threats have only multiplied globally in recent years. While security is about the safeguarding of data and computer resources, privacy is about the safeguarding of users' identity and private information. According to Steve Durbin, managing director of the Information Security Forum, "the pace and scale of information security threats continue to accelerate, endangering the integrity, and reputation of trusted organizations" [30]. Various classification models for security threats have been proposed (e.g., [21]) and include both internal and external threats as well as malicious and nonmalicious threats. According to the 2020 Global Threat Intelligence Report [13], the security threat landscape is continuously changing, and businesses must strive to secure their operations with both pre-emptive and resilience measures.

Alignment between IT and business has been consistently ranked among the top issues in the U.S. for many years; it came third in our global dataset. Alignment refers to the processes and structures by which a business uses IT to achieve its business objectives, thereby achieving superior performance and marketplace competitiveness. In practice, it is difficult to bridge the gap between the organization and the IT suborganization due to a variety of differences in culture, knowledge base, competing objectives, and incentives as well as changing business needs and accelerating advances in the technology itself.

TABLE II
U.S. Key Issue Ranks—Our Study Versus MISQE Study

Organizational IS Issues	U.S. Rank (Our Study)	U.S. Rank (MISQE - 2019)
IT reliability and efficiency	1	Not in top 10
Security and privacy	2	1
Attracting and retaining IT professionals	3	Not in top 10
Alignment between IT and business	4	2
IT strategic planning	5	Not in top 10
Knowledge management	6	Not in top 10
Continuity planning and disaster recovery	7	Not in top 10
Project management	8	Not in top 10
IT service management (e.g., ITIL)	9	Not in top 10
Enterprise architecture	10	Not in top 10
Business productivity & cost reduction	11	10
Business process reengineering	12	Not in top 10
Business agility & speed to market	13	7
IT cost reduction	14	9
Revenue-generating IT innovations	15	8
Globalization	16	Not in top 10
BYOD (Bring Your Own Computing Device)	17	Not in top 10
Outsourcing	18	Not in top 10

IT strategic planning and project management were ranked fourth and fifth, respectively, in our global study, but they are not even in the top ten of the U.S. list. A plausible explanation is that planning and management issues have long been adequately addressed in the U.S.; companies have learned how to conduct strategic planning and, thus, it may be no longer an ongoing concern. Many developing countries had to confront operational issues in the past [37] and may be only now beginning to look at ITs' strategic potential. With advances in technology and emerging business models, such as in e-commerce and m-commerce, the need for rapid exploitation of technology has taken a new meaning. This is demonstrated by "business agility and speed to market," which was ranked eighth in our global dataset as well as in the U.S., implying a moderate level of importance all over the world.

One of the issues ranked higher in the U.S. is IT cost reduction. The underlying reason may be that the U.S. ranks are based on the perspectives of IT managers, and they are more focused on reducing costs in order to have greater profitability. In contrast, our results are based on IT employees of all ranks (including IT managers) and include more of the on-the-ground realities. Another area of importance in the U.S. is IT-based innovations. Although IT innovations dropped to ninth place in the 2019 U.S. study, it was ranked higher in the preceding years. These trends can be attributed to a higher emphasis on strategic IT applications in the developed countries [37].

B. Our U.S. Rankings Versus U.S. Rankings Published in MISQE

It is instructive to examine our own U.S. rankings in relation to the 2019 U.S. rankings published in *MISQE* [22]. Table II provides this comparison. Our own U.S. rankings are closer to

the global rankings than the published *MISQE* U.S. rankings. The differences are largely due to the breadth of our sample, which includes IT employees at all levels of the organization. As an example, IT employees in the U.S. in our sample rank IT reliability and efficiency at the top. The perspectives of the IT employees are important and of significant consequence as they are grounded in daily realities and offer what is pragmatic and realistic, while the executive view may be more idealistic and reflective of managerial expectations for the future. These employees are also the ones responsible for implementing any action plans stemming from organizational needs.

C. Individual Country Findings

The top five issues for all 37 countries are given in Table III. IT reliability and efficiency is ranked as the top issue in 19 of the 37 countries and is among the top three issues in 32 countries. There are only a few countries where it is not among the top three issues. These are: Finland, Ghana, Iran, Pakistan, and Vietnam (although it is # 4 in Finland and Ghana, Only Iran and Pakistan do not list it among the top five issues).

Security and privacy is other important issue for most countries. It is ranked the top issue in 9 of the 37 countries and among the top three issues in 29 countries. The eight countries where it is not among the top three issues are: Brazil, Iran, Italy, Macedonia, Nigeria, Pakistan, Peru, and Portugal. With the exception of Italy and Portugal, these are all middle-income or less-developed countries [43].

Alignment of IT and business has been a perpetual concern in the U.S. and has ranked consistently among the top three issues in U.S.-based surveys (e.g., [22], [23]). In our global study, its importance was recognized only in a select number of countries. Only 2 countries ranked it as the topmost issue and 12 countries ranked it in the top three. Thus, IT alignment is one of the issues where there is a clear departure of the global results from the U.S.-based SIM studies. As an explanation, in a majority of the countries, there are more important operational issues of concern that take precedence, such as IT reliability and efficiency, and project management.

Among other globally important issues are IT strategic planning, project management, knowledge management, and continuity planning and disaster recovery. While strategic planning is clearly in the domain of strategic issues, the rest are in the realm of operational concerns. More specifically, IT strategic planning was ranked among the top three issues in 7 countries, project management in 4 countries, knowledge management in 5 countries, and continuity planning and disaster recovery in 2 countries.

It is also interesting to look at some of the issues that are ranked very low by most countries. Not appearing in the top five issues of any of the 37 countries are: IT cost reduction, enterprise architecture, globalization, and bring your own device (BYOD). Of these, IT cost reduction is ranked the eighth most important issue in the SIM study; but worldwide IT employees do not treat it as a high priority. There is some surprise in the low ranking of globalization; a plausible explanation is that globalization has pervaded the IT field for more than 20 years, and the phenomenon and associated concerns are well understood by now. BYOD refers to employees using their own computing devices to connect to organizational networks. It caused much apprehension a few years ago due to security and privacy concerns, but now the concerns seem to have been allayed.

TABLE III
TOP FIVE RANKS OF ALL 37 COUNTRIES ON THE ORGANIZATIONAL IS ISSUES

	Business productivity, cost reduction	Alignment between IT and business	Business agility & speed to market	Revenue-generating IT innovations	IT cost reduction	IT strategic planning	Business process reengineering	Enterprise architecture	Security and privacy	IT reliability and efficiency	IT service management (e.g., ITIL)	Globalization	Outsourcing	Attracting, retaining IT professionals	BYOD	Continuity plan & disaster recovery	Project management	Knowledge management
Argentina		1				4			3	2						5		
Bangladesh	1					5			2	3								4
Brazil		2				3				1							5	4
Canada		5							1	2						4		3
China						3			2	1						5	4	
Egypt		3							1	2						5	4	
Finland		3				4			2	1							5	
France		5		1					2	4							3	
Germany						5			2	1				4				3
Ghana	2		5						1	4							3	
Greece		4				3			2	1								5
Hungary		3							2	1				5				4
India									1	3				2			4	5
Iran	5	3	2	1					4									
Italy		5				2				1	3							4
Japan		4	3						1	2							5	
Jordan	3	5		4					1	2								
Lithuania				4		5			2	1				3				
Macedonia									4	3				5			2	1
Malaysia	5					3			2	1								4
Mexico		3		4		5			2	1								
New Zealand		3				4			2	1				5				
Nigeria			3			5	2		4	1								
Pakistan	4			1		2											3	5
Peru		1		4		2				3							5	
Poland									3	2						5	4	1
Portugal		2				4			5	1				3				
Romania									2	3						1	5	4
Russia	4		5	3					2	1								
South Africa		2				4			3	1								5
South Korea	4		3						1	2						5		
Taiwan						4			1	2						3	5	
Thailand						5			2	1							4	3
Turkey	5								2	1			3			4		
U.K.		3				4			2	1							5	
U.S.		4				5			2	1				3				
Vietnam			3	2					1	5								4

D. Analysis by Economic Level

Various scholars have suggested that the importance of IT issues varies from country-to-country based on national characteristics, such as economic development, culture, and IT infrastructure [20], [37]. Of these, economic development is important; in fact, in an earlier study, Palvia *et al.* [37] investigated the nature of IT issues based on the level of economic

development. The "IT to economic development" relationship has received some attention (e.g., [5], [15], [28]), but the opposite also remains plausible that the prevailing economic conditions will drive the nature of organizational IS priorities.

In order to conduct an economic analysis, the gross national income (GNI) per capita based on purchasing power parity (PPP) was captured for each country from the World Bank Database [43]. Each issue's country ranks were then correlated to the GNI per capita PPP.

Significant Spearman's correlations were observed for: Revenue-generating IT innovations ($\rho = 0.31$, $p < 0.1$); IT reliability and efficiency ($\rho = -0.38$, $p < 0.05$); outsourcing ($\rho = 0.52$, $p < 0.001$); BYOD ($\rho = -0.46$, $p < 0.005$); and continuity planning and disaster recovery ($\rho = -0.40$; $p < 0.05$). Revenue-generating innovations were more valued by lower income countries than higher income countries, which appears contrary to expectations but can be explained on the grounds that lower income countries may be in greater need of additional revenues. Continuity planning and disaster recovery were more emphasized by higher income countries, reflecting their higher levels of IT maturity and higher dependence on IT for business continuance. For the same reasons, IT reliability and efficiency were valued higher in higher income countries. BYOD may be an issue only in higher income countries as the penetration of such devices may be low in lower income countries. Outsourcing, on the other hand, was a more pressing need in lower income countries as they aspire to be world players just like their counterparts in advanced countries.

E. Cluster Analysis

Cluster analysis was conducted to group the countries based on the nature of organizational issues. While countries can be grouped in a variety of ways based on their IT characteristics, cluster analysis has the advantage of doing so organically based on the data rather than any preconceived notions.

As a precursor to cluster analysis, we categorized the organizational IS issues into a meaningful framework. A classical way to examine organizational activities is by the three levels of management and planning: strategic, tactical, and operational [2], [41]. These three levels can be characterized on several dimensions, e.g., the planning horizon, level of management, structure, function, and scope. Using these characteristics, the 18 issues were classified into three categories. While most issues were straightforward to classify, there were a few that straddled adjacent levels. In such cases, the research team discussed the issue and made a consensus decision (see Table IV).

We used hierarchical clustering in IBM SPSS Version 25 (with Ward's method and squared Euclidean distance) to segment the countries into clusters. Much judgment and iteration had to be exercised to select the criteria variables used in clustering. Ultimately, we focused on the top seven issues as the criteria variables, as identified in the global analysis earlier. These criteria resulted in an elegant and balanced solution of two clusters. The two-cluster solution (see Table V) has 17 and 20 countries in the two clusters. These are labeled as "Strategic Group (SG)" and "Tactical/Operational Group (TOG)," using the criteria in Table V. The SG group emphasizes strategic issues, while the TOG group emphasizes tactical and operational issues.

TABLE IV
MANAGERIAL ORIENTATION OF THE ORGANIZATIONAL IS ISSUES

Managerial Orientation	Organizational IS Issues
Strategic	Alignment between IT and business
Strategic	IT strategic planning
Strategic	Continuity planning and disaster recovery
Strategic	Revenue-generating IT innovations
Strategic	Globalization
Strategic	Outsourcing
Tactical	Security and privacy
Tactical	Project management
Tactical	Knowledge management
Tactical	Business agility & speed to market
Tactical	Attracting and retaining IT professionals
Tactical	Enterprise architecture
Tactical	Business process reengineering
Operational	IT reliability and efficiency
Operational	Business productivity & cost reduction
Operational	IT service management (e.g., ITIL)
Operational	IT cost reduction
Operational	BYOD (Bring Your Own Computing Device)

TABLE V
TWO COUNTRY GROUPS

Strategic Group (SG)	Tactical/Operational Group (TOG)
Argentina	Bangladesh
Brazil	France
Canada	Germany
China	Hungary
Egypt	India
Finland	Iran
Ghana	Japan
Greece	Jordan
Italy	Lithuania
Malaysia	Macedonia
New Zealand	Mexico
Nigeria	Pakistan
Portugal	Peru
South Africa	Poland
Taiwan	Romania
U.K.	Russia
U.S.	South Korea
	Thailand
	Turkey
	Vietnam

We conducted several ANOVA tests to examine each issue for the two groups. In SG, IT strategic planning ($p < 0.0001$) and alignment between IT and business ($p < 0.005$) are ranked higher than in TOG. TOG ranks revenue-generating innovations ($p < 0.001$), outsourcing ($p < 0.05$), and IT cost reduction ($p = 0.1$) higher than SG. Curiously, IT reliability and efficiency ($p < 0.05$) is ranked higher by SG as was also observed in results reported earlier. Some issues were consistently rated very high or very low by all countries and due to that we did not find significant differences between the two groups in the following issues: security and privacy (ranked high), globalization (ranked low), and BYOD (ranked low).

We explored the two groups further by examining the characteristics of the countries within the groups by analyzing their

economic level (GNI per capita) and national culture characteristics. On average, the GNI per capita of SG was higher than that of TOG ($29 253 and $22 911, respectively).

For national culture, we examined Hofstede's five culture dimensions, i.e., power distance, uncertainty avoidance, individualism–collectivism, masculinity–femininity, and long-term orientation. The explanations of these dimensions can be found in many textbooks as well as in Hofstede's works [17], [18]. In the World IT Project, we independently measured these cultural dimensions using Hofstede's original survey items. An ANOVA test showed a significant difference between the two groups in the UAI and LTO dimensions. First, the SG countries had lower UAI scores (i.e., higher risk-taking propensity) than the TOG countries. Second, the TOG countries had higher LTO than the SG ones. To surmise, we conclude, that with a few exceptions, the SG comprises of countries that are rich, risk raking, and have short-term orientation, while the TOG has countries that are not so rich, risk averse, and have a long-term orientation.

V. Discussion and Concluding Remarks

The single most and largest contribution of this article is that it goes beyond the ethnocentric and Western views of IS issues reported in the academic and practitioner literature and provides a more balanced and global portrait. The World IT Project captured a large cross section of the world and included 37 countries, providing world representation in terms of economic development, cultural background, political ideology, religious practices, and societal environment. It also used a common instrument, scale, and methodology to capture organizational IS issues, thus, facilitating greater comparability and reliability of the results.

The U.S.-based studies rely exclusively on the membership of the SIM. Their findings are largely based on the opinions of CIOs and high-level IS managers of large companies in the U.S. The samples in our article are more balanced: they include small, medium, and large organizations in a variety of industries, and the respondents are IT employees at various levels and in various IT roles. The perspectives of frontline IT employees and lower and middle-level managers are important as they are grounded in daily realities and offer what is pragmatic and realistic. These employees are the ones responsible for implementing any action plans stemming from organizational needs.

A comparison of organizational IS issues across the 37 countries generated some interesting insights. There is a core set of issues that rank high for most countries. These include IT reliability and efficiency, and security and privacy. Security and privacy have become among the top two issues in most U.S. surveys as well. According to Gartner [12], threats to IT and supporting processes are constantly increasing in number and sophistication, and security concerns are experienced worldwide. Although IT reliability and efficiency has not appeared in U.S. surveys of CIOs, we found it a top item universally in almost all countries. This is a novel and important finding, worthy of note and continued attention.

A granular analysis was conducted by examining each organizational issue in relation to the economic level of each country. We found that revenue-generating IT innovations were more valued in lower income countries than higher income countries, presumably because organizations in lower income countries are low on available resources and in greater need of additional revenues. On the other hand, continuity planning and disaster recovery, and IT reliability and efficiency were more emphasized in higher income countries due to their higher levels of IT maturity and heavier dependence on IT for business growth and continuance. Outsourcing was a pressing concern in lower income countries as their firms aspire to be world players just like their counterparts in more advanced countries.

A statistical cluster analysis classified countries into two groups: SG and TOG. SG comprises mainly of countries that are rich, risk raking, and have short-term orientation, while TOG includes countries that are not so rich, risk averse, and have a long-term orientation. Importantly, these two clusters help to defeat the stereotype of simply dividing countries into "Western" and "Eastern."

Finally, a global understanding of the critical organizational IS issues facing firms and their employees within their surrounding contexts is important from the firm, national, and international points of view. At the firm level, it helps management and staff in formulating business and IT policies and strategies, in consonance with the priorities perceived by its IT staff. This is especially useful when multinational firms seek to establish IT operations in foreign countries and distant lands. The nature of organizational IS issues can further help companies to understand the behavior of their employees and, in some cases, develop intervention programs to align IT employees with any major shifts in organizational goals. For example, when operating in the richer and more developed countries, management should give higher priority to strategic issues, and be more concerned about operational issues in the less developed and lower income countries. At the national level, such an understanding allows policymakers, governments, and vendors to appropriately address contemporary issues in IT. In international business, it helps firms and governments respond to the needs of partners and stakeholders in other countries. Furthermore, a comparative examination across countries and world regions helps facilitate global understanding, cooperation, and knowledge transfer among nations.

We conclude with the following observation.

Friedman was not exactly right when he said in 2005 that the world is flat [10]. Country differences are still relevant and worthy of careful examination. Even after 16 years, the world is not flat and probably will not be for a long time.

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