

Trekking the globe with the World IT Project

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Palvia, Prashant; Ghosh, Jaideep; Jacks, Tim; Serenko, Alexander; Turan, Aykut. 2018. Trekking the globe with the World IT Project. *Journal of Information Technology Case and Application Research*, 20:1, 3-8, DOI: 10.1080/15228053.2018.1451942

This is an Accepted Manuscript of an article published by Taylor & Francis in *Journal of Information Technology Case and Application Research* on 28 March 2018, available online: <http://www.tandfonline.com/10.1080/15228053.2018.1451942>.

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Abstract:

It is widely acknowledged that information systems/information technology (IS/IT) academic research is mostly Western centric (i.e., U.S. and Western Europe based). Several surveys have clearly pointed out that most of the publications are based in the West, the authors are from the West, the research itself is conducted in the West, and even the topic areas pertain to the needs and concerns of the West. Given that IS/IT has pervaded the entire globe, such a dominant Western bias does not do justice to the rest of the world as other nations do not find their particular topics investigated or have to rely on Western results, which may not be necessarily applicable to their context.

Keywords: World IT Project | IT Employees | Global Organizational and Technology Issue | National Culture

Article:

Introduction

It is widely acknowledged that information systems/information technology (IS/IT)¹ academic research is mostly Western centric (i.e., U.S. and Western Europe based). Several surveys have clearly pointed out that most of the publications are based in the West, the authors are from the West, the research itself is conducted in the West, and even the topic areas pertain to the needs and concerns of the West. Given that IS/IT has pervaded the entire globe, such a dominant Western bias does not do justice to the rest of the world as other nations do not find their particular topics investigated or have to rely on Western results, which may not be necessarily applicable to their context.

¹ As is often the case, we use the terms IS and IT interchangeably.

An international team of researchers recognized this deep chasm in IS research and embarked on a long and ambitious journey to examine important worldwide IS issues. Given its mission, the project was aptly named “The World IT Project.” The World IT Project has a vast and global scope; it was initiated in 2013 and is now nearing completion. The goals of the project were established as (Palvia et al., 2017, p. 390):

... the project will examine various IT employee issues [worldwide], such as organizational IT issues, technology issues, and individual issues. Among organizational IT issues are the roles of IT strategic planning, IT-business alignment, business process reengineering, security and privacy, and IT reliability and efficiency, to name a few, in the nature and experience of IT employment. Technology issues include how cloud computing, social media, mobility, ERP systems, business intelligence, and big data, again to name just a few, are perceived by IT workers to influence their jobs. Some of the factors concerning individuals include job satisfaction, efficacy, and role ambiguity. For a deeper understanding of these, the context is important. Also examined will be contextual factors such as organizational variables (including structure and strategy), organizational culture, IT occupational culture, and national culture.

This editorial article briefly describes the World IT Project, and then some of the key research deliverables and their objectives. The history, process, and challenges of the project are described in detail by Palvia et al. (2017).

The World IT Project

The World IT Project is currently governed by a core team of five members (listed as the authors of this article) from different parts of the world. Based on an extensive review of the published research, streams of research were identified which will benefit from a worldwide perspective. Past IS research has generally tracked two types of issues on an annual basis in the United States: organizational IT issues and technology issues (e.g., Kappelman et al., 2017). Therefore, we included organizational IT issues and technology issues and focused on the perspective of IT employees. We also added IT employees’ individual issues, ranging from job satisfaction to turnover intentions.

Contextual factors included in the project are: national culture, organizational culture, and IT occupational culture (ITOC). Past research has contended, mostly on anecdotal evidence, that IT employees have a culture of their own – distinct from the prevailing management culture. Fortunately, the ITOC was recently formally examined and a scale was developed for its measurement (Jacks, Palvia, Iyer, Sarala, & Daynes, 2018). Other factors examined are organizational factors, such as size, industry, organizational structure, competitive strategy, and IT maturity, and individual factors, such as personality type, gender, experience, and age.

A survey instrument was developed, pre-tested, and pilot-tested in several countries. After that, the instrument was frozen. It had 160 items, and pilot tests showed that it could be completed in about 25 minutes. At this point, country teams and country investigators were recruited in many countries. Although the country teams were fully responsible for data collection in their own country, they were given appropriate guidance and help as necessary by the core team. It is worth

noting that the instrument was translated into several languages including Chinese, French, Italian, Japanese, Polish, Portuguese, Russian, Spanish, Arabic, and Turkish. Our goal was to get data from representative countries reflecting different economic levels, political systems, religious beliefs, and geographic locations. We have largely achieved this goal and now have complete datasets from 37 countries. These countries are listed in Table 1.

Table 1. Countries in the World IT Project.

Argentina	Greece	Mexico	South Korea
Bangladesh	Hungary	New Zealand	Taiwan
Brazil	India	Nigeria	Thailand
Canada	Iran	Pakistan	Turkey
China	Italy	Peru	U.K.
Egypt	Japan	Poland	USA
Finland	Jordan	Portugal	Vietnam
France	Lithuania	Romania	
Germany	Macedonia	Russia	
Ghana	Malaysia	South Africa	

The next section describes the key deliverables and their objectives.

Research deliverables and objectives

Global organizational IS issues

One stream of research dominated by the U.S. view is key IS management issues. The IS management issues refer to organizational concerns related to IS/IT. The key 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 examined annually and reported in the *MIS Quarterly Executive (MISQE)*. For example, the top issues in the latest U.S. study include: alignment of IT with business, security & privacy, innovation, and IT agility (Kappelman et al., 2017).

There have been a few scattered studies outside of the United States, but they have largely been on ad hoc basis and have not followed any systematic pattern. Clearly, what is lacking is a comprehensive world view or any organized effort to examine organizational IS issues across the globe. We are addressing this need in our project by proposing the following research question:

Research Question 1: What are the important organizational IS issues in different countries and regions of the world?

We expect to see clear differences in our results from what is reported in the U.S. studies. Many of the top issues in the United States have been strategic in nature; we expect that several countries and regions will highlight more operational and tactical issues. We also plan to examine organizational IS issues by the economic levels of nations and political systems. A cluster analysis is also under way which will group countries with similar priorities.

Global technology issues

The annual *MISQE* articles referred to earlier also report the technologies considered most important and receiving heavy investments in the United States. In the latest survey (Kappelman et al., 2017), the technology issues which were listed at the top include: data analytics, application development, security, cloud computing, customer relationship management, and enterprise resource planning (ERP). This kind of analysis is not readily available for other parts of the world. Should we assume that the same technology issues are relevant in other countries? Obviously not! Thus our next research question is:

Research Question 2: What are the important technology issues in different countries and regions of the world?

Wide differences are expected simply because the technology development and infrastructure vary widely across nations. While the developed nations enjoy the fruits of strong technological advances, there are many under-developed countries where IT has not permeated to any significant level. At the same time, there are countries that have been able to leapfrog into new technologies and may be at some advantage because they are not constrained by the weight of legacy systems. Such differences among countries may have varied consequences for technology vendors and the types of IT initiatives under consideration.

Information technology and national culture

Geert Hofstede was a pioneer in defining and measuring national culture (Hofstede, 1980). While there are many definitions of national culture, it is commonly understood to be the collective programming of mind and refers to the values, attitudes, and behaviors shared by a large group of people. Initially, Hofstede defined four dimensions of national culture: uncertainty avoidance, power distance, masculinity, and individualism. He even provided numerical values for these dimensions for a large number of countries based on a large-scale global survey of IBM employees between 1967 and 1973. He later added the fifth dimension as long-term orientation. More recently, House et al. (2004) conducted the GLOBE study and provided nine dimensions of culture. While researchers have begun to use the GLOBE dimensions, they have not gained the same level of popularity as Hofstede's dimensions.

IS researchers have widely used Hofstede's dimensions in global IT research and have used the culture scores provided by Hofstede. There are two potential issues with using the Hofstede scores. First, even though culture is relatively stable and is slow to change, the Hofstede dimensions are more than 40 years old. Second, the Hofstede scores apply to the general population, and are not necessarily applicable to IT professionals. People who enter the IT profession may not necessarily reflect the characteristics of the general population of the entire country. Consequently, it may be erroneous to apply the Hofstede national culture scores to IT employees. Thus, the following research question:

Research Question 3: How do the national cultural values of IT employees compare with the national culture values of the general population in each country?

And as a corollary,

Research Question 4: Do the national culture values of IT employees exhibit similarities across countries?

Information technology occupational culture

IT is frequently described as having its own occupational culture which is different from and often conflicts with the business management culture. Occupational culture refers to the beliefs, attitudes, and values of people who share the same occupation. Anecdotal evidence has indicated that IT employees have their own culture that differs markedly from the business management culture. Fortunately, this concept has been recently formalized by the development of the ITOC construct and an accompanying instrument to measure it (Jacks et al., 2018). The ITOC instrument has six dimensions abbreviated as ASPIRE, which include: autonomy, structure, precision, innovation, reverence for knowledge, and enjoyment. This instrument has only been validated in the United States. Therefore, we have the following research questions:

Research Question 5: Do ITOC values differ by country and/or region of the world? And, if so, how?

The ITOC in the participating countries was measured by using the ASPIRE scales. There is a certain expectation that many countries will exhibit similar ASPIRE values. But we are prepared to be surprised as the ASPIRE values themselves may be influenced by many country and regional factors, such as the national culture, political beliefs, and religious beliefs. More realistically, clusters of countries will emerge, which will show similar IT occupational cultural aspects.

Individual issues and outcomes

Individuals in the IT profession, as in any profession, possess particular attributes as well as face many issues which affect their quality of work life and personal outcomes. Many studies are available in the IT literature, which examine the antecedents of specific variables, mostly focusing on job satisfaction and turnover intentions. Again, these studies are based on data from western countries, and it would be naïve to assume that they apply equally to all nations. In the World IT Project, we captured a number of such variables, namely: professional self-efficacy, work overload, work exhaustion, work–home conflict, job insecurity, job satisfaction, turnover intention, and turnaway intention. Note that while turnover refers to changing jobs within the same profession, turnaway means leaving the profession altogether. While there may be several research questions worthy of investigation, we list a few salient ones below:

Research Question 6: What are the antecedents of job satisfaction among IT employees, and how do they differ from country to country?

Research Question 7: What are the antecedents of turnover and turnaway among IT employees, and how do they differ from country to country?

Research Question 8: What are the differences due to gender in the individual variables and the relationships between the antecedents and the consequents? How do gender effects vary from country to country?

Social capital and friendship circles

During our pilot study and data collection efforts, we noticed that IT employees in certain countries focused on building social capital and relied heavily on friendship circles. Friendship circles are informal groups, made up of people in the same profession but outside of one's organization. Typically, an IT employee will approach his/her friendship circle for advice and consultation on job or technology-related matters. Thus, we explore the following question:

Research Question 9: How do IT employees use social capital and draw from friendship circles when contending with dynamic elements of the organization? What are the differences from country to country?

Implications for research and practice

The opportunities for research on global IT issues are enormous. We have only unearthed the tip of the iceberg that remained latent since the beginning of IS research. The World IT Project should serve as an exemplar to encourage diversity in IS research and promote the exercise of multiple paradigms beyond the current Western-centric views. The possibilities seem endless, and we provide a few examples below:

- Track organizational IS issues worldwide on a regular basis and delve into their underlying reasons as well as their effects on corporate results.
- Track technology issues worldwide on a regular basis, and assess their impacts on user organizations and IT vendors.
- Evaluate how the national culture values of different occupations (including IS of course) align with those of the general populations of the world, and what are the implications.
- Refine the ITOC construct, examine its invariance across countries, and evaluate its usefulness across countries.
- Utilize the ITOC dimensions as antecedents in predicting various outcomes, e.g., anxiety, satisfaction, performance, etc.
- Build theory-based models using individual-level constructs to predict personal outcomes such as stress, turnover, etc. and test them in different countries.
- Examine the role of gender in IS research, especially in the global context.

Our research has many practitioner implications for both private and public organizations. These implications are both at national and international levels. Our goal is to provide a systematic assessment of the needs and issues of IT employees in organizations across the globe, which will allow various stakeholders to carefully address the problems and opportunities associated with such needs. To quote from (Palvia et al., 2017, p. 391):

At the national level, it [World IT Project] would allow stakeholders, such as policymakers, governments and vendors, to address the pressing issues of the times. In

international business, it would help firms and governments respond to the needs of partners and stakeholders in other countries. A comparative examination across countries and world regions would help facilitate global understanding, cooperation, and knowledge transfer among many nationalities.

So far, largely, the prevailing mantra in IS research has been “one size fits all” in dealing with international issues, perhaps due to difficulties in conducting large-scale global projects. As researchers, however, we should be willing to break such barriers. The payoff is simply too great to ignore.

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