

The moderating effect of culture on e-filing taxes: evidence from India

Syed Kashif Raza Zaidi

Department of Accounting, California State University, San Marcos, California, USA

Cassy Daniels Henderson

Department of Accounting, Sam Houston State University, Huntsville, Texas, USA, and

Gaurav Gupta

School of Business, Pacific Lutheran University, Tacoma, Washington, USA

Abstract

Purpose – The purpose of this paper is to examine factors that affect the adoption of an electronic tax filing system in an emerging economy. Using the theory of planned behavior, the technology acceptance model (TAM), the information systems success model (ISSM), and Hofstede's cultural values as the theoretical basis, this paper examines the influence that computer skills (CS), perceived ease of use (PEoU), perceived usefulness (PU), information systems quality, and espoused national culture have on the adoption of an electronic tax filing system in an emerging economy.

Design/methodology/approach – A survey was used to collect the data from individuals who e-filed theirs or someone else's (individual and/or business) income taxes using government or private vendor websites. Snowball sampling technique is used to collect the data. A total of 201 usable questionnaires were analyzed. **Findings** – Results indicate that PEoU and PU have a positive impact on user satisfaction (US), and higher US is linked to higher intentions of adopting online tax filing. Results show that high-power distance positively influences US.

Practical implications – The study provides insight for policymakers in emerging economies involved in diffusion of technology decisions. Considerations for requisite CS, perceptions of usefulness and ease, and culture should be included in the diffusion process.

Originality/value – This paper provides evidence supporting the predictability of TAM and ISSM in technology adoption. In addition, the study examines the moderating effect of culture on technology adoption. To the best of the authors' knowledge, this is the first study to develop and test a holistic technology adoption model in context of a multicultural and emerging economy.

Keywords Technology acceptance model, Information systems success model, Behavioural intentions, Electronic tax filing, Espoused national culture

1. Introduction

Research examining the factors influencing technology acceptance is important for countries adopting new technology requirements such as online tax filing systems and online financial reporting systems [1]. Research has been conducted in developed countries (Swigger *et al.*, 2004; Sundqvist *et al.*, 2005; Srite and Karahanna, 2006) such as the USA, but little is known about the factors affecting technology acceptance in emerging economies. Emerging economies are economically (low development of capital markets, low-market capitalization, low per capita income, etc.) less advanced than developed countries and lack efficient regulatory bodies and regulatory processes (Jain and Mulchandani, 2012). Because these economies are experiencing rapid growth in their attempt to improve the overall quality of life for their country, more sophisticated technology and information systems (ISs) are needed to process and disseminate information effectively and efficiently. Understanding what factors facilitate or impede acceptance of new technologies in emerging economies is an important step toward the successful implementation of IS.

Studies find that widely used theories, such as the theory of planned behavior (TPB), the technology acceptance model (TAM), and the information systems success model (ISSM) have predictive ability regarding the acceptance of information technology (IT). Hung *et al.* (2006) use factors in TPB to identify determinants of user acceptance of governmental e-services. Wang (2003) examines technology adoption in an emerging economy and finds that dimensions from TAM (perceived ease of use (PEoU), perceived usefulness (PU), and perceived credibility) are good predictors of technology acceptance. DeLone and McLean (2003) find that factors from ISSM have predictive ability in determining behavioral intentions (BI) to use IT. However, these studies do not consider culture's influence on technology acceptance.

Research finds cultural values affect technology acceptance in developed and developing countries (Srite and

Karahanna, 2006; Yoon, 2009; Udo and Bagchi, 2011). These studies examine the effect espoused cultural values have on technology acceptance using Hofstede's cultural values. Espoused cultural values are "the degree to which an individual embraces the values of his or her national culture" (Srite and Karahanna, 2006, p. 681). With the intention of providing standard setters and IT designers the information on the role cultural values play on technology acceptance, this study examines the effect espoused cultural values have on the acceptance of online tax filing systems in an emerging economy using TPB, TAM, and ISSM. To the authors' knowledge, research examining a cultural impact on the acceptance of online tax filing system in an emerging economy has not been conducted yet. Thus, this study seeks to fill this gap.

The paper examines factors affecting technology adoption using India. India is examined for several reasons. First, it is one of the largest emerging economies in the world and is experiencing rapid growth. India's economy has grown 6.9 percent in the past four years. The International Monetary Fund and the World Bank forecast a continuation of this growth in the coming years (Davos, 2015; World Bank, 2015). As per Bellman's (2015) blog in the *Wall Street Journal*, India has become the fastest growing economy in the world surpassing China. Despite the growing role of India in the world economy, only a few studies (Joshi, 2001; Sulaiman *et al.*, 2004; Anand *et al.*, 2005) have focused on India in the area of ISs research.

Second, because of its tremendous growth of India, the need to simplify the collection of financial information has increased. Thus, with the intention of improving efficiency and simplifying the culmination and dissemination of financial information, India has mandated the use of online reporting systems such as electronic filing (e-filing) for income tax reporting. E-filing is compulsory for individuals earning taxable income greater than 500,000 rupees, equivalent to about 8,000 US dollars (Income Tax Department-Government of India, 2015). Currently, about 36 million taxpayers are required to e-file taxes [2] (Income Tax Department-Government of India, 2015). Regulatory agencies in India believe that the need to require all filers to file taxes electronically is imminent (Tax Administration Reform Commission, 2014). In addition, they also recognize the need for feedback regarding perceptions and issues with the current online tax filing service (Tax Administration Reform Commission, 2014). Thus, it is important for policymakers and IT designers to be aware of individual expectations and BI of the Indian population in order to facilitate the transition from paper-based reporting to electronic reporting, a task that may be somewhat challenging due to India's amalgamation of various cultures.

Third, India's 1.2 billion of population is made up of many varied cultures, hundreds of different languages, many different religious perspectives, and exhibits various hierarchical levels within the society (India Government, 2015). The current study examines the moderating effect that espoused national culture has on the acceptance of electronic tax filing system. The variance in culture is widely recognizable in a multicultural country such as India and Nigeria (Udo and Bagchi, 2011). Walsham (2002) states that India's "one billion people come from many and varied cultural, racial and religious backgrounds, speak hundreds of different languages, and exhibit enormous variety at different hierarchical levels within the society" (p. 375). India, therefore, makes an appropriate site to study Hofstede's cultural dimensions at the individual level.

The remainder of the paper is structured as follows. Section 2 provides literature review and hypotheses development. Section 3 explains the research method. Section 4 provides results of the study. Section 5 discusses findings and Section 6 provides conclusion.

2. Literature review and hypotheses development

2.1 Tax filing in India

The number of tax returns filed in India in 2014 was about 36 million, representing about 3 percent of India's population (Tax Administration Reform Commission, 2014; Income Tax Department-Government of India, 2015). India, with the second largest population in the world, recognizes the need to modernize its method of tax collection to improve the efficiency of tax services and to reduce administrative costs. Thus, the requirement of electronic tax filing has become mandatory for some filers. India recognizes the benefits from obtaining tax information electronically, but also acknowledges taxpayer services are not perfect and can be improved. The 2014 report from the Tax Administration Reform Commission entitled "Tax Administration Reform in India Spirit, Purpose and Empowerment," in the section on "Absence of Taxpayer Surveys," state the need to compile information regarding the "perceptions about taxpayer services and compliance issues" in order to improve the system (Tax Administration Reform Commission, 2014, p. 57). This study seeks to provide information about the perceptions of, satisfaction with, and intention to use an online tax filing in the future that may be useful in improving India's current system.

2.2 *Espoused national culture*

Culture is “a critical variable in explaining how social groups interact with information technology (IT),” with culture being defined as the shared values within a society (Leidner and Kayworth, 2006, p. 360). The consideration of culture is included because research shows national culture affects the perceptions and BI of individuals (Schneider and De Meyer, 1991; Byrne and Bradley, 2007). Hofstede’s (2001) cultural dimensions are most widely used in the extant literature and serve as the basis for examining culture in this study.

Hofstede’s (2001) five cultural dimensions (power distance (PD), individualism- collectivism (IC), masculinity-femininity (MF), uncertainty avoidance (UA), and long-/short-term orientation) summarize the values of nation and provide insight into the composition of a national culture. Hofstede’s cultural dimensions have been used to predict behavior at a country level; however, they are not appropriate predictors of individual behavior (Straub *et al.*, 2002; Srite and Karahanna, 2006). Robinson (1950) suggests that using national-level indicators to predict individual is an ecological fallacy. Hofstede is also credited with cautioning the use of country-level values to predict individual behavior (Hofstede, 2001).

Members of a society identify with their national culture at various levels. Individual values are shaped by many aspects of one’s national culture including religion, language, ethnicity, geographical region, and various social, organizational, and professional groups (Straub *et al.*, 2002). However, it is the collective group of individuals with espoused cultural values that make country-level cultural values (Srite and Karahanna, 2006); therefore, espoused national culture is examined. Espoused culture is defined as “the degree to which an individual embraces the values of his or her national culture” (Srite and Karahanna, 2006, p. 682).

Espoused national culture is proven to be a strong predictor of social behavior (Srite and Karahanna, 2006; Udo and Bagchi, 2011; Furner *et al.*, 2012, 2014).

Using Hofstede’s cultural dimensions, Srite and Karahanna (2006) find that espoused national cultural values affect individuals’ acceptance of technology. Specifically, they find individuals espousing femininity and high UA values are less willing to accept technology (Srite and Karahanna, 2006). Udo and Bagchi (2011), examine the moderating effect the espoused national culture has on an individual’s intention to use online services in a developing country and find that the espoused national culture affects intentions to use online services.

Similar to prior studies, the authors examine espoused cultural values based on Hofstede’s cultural dimensions (Srite and Karahanna, 2006; Yoon, 2009; Udo and Bagchi, 2011; Furner *et al.*, 2012, 2014). Consistent with prior studies, this study uses only four of Hofstede’s six cultural dimensions [3] (Table I).

2.3 *Technology acceptance theories*

A number of studies have been conducted in an effort to explain IS acceptance (Ajzen, 1985; Davis, 1989; DeLone and McLean, 1992). This study integrates TPB, TAM, and ISSM as the framework for examining BI to adopt online tax filing systems. All theories have been used extensively throughout ISs literature and have proven to be useful in understanding and predicting social behavior of humans (Szajna, 1996; Ajzen, 2001).

2.3.1 TPB. TPB, an extension of the theory reasoned action, is a framework used for understanding and predicting human social behavior (Ajzen, 2001). TPB states that human behavior is a direct result of their intentions, intentions stemming from attitudes toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 2001). The rationale for including TPB in this study is that individuals may intend to use online tax filing systems; however, they may lack the required ability which can impede the actual behavior.

2.3.2 TAM. The TAM is used to explain how individuals come to accept and use new technologies. Like TPB, TAM seeks to explain what external factors affect one’s internal beliefs, attitudes, and intentions toward the use of technology (Legris *et al.*, 2003). TAM theorizes that users’ intentions to use new technology are affected by two main beliefs, PEOU and PU. PEOU is defined as “the degree to which an individual believes using a system would be free from effort” and PU is defined as “the extent that an individual believes using a system would help them perform their job better” (Davis, 1989, p. 320). Together, these beliefs influence individuals’ attitudes toward using a new technology.

Table I. Espoused national culture values

Espoused cultural value	Definition
Power distance	The degree to which an individual accepts and expects that power in their society is distributed unequally
Individualism/collectivism	An individual's preference for a loosely knit social framework in which individuals are expected to take care of only themselves and their immediate families. Its opposite, collectivism, represents an individual's preference for a tightly knit framework in society in which individuals can expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty
Masculinity/femininity	Individual preference in society for achievement, heroism, assertiveness, and material rewards for success. The individual is more competitive. Its opposite, femininity, stands for an individual's preference for cooperation, modesty, caring for the weak, and quality of life
Uncertainty avoidance	The degree to which the individual feels uncomfortable with uncertainty and ambiguity

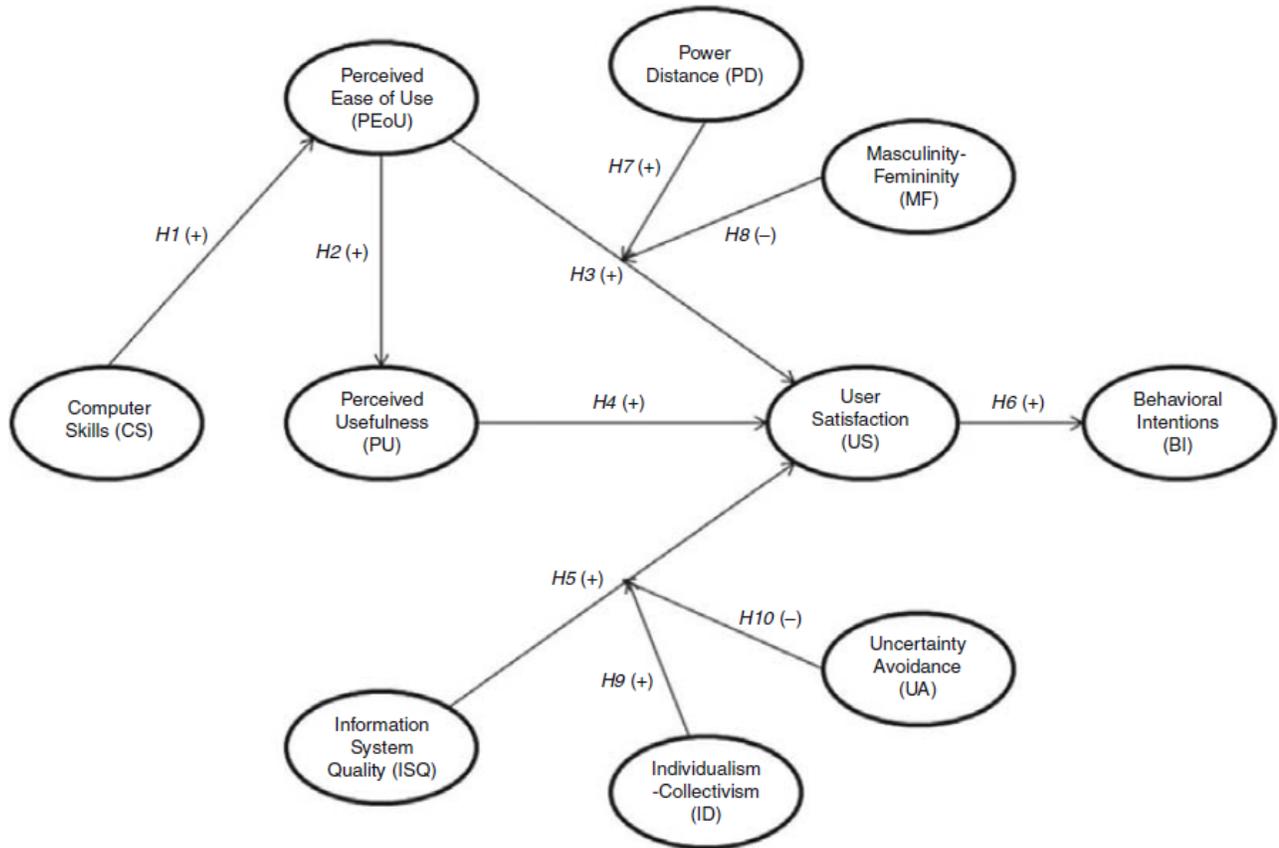
TAM is included in this study as a mean to explain individuals' intentions of using an online reporting system based on their belief that the system may be easy to use and more helpful than previous filing methods.

2.3.3 *ISSM*. Following Udo and Bagchi (2011), this study incorporates the systems quality construct taken from the *ISSM*. *ISSM* framework was developed by DeLone and McLean in 1992 as means to measure the success or effectiveness of ISs and has recently been updated to incorporate a measure of service quality due to the surge in IT use (DeLone and McLean, 2003). IS success, as defined by DeLone and McLean (1992), is comprised of six dimensions – information quality, service quality, systems, quality, user satisfaction (US), usage intention/system use, and net benefits. *ISSM* shows that information quality (personalization, completeness, relevance, and easy to use), systems quality (usability, reliability, functionality, flexibility), and service quality (support provided) affect US and intentions to use/actual use[4] (DeLone and McLean, 2003). The greater the number of information, system, and service qualities found in an IS, the higher the US and intention to use/actual use will be. For this study, measures for information quality, systems quality, and service quality from *ISSM* model are incorporated to examine an online tax filing system's effect on US.

2.4 *Research model and hypotheses*

The study adapts the model used in Udo and Bagchi (2011) to measure the intentions of users to file taxes electronically. The model incorporates constructs from TPB, TAM, and *ISSM* models. The model is provided in Figure 1 and is explained in detail in this section.

Figure 1. Online tax filing model



2.4.1 *Computer skills (CS) and PEoU.* Requisite CS affect an individual’s capacity to manage IS. These skills are found to influence the individual’s perception that a system is easy to use. The higher the CS an individual possesses, the more the individual will perceive that the technology is easy to use (Igarria and Livari, 1995; Venkatesh and Davis, 1996; Venkatesh, 2000; Wang, 2003). Igarria and Livari (1995) show computer self-efficacy has a “strong direct effect” on PEoU (p. 587). Thus, the perception that an online tax filing system is easy to use will be greater when CS are present (Wang, 2003). As per TAM, ease of use is a critical determinant of BI (Davis, 1989). This is supported in Wang (2003) by showing computer self-efficacy affects the intention to adopt an electronic tax filing system by positively affecting PEoU and PU. Therefore, it is hypothesized that:

H1. CS are positively related to PEoU of online tax filing system.

The relationship between PEoU and PU is defined by Davis (1989). When users find that the IS is easy to use, the PU of the system is higher. In IT literature, a number of studies (Davis, 1989; Adams et al., 1992; Brown, 2002; Calisir and Calisir, 2004; Yoon, 2009) have empirically examined the link between PEoU and PU. Brown (2002) confirms PEoU as a main predictor of PU and BI. In this study, PEoU is defined as the extent to which users of online tax filing systems perceive it to be effortless to manipulate. The easier they believe the system is to use, the more likely they will perceive it to be useful. Thus, the following hypothesis is posited:

H2. PEoU is positively related to PU of online tax filing system.

2.4.2 *PU and information systems quality (ISQ).* IT that is perceived as useful in improving task performance is likely to increase US and likely to be used again in the future (Davis, 1989; Adams et al., 1992; Calisir and

Calisir, 2004). Calisir and Calisir (2004) find support for PEOU positively affecting PU by examining users of an enterprise resource planning (ERP) system. The authors show that US through PU is a major determinant of the intentions to continue using the ERP system. Taking the information together, their findings validate TAM by showing that the greater the perception that a system is simple to use, the higher the perception of system's usefulness will be and, therefore, the higher the US will be. Higher US positively influences the decision to continue using IT (Adams et al., 1992; Calisir and Calisir, 2004). In this study, PU is defined as the degree to which users find online tax filing system useful in reporting taxes.

This study includes the ISQ construct adapted from DeLone and McLean's (1992) updated ISSM to measure US and BI to use online tax filing systems. The updated model is found to be useful framework for examining IT success with success defined by characteristics of information, system, and service quality (Delone and Mclean, 2004; Petter *et al.*, 2008). These characteristics capture the relevance, usability, reliability, functionality, and support provided by the IS. The higher the qualities rank, the more successful the technology is considered. The ISQ construct included in the model examines the online tax filing system's information quality, systems quality, and service quality. Users of online tax filing systems perceiving that the information displayed is accurate, relevant, easy to use, reliable, consistent, and provides the service needed by users are likely to be satisfied and continue using the system.

2.4.3 US and BI. TAM and ISSM are used to explain the relationship between a user's level of contentment with IS and BI to use it. Specifically, ISSM shows ISQ dimensions (information quality, system quality, and service quality) affect the level of US and BI (DeLone and McLean, 2003); whereas, the TAM finds PEOU and PU affect BI (Davis, 1989). Research finds that PEOU and PU positively affect US (Mahmood et al., 2000; Hussein et al., 2011). Taken together, these studies show that US will be higher when ISQ, PEOU, and PU are greater. In this study, the affect ISQ and TAM dimensions have on US is investigated. The study posits that users of an online tax filing system will be more satisfied when the online tax filing system provides quality information, quality service, and is functional, reliable, relevant, easy to use, and beneficial. Accordingly, the following hypotheses are provided:

H3. PEOU is positively related to US.

H4. PU is positively related to US.

H5. ISQ is positively related to US.

The relationship between US and BI is explained by TAM and ISSM theories. ISSM shows that higher US results in higher actual use. TAM shows that PEOU and PU positively influence BI. Studies show that BI are strong indicators of future adoption of IS (Lucas and Spittler, 1999; Vijayasarathy, 2004; Suki and Suki, 2011). Meaning, the more satisfied the user is with the IS, the more likely they will continue using it. The BI of online taxpayers will be affected by their level of satisfaction with the tax filing system. BI are defined as an individual's intention to adopt online tax filing. More specifically, online taxpayers that are highly satisfied with their experience with the system are more likely to continue using it. This leads to the following hypothesis:

H6. US is positively related to BI to adopt online tax filing system.

2.4.4 Espoused cultural values. In this section, the role that Hofstede's cultural values (PD, IC, masculinity/femininity (MF), and UA) play on the adoption of an online tax filing system is discussed. Consistent with prior literature, espoused cultural values are examined (Srite and Karahanna, 2006; Udo and Bagchi, 2011). Espoused cultural values are extent "to which an individual embraces the cultural values of national culture" (Srite and Karahanna, 2006, p. 27). Srite and Karahanna (2006) find that espoused cultural values (femininity and UA) moderate behavior. Similarly, Udo and Bagchi (2011) show that PD, masculinity, individualism, and UA have significant moderating effect on US.

2.4.4.1 PD. PD measures the degree to which a less powerful individual expects and accepts an unequal distribution of power within their society (Hofstede, 2001). India scores high on PD; therefore, individuals from India expect and accept direction to come from those in powerful roles such as in government (Hofstede, 2001). Members of a high-PD country are more amenable to abide by the decisions of those in power. India requires certain

filers to file taxes using the online tax reporting system. Because India is a high-PD country, individuals from India will be more accepting of the mandate. Users of the online tax filing system espousing high PD are more likely to perceive the system as easy to use because the requirement comes from the government. In addition, high-PD individuals are expected to trust that their government requires the use of an online filing system that is simple to operate; thus, they will be more satisfied with the online tax filing system. Therefore, the following is posited:

H7. Espoused PD positively moderates the relationship between PEOU and US.

2.4.4.2 MF. MF cultural values represent the preference for more aggressive characteristics vs more caring and nurturing characteristics. Individuals espousing a greater preference for assertiveness, competitiveness, achievement, and material rewards for accomplishments score higher in masculinity than femininity (Hofstede, 2001). India is a high-femininity culture and places higher value on caring for the weak, quality of life, modesty, and cooperation (Hofstede, 2001). Individuals with espoused femininity are likely to view online tax filing system positively because the system enhances quality of life by simplifying the filing process and abridge cooperation with the government. Alternatively, individuals with espoused masculinity are not likely to view online tax filing system favorably because they do not value compliance and compliance provides no sense of achievement or reward. Further, espoused masculinity is shown to negatively affect PEOU in literature (Srite and Karahanna, 2006; Yoon, 2009; Udo and Bagchi, 2011). Consequently, the following is hypothesized:

H8. Espoused masculinity negatively moderates the relationship between PEOU and US.

2.4.4.3 IC. The IC dimension refers to the value placed on caring for oneself and immediate family vs caring for those in large groups and expecting only loyalty in return (Hofstede, 2001). Udo and Bagchi (2011) find that individualist users are significantly and moderately more satisfied with the quality of information and quality of service in online services because using these services benefits their personal needs and wants. Online tax filing systems possessing quality information and service will enhance the relationship between a user espousing individualism more than a user espousing collectivism because the system's characteristics are contributing to their personal needs and wants. Therefore, individualist users should have higher satisfaction from using an online tax filing system. Thus, we hypothesize that:

H9. Espoused individualism positively moderates the relationship between ISQ and US.

2.4.4.4 UA. UA refers to the degree of uncertainty or ambiguity that members of a society accept as the norm (Hofstede, 2001). Individuals with low espoused UA are more accepting of the unknown, while those with high espoused UA are less accepting of the unknown. Espoused UA is shown to affect the relationship between ISQ and user behavior (Yoon, 2009; Udo and Bagchi, 2011). Yoon (2009) finds that UA moderates trust and intention to use a technology. Udo and Bagchi (2011) find that low espoused UA positively moderates the relationship between ISQ and US. Online tax filings systems that possess high ISQ will be more appealing to users espousing low UA than users espousing high UA. Thus, the following hypothesis is stated:

H10. The lower the degree of espoused UA, the greater the impact of ISQ on US.

3. Research method

A survey-based methodology is used to collect data from Indian taxpayers [5]. WarpPLS 5.0 is used to perform structural equation modeling (SEM). Details on variables, model, and sample are provided in the following sections.

3.1 Variables

The dependent variable is taxpayers' BI to file taxes online. Independent variables include CS, PEOU, PU, ISQ, and US. Moderating variables include PD, MF, IC, and UA. Further information about the measurement of dependent and independent variables is provided in Section 4, analysis and results. The study incorporates several

theories from extant literature (Ajzen, 1985, 1991; Davis, 1989; DeLone and McLean, 1992, 2003; Hofstede, 2001; Srite and Karahanna, 2006; Udo and Bagchi, 2011) to establish the model used and to adapt the instrument used to measure the research variables.

3.2 Model

Taxpayers' BI to e-file taxes is investigated using a model (as shown above in Figure 1) adopted from Udo and Bagchi (2011). The model tests the effect of CS on PEOU. Following extant literature, the model also examines the impact PEOU, PU, and ISQ have on US. In addition, the model also investigates the influence of US on taxpayers' BI to e-file taxes. Lastly, the model examines relationships between PEOU and US and between ISQ and US as moderated by Hofstede's cultural values (PD, MF, IC, UA). Partial least square-SEM (PLS-SEM) is used to test the hypotheses.

3.3 Sample

This study examines the effect that espoused culture has on technology acceptance using data collected from Indian participants. All participants have utilized e-filing to file their or someone else's income tax. This study does not disaggregate between voluntary and mandatory adoption. Participants in this study had to have experience in e-filing. Participants have gained experience with e-filing for the following reasons: they were mandated to file electronically, they voluntarily used e-filing, or they e-filed for outside mandatory or voluntary filers. Venkatesh and Zhang (2010) do not find disaggregation to have any effect on culture as a moderating variable. The authors examine culture as a moderating variable using aggregated voluntary and mandatory data and find national cultural similarities attribute to BI to adopt a technology. More specifically, their study shows that the intention to use a technology aligns with national culture regardless of whether the technology is mandated or not.

A snowball sampling technique is utilized for data collection. Table II provides background information about participants. Participants had to meet specific criteria to be included in the study. The participants were asked not to complete the survey if they have never filed their or someone else's (other individual and/or business) income taxes online using either Indian government tax website (www.taxindia.gov) or private vendor websites (www.etaxmentor.com, www.taxspanner.com, etc.). This resulted in a final sample of 201 participants (156 males, 43 females, and two undisclosed). Participants were asked to provide responses using a five-point Likert scale, where 1 is low (strongly disagree, bad idea, or very foolish) and 5 is high (strongly agree, good idea, or wise). The average work experience of participants is 7.65 years in an accounting-related field and 4.85 in non-accounting-related field; a large number of participants (145) were working in accounting or accounting-related field at the time of data collection.

Table II. Demographics

Items	Participants (%)
Total responses	201 participants
<i>Gender</i>	
Female	43 (21.39)
Male	156 (77.61)
No response	2 (1.00)
<i>Age (years)</i>	
Less than 18	0 (0)
18-24	51 (25.37)
25-35	95 (47.26)
36-50	51 (25.37)
Over 50	4 (1.99)
<i>Internet experience (years)</i>	6.98 (average)
<i>Work experience (accounting)</i>	
Average number of years	161 – 7.65 years (80.10)
No response/other	40 (19.90)
<i>Work experience (non-accounting)</i>	
Average number of years	163 – 4.85 years (81.09)
No response/other	38 (18.91)
<i>Current employment</i>	
Accounting-related field	145 (72.14)
Non-accounting-related field	55 (27.36)
No response	1 (0.50)
<i>Online tax filing experience</i>	
Personal	108 (53.73)
Corporate	13 (6.47)
Other	11 (5.47)
Personal and corporate	44 (21.89)
Personal and other	2 (1.00)
Corporate and other	2 (1.00)
Personal, corporate, and other	19 (9.45)
No response	2 (1.00)

4. Analysis and results

Table III provides model fit indices. Average path coefficient (APC), average R^2 (ARS), and average adjusted R^2 (AARS) are 0.214, 0.255, and 0.248, respectively. They all are significant at 0.1 percent level which suggests a good model fit. Average block VIF (AVIF) is 1.528 which falls under the ideal range (Kock, 2015, p. 50). In addition, average full collinearity VIF (AFVIF) is 1.506 which also falls under the ideal range (Kock, 2015, p. 50). Both AVIF and AFVIF show that the model has good predictive and explanatory power.

Moreover, the Tenenhaus goodness of fit (GoF) is 0.355, which is in medium range (Kock, 2015, p. 50). The ideally acceptable value for GoF is equal to or greater than 0.360 (Kock, 2015, p. 50). The GoF value is very close to the ideal range of 0.360. The GoF value suggests that the model has a good explanatory power. Furthermore, the Simpson's paradox ratio (SPR) of 0.900 is greater than the acceptable value of 0.7 suggesting that the paths in the model are free from Simpson's paradox or causality problem[6] (Kock, 2015, p. 50). The value of R^2 contribution ratio (RSCR) is also acceptable (0.997) and is very close to the ideal value of 1 (Kock, 2015, p. 50). Finally, statistical suppression ratio (SSR) is ideal (1.000), whereas nonlinear bivariate causality direction ratio (NLBCDR) is acceptable (0.900) (Kock, 2015, p. 50). Overall, the model depicts high predictive power.

To test the reliability of the measurement model, an examination of the significance of indicator and cross-loadings is performed. Each pass confirmatory factor analysis, which suggests that the measurement model is reliable. Vertical multicollinearity is tested by examining the block variance inflation factor (VIF). The highest VIF value for the measurement model is 2.094, which is less than the threshold of 3.3 (Kock and Lynn, 2012). This suggests that there is no vertical multicollinearity. The following two questions failed to load on the UA construct: first, it is better to have a bad situation that you know about, than to have an uncertain situation which might be better; and second, people should avoid making changes because things could get worse. Therefore, they were dropped from further analysis. Reliability of the constructs is also confirmed. Nunnally (1967) suggests that

Cronbach's α of 0.50-0.60 demonstrates sufficient construct reliability. The Cronbach α 's for the constructs suggest that they are reliable (Table IV). Table IV also shows how each variable is operationalized using theories and instruments adapted from prior literature (Ajzen, 1985, 1991; Davis, 1989; DeLone and McLean 1992, 2003; Hofstede, 2001; Srite and Karahanna, 2006; Udo and Bagchi, 2011).

Table III. Model fit and quality indices

Model fit	Indices
Average path coefficient (APC)	0.214***
Average R^2 (ARS)	0.255***
Average adjusted R^2 (AARS)	0.248***
Average block VIF (AVIF)	1.528
Average full collinearity VIF (AFVIF)	1.506
TenenhausGoF (GoF)	0.355
Sympson's paradox ratio (SPR)	0.900
R^2 contribution ratio (RSCR)	0.997
Statistical suppression ratio (SSR)	1.000
Nonlinear bivariate causality direction ratio (NLBCDR)	0.900

Note: *** $p < 0.001$

Table IV. Factor loadings

Construct and indicators	Loadings	Cronbach's α
<i>Computer skills (CS)</i>		0.759
Rate your skill in Microsoft Word	0.827	
Rate your skill in Microsoft Excel	0.733	
Rate your skill in Microsoft PowerPoint	0.764	
Rate your skill in Microsoft Access	0.549	
Rate your skill in using the internet	0.688	
<i>Perceived ease of use (PEoU)</i>		0.655
It was easy to navigate on the tax filing website	0.704	
It was easy to use the e-service (i.e. file taxes online)	0.783	
The language to me was clear and easy to understand	0.819	
<i>Perceived usefulness (PU)</i>		0.698
The information about services on the tax filing website for you was sufficient	0.713	
The contents of the tax filing website were useful for tax filing online	0.702	
The tax filing website offered adequate user guidelines to help me	0.764	
My needs/queries were adequately addressed by the tax filing website	0.718	
<i>Information system quality (ISQ)</i>		0.639
The web vendor gave prompt service to customers	0.794	
It was easy to find what you were looking for	0.775	
The tax filing website seemed to be up to date	0.716	
<i>User satisfaction (US)</i>		0.829
I was well satisfied with my online tax filing experience	0.796	
Online tax filing was a pleasant experience	0.883	
Overall, I was satisfied with online tax filing experience	0.910	
<i>Behavioral intentions (BI)</i>		0.791
Given both the options to file taxes online and manually (paper based), I intend to use online tax filing frequently	0.855	
Given both the options to file taxes online and manually (paper based), I intend to recommend online tax filing to other people	0.817	
Given both the options to file taxes online and manually (paper based), I intend to use online tax filing service whenever I have a need	0.847	
<i>Power distance (PD)</i>		0.785

Construct and indicators	Loadings	Cronbach's α
Managers should make most decisions without consulting subordinates	0.802	
Managers should not ask subordinates for advice, because they might appear less powerful	0.759	
Decision-making power should stay with top management in the organization and not be delegated to lower level employees	0.561	
Employees should not question their manager's decisions	0.721	
A manager should perform work which is difficult and important and delegate tasks which are repetitive and mundane to subordinates	0.529	
Higher level managers should receive more benefits and privileges than lower level managers and professional staff	0.659	
Managers should be careful not to ask the opinions of subordinates too frequently, otherwise the manager might appear to be weak and incompetent. Q19: The contents of the tax filing website were useful for tax filing online	0.582	
<i>Masculinity-femininity (MF)</i>		0.836
It is preferable to have a man in high-level position rather than a woman	0.795	
There are some jobs in which a man can always do better than a woman	0.703	
It is more important for men to have a professional career than it is for women to have a professional career	0.871	
Solving organizational problems requires the active forcible approach which is typical of me	0.808	
Women do not value recognition and promotion in their work as much as men do	0.705	
<i>Individualism-collectivism (IC)</i>		0.738
Being accepted as a member of a group is more important than having autonomy and independence	0.769	
Being accepted as a member of a group is more important than being independent	0.675	
Group success is more important than individual success	0.708	
Being loyal to a group is more important than individual gain	0.682	
Individual rewards are not as important as group welfare	0.538	
It is more important for a manager to encourage loyalty and a sense of duty in subordinates than it is to encourage individual initiative	0.565	
<i>Uncertainty avoidance (UA)</i>		0.695
Rules and regulations are important because they inform workers what the organization expects of them	0.745	
Order and structure are very important in a work environment	0.732	
It is important to have job requirements and instructions spelled out in detail so that people always know what they are expected to do	0.786	
Providing opportunities to be innovative is more important than requiring standardized work procedures	0.625	

Construct validity can also be examined by convergent and discriminant validity. Both criteria are used to examine the validity of all constructs. Table V depicts correlations among latent variables with square roots of average variances extracted (AVE). Udo *et al.* (2010) suggest that constructs demonstrate convergent validity when square roots of AVE values are equal to or greater than 0.50. Square roots of AVE values of all constructs are greater than 0.50, which suggest that they display convergent validity. In addition, combined and structure loadings with cross-loadings are examined. Loadings (>0.5 ; $p<0.001$) suggest that the instrument displays good convergent validity (Hair *et al.*, 1987, 2009). Moreover, a test of the discriminant validity of all latent variables is performed. Fornell and Larcker (1981) suggest that latent variables display discriminant validity when all of the correlations of a latent variable are less than the square roots of AVE values. The square roots of AVE values of all latent variables are greater than the correlations of those variables; therefore, all constructs display discriminant validity.

PLS-SEM using WarpPLS 5.0 is performed. Figure 2 displays the confirmatory analysis model and results. Results indicate that CS is positively and significantly ($p<0.05$) associated with PEoU of online tax filing system (H1). Therefore, H1 is supported. Consistent with H2 and H3, results find that PEoU is positively and significantly ($p<0.01$) associated with both PU of online tax filing system and US. Thus, support for both H2 and H3 is confirmed. Findings show that PU is positively and significantly ($p<0.01$) related to US. Consequently, H4 is supported. Contrary to H5, no significant ($p=0.46$) relationship between ISQ and US is found. Therefore, H5 is not supported. Furthermore, for H6, results show a positive and significant ($p<0.01$) relationship between US and BI to adopt online tax filing system. Thus

H6 is supported.

The next set of hypotheses is related to moderating variables. The study finds support for *H7*. Results suggest that espoused PD positively and significantly ($p < 0.05$) moderates the relationship between PEOU and US. However, contrary to *H8*, the results show significant ($p < 0.10$) but positive relationship between PEOU and US moderated by espoused masculinity. Therefore, *H8* is not supported. Furthermore, no support is found for *H9* ($p = 0.23$) and *H10* ($p = 0.43$). Table VI summarizes the results of tested hypotheses.

Table V. Correlations among latent variables (diagonal represents square root of AVE values)

	CS	PEoU	PU	ISQ	US	BI	PD	UA	IC	MF
CS	0.718									
PEoU	0.124*	0.770								
PU	0.189**	0.567***	0.725							
ISQ	0.202**	0.514***	0.574***	0.762						
US	0.123*	0.539***	0.656***	0.454***	0.864					
BI	0.010	0.346***	0.385***	0.151*	0.398***	0.840				
PD	-0.046	-0.022	-0.062	0.039	0.089	-0.194	0.666			
UA	0.119*	-0.040	-0.033	0.123*	0.068	0.017	0.043	0.724		
IC	-0.033	0.192**	0.110	0.211**	0.160*	0.126	0.071	0.248***	0.661	
MF	-0.075	0.066	0.017	0.036	0.023	-0.062	0.331***	-0.024	0.074	0.779

Notes: *, **, *** Significant at $p < 0.10$, $p < 0.01$, $p < 0.001$, respectively

5. Discussion

The authors integrate the TPB (Ajzen, 1991), the TAM (Davis, 1989), and the ISSM (DeLone and McLean, 2003) to examine taxpayers' BI to adopt e-filing systems. Furthermore, Hofstede's (2001) espoused national cultural values (PD, MF, IC, and UA) are incorporated to examine the moderating effect of these values on the relationship between PEOU and ISQ on taxpayers' satisfaction to adopt online tax filing system.

It is hypothesized that CS are positively associated with PEOU of online tax filing system (*H1*). A positive and significant relationship between CS and PEOU is expected. Accordingly, the results show a positive and significant relationship between CS and PEOU of online tax filing system. Therefore, *H1* is supported. This suggests that individuals with greater CS will perceive that using online tax filing system is easy. *H2* is in line with Udo and Bagchi (2011). Udo and Bagchi (2011) find that PEOU is positively related to PU of online services. *H2* predicted PEOU to be positively associated with PU of online tax filing system. Results show strong support for this hypothesis.

Consistent with *H3* and *H4*, the results show that both PEOU and PU are positively associated with US. This suggests that taxpayers will be more satisfied if they perceive that the system is both useful and is easy to use. *H5* examines the relationship between ISQ and US. The relationship between ISQ and taxpayers' satisfaction is found to be positive but not significant, which suggests that ISQ does not have an effect on taxpayers' satisfaction. No support for *H5* is found. In summary, the results indicate that taxpayers' satisfaction is determined by PEOU (*H3*) and PU (*H4*), but not by ISQ (*H5*).

Furthermore, it is hypothesized that US is positively associated with taxpayers' BI to adopt online tax filing (*H6*). As expected, a positive and significant relationship between US and BI is determined. This suggests that taxpayers will be more willing to use online tax filing system for filing their current and future year taxes when their satisfaction is higher. Therefore, *H6* is supported.

Figure 2. Confirmatory analysis model with results

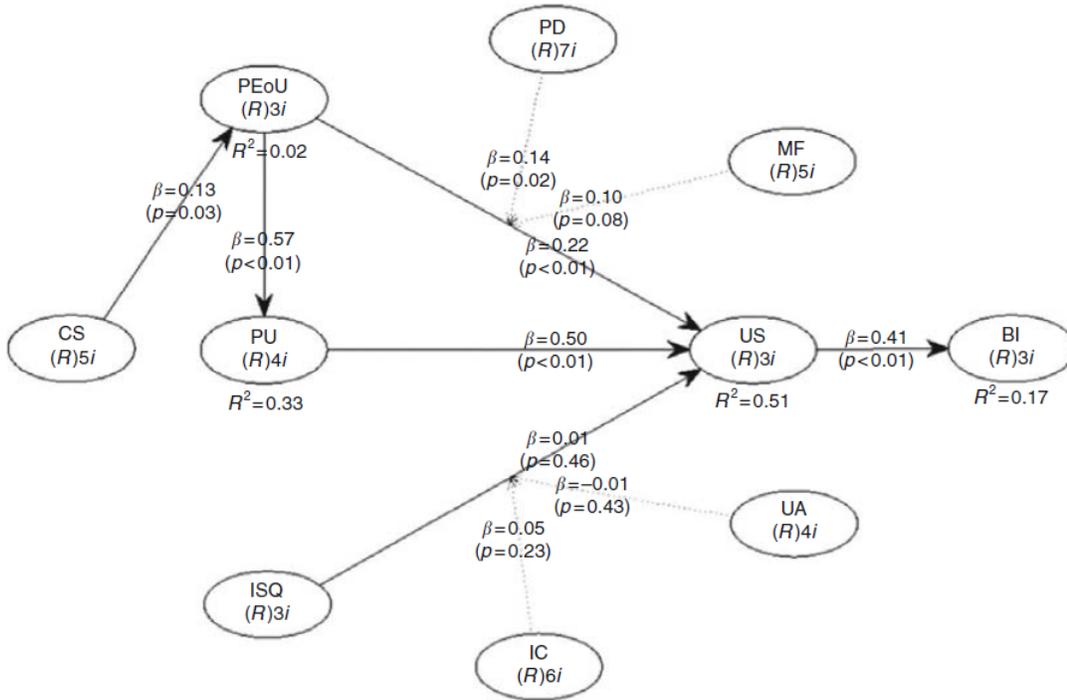


Table VI. Results

Hypotheses	Supported
H1: computer skills are positively related to perceived ease of use of online tax filing system	Yes
H2: perceived ease of use is positively related to perceived usefulness of online tax filing system	Yes
H3: perceived ease of use is positively related to user satisfaction	Yes
H4: perceived usefulness is positively related to user satisfaction	Yes
H5: information systems quality is positively related to user satisfaction	No
H6: user satisfaction is positively related to behavioral intentions to adopt online tax filing system	Yes
H7: espoused power distance positively moderates the relationship between perceived ease of use and user satisfaction	Yes
H8: espoused masculinity negatively moderates the relationship between perceived ease of use and user satisfaction	No
H9: espoused individualism positively moderates the relationship between information systems quality and user satisfaction	No
H10: espous.ed uncertainty avoidance negatively moderates the relationship between information systems quality and user satisfaction	No

H7 through H10 examines the moderating effect of Hofstede's (2001) espoused cultural dimensions. H7 examines whether espoused PD positively moderates the relationship between taxpayers' PEOU and taxpayers' satisfaction. Consistent with H7, the results find that espoused PD positively moderates the relationship between PEOU and US. This relationship is found to be significant. This suggests that users of the online tax filing system in India espousing high-PD perceive the system as easy to use because filing requirement comes from their government, a high-power authority. However, results do not show support for H8. It is hypothesized that espoused masculinity negatively moderates the relationship between PEOU and US. Contrary to this hypothesis, a positive and significant relationship between PEOU and US moderated by espoused masculinity is found. This suggests that the higher the espoused masculinity, the higher the effect of PEOU on US. During the last decade, India has observed many changes due to rapid growth. There is a possibility that Indian culture is moving toward the other side of the continuum on this Hofstede's cultural dimension and, therefore, the results found to be contradictory.

Lastly, no support for H9 (espoused individualism positively moderates the relationship between ISQ and US) and H10 (espoused UA negatively moderates the relationship between ISQ and US) is found. Although the coefficients are positive, these relationships are not found to be significant.

6. Conclusion

This research investigates the moderating effect of culture on the impact of PEOU, PU, and ISQ on US and taxpayers' BI to adopt online tax filing in an emerging economy with diverse subcultural groups. The TPB (Ajzen, 1991), TAM (Davis, 1989), ISSM (DeLone and McLean, 2003), and espoused national culture (Hofstede, 2001) are used as the theoretical basis for this study. Since India is one of the fastest growing economies in the world with a multitude of cultural diversity, data from taxpayers of India is collected. India's population is made up of many distant cultures, religions, and languages that may affect the adoption of IT. Thus, it is important for regulators and software designers to understand the impact that such a diverse culture has on technology acceptance. This study includes data collected from 201 taxpayers. Support for six of the ten hypotheses is found (Table VI).

Results indicate that several factors should be considered by policymakers regarding mandating technology to file income taxes. Specifically, the study finds an individual's requisite CS affect their perception that technology is easy to use, which positively influences their perception that the technology is useful and has a value. Technologies that are perceived as easy to use and have PU increase US and BI to use an online tax filing system. Most importantly, this study shows that culture affects an individual's BI toward mandated technology. The authors find that individuals from countries that rank high on espoused PD are positively influenced toward adopting mandated technology. Thus, individuals from high-PD countries are less likely to question and more likely to adopt mandated technology.

This research enhances the knowledge about what factors influence an individual's intentions to adopt an IS in an emerging economy. Prior research highlights the effect skill levels and the technology characteristics have on US and BI, but do not consider cultural implications. The current study shows culture is also an important factor to consider by providing insight on policy implications for emerging economies with multicultural environment in making technology diffusion decisions. In addition, this study has policy implications not only for government of India, but also for private e-tax portals. Policymakers can use these findings in making technology diffusion decisions. This study is in line with the Digital India program recently started by the Prime Minister of India. The purpose of this program is to make the country more knowledgeable and digitized (Digital India, 2015). Therefore, our findings can help the government of India in making technology diffusion decision such as designing and implementing electronic systems for services. Furthermore, our finding can also help private e-tax filing portals in improving the taxpayers' e-filing experience.

Survey studies rely on self-reported perceptual measures. This study is a survey-based study; therefore, careful considerations should be made before interpreting any results. The study does not disaggregate between voluntary and mandatory e-filers. It is possible that the factors of adoption for mandatory e-filers differ from those of voluntary e-filers. Future studies can be conducted to disaggregate between voluntary and mandatory e-filers. Moreover, study includes a limited number of factors in the model. Other factors that are not included in the study such as quality and content of the electronic tax filing websites and level of taxpayers' education, to name a few, may have an impact on taxpayers' acceptance of online tax filing system. In spite of these limitations, the results increase the knowledge about the adoption and acceptance of electronic tax filing system in an emerging economy with diverse subcultural groups.

Notes

1. "Online tax filing" and "electronic tax filing" will be used interchangeably throughout this paper.
2. The list of required filers is extensive and has been omitted from the manuscript. For a complete list of taxpayers required to e-file taxes, please visit FAQs under the Government of India's Income Tax Department website.
3. Long-term orientation and indulgence were not examined in this study.
4. Intention to use refers to attitude whereas actual use refers to behavior (DeLone and McLean, 2003).
5. Taxpayers, in this study, include tax-filers (i.e. individuals) who have filed other taxpayers' taxes electronically.
6. Kock (2013) suggest that Simpson's paradox "occurs when a path coefficient and a correlation associated with a pair of linked variables have different signs" (p. 49). For further discussion, review Kock (2013)

References

- Adams, D.A., Nelson, R.R. and Todd, P.A. (1992), "Perceived usefulness, ease of use, and usage of information technology: a replication", *MIS Quarterly*, Vol. 16 No. 2, pp. 227-247.
- Ajzen, I. (1985), "From intentions to actions: a theory of planned behavior", in Kuhl, J. and Beckmann, J. (Eds), *Action Control: From Cognition to Behavior*, Springer-Verlag, Berlin, pp. 11-39.
- Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211.
- Ajzen, I. (2001), "The theory of planned behavior", in Van Lange, P.A.M., Kruglanski, A.W. and Higgins, E.T. (Eds), *Handbook of Theories of Social Psychology*, Sage, Thousand Oaks, CA, pp. 438-455.
- Anand, M., Sahay, B.S. and Saha, S. (2005), "Balanced scorecard in Indian companies", *Vikalpa*, Vol. 30 No. 2, pp. 11-25.
- Bellman, E. (2015), "India passes China to become fastest-growing economy", available at: <http://blogs.wsj.com/indiarealtime/2015/02/11/its-official-india-has-passed-china-to-become-the-worlds-fastest-growing-economy/?mod=e2tw> (accessed May 6, 2015).
- Brown, I.T. (2002), "Individual and technological factors affecting perceived ease of use of web-based learning technologies in a developing country", *The Electronic Journal of Information Systems in Developing Countries*, Vol. 9 No. 5, pp. 1-15.
- Byrne, G.J. and Bradley, F. (2007), "Culture's influence on leadership efficiency: how personal and national cultures affect leadership style", *Journal of Business Research*, Vol. 60 No. 2, pp. 168-175.
- Calisir, F. and Calisir, F. (2004), "The relation of interface usability characteristics, perceived usefulness, and perceived ease of use to end-user satisfaction with enterprise resource planning (ERP) systems", *Computers in Human Behavior*, Vol. 20 No. 4, pp. 505-515.
- Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13 No. 3, pp. 319-340.
- Davos (2015), "India to overtake China as world's fastest growing large economy", available at: <http://money.cnn.com/2015/01/21/news/economy/india-china-fastest-growth/index.html?iid=EL> (accessed May 6, 2015).
- DeLone, W. and McLean, E. (2003), "The DeLone and McLean model of information systems success: a ten-year update", *Journal of Management Information Systems*, Vol. 19 No. 4, pp. 9-30.
- DeLone, W.H. and McLean, E.R. (1992), "Information systems success: the quest for dependent variable", *Information Systems Research*, Vol. 3 No. 1, pp. 60-95.
- Delone, W.H. and Mclean, E.R. (2004), "Measuring e-commerce success: applying the DeLone & McLean information systems success model", *International Journal of Electronic Commerce*, Vol. 9 No. 1, pp. 31-47.
- Digital India (2015), available at: www.digitalindia.gov.in/content/introduction (accessed October 30, 2015).
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.
- Furner, C.P., Racherla, P. and Zhu, Z. (2012), "Uncertainty, trust and purchase intention based on online product reviews: an introduction to a multinational study", *International Journal of Networking and Virtual Organisations*, Vol. 11 Nos 3-4, pp. 260-276.
- Furner, C.P., Racherla, P. and Zhu, Z. (2014), "A multinational study of espoused national cultural and review characteristics in the formation of trust in online product reviews", *International Journal of Services Technology and Management*, Vol. 20 Nos 1-3, pp. 14-30.
- Hair, J.F., Anderson, R.E. and Tatham, R.L. (1987), *Multivariate Data Analysis*, Macmillan, New York, NY.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2009), *Multivariate Data Analysis*, Prentice Hall, Upper Saddle River, NJ.
- Hofstede, G. (2001), *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*, 2nd ed., Sage Publications, Thousand Oaks, CA.
- Hung, S., Chang, C. and Yu, T. (2006), "Determinants of user acceptance of the e-government services: the case of online tax filing and payment system", *Government Information Quarterly*, Vol. 23 No. 1, pp. 97-122.
- Hussein, R., Mohamed, N., Ahlan, A.R. and Mahmud, M. (2011), "E-government application: an integrated model on G2C adoption of online tax", *Transforming Government: People, Process and Policy*, Vol. 5 No. 3, pp. 225-248.
- Igbaria, M. and Livari, J. (1995), "The effects of self-efficacy on computer usage", *Omega*, Vol. 23 No. 6, pp. 587-605.

- Income Tax Department-Government of India (2015), "Frequently asked questions", available at: www.incometaxindia.gov.in/Pages/faqs.aspx (accessed April 30, 2015).
- India Government (2015), "People groups", available at: <http://india.gov.in/people-groups> (accessed April 30, 2015).
- Jain, K. and Mulchandani, B. (2012), "Relevance of corporate governance standards for emerging economies", *XI Capital Markets Conference, Indian Institute of Capital Markets (UTIICM), December 21-22*, available at: <http://ssrn.com/abstract=2258294>, <http://dx.doi.org/10.2139/ssrn.2258294> (accessed May 11, 2015).
- Joshi, P.L. (2001), "The international diffusion of new management accounting practices: the case of India", *Journal of International Accounting, Auditing and Taxation*, Vol. 10 No. 1, pp. 85-109.
- Kock, N. (2013), "WarpPLS 4.0 user manual", available at: www.scriptwarp.com/warppls/UserManual_v_4_0.pdf (accessed December 8, 2014).
- Kock, N. (2015), "WarpPLS 5.0 user manual", available at: http://cits.tamtu.edu/WarpPLS/UserManual_v_5_0.pdf (accessed October 30, 2014).
- Kock, N. and Lynn, G.S. (2012), "Lateral collinearity and misleading results in variance-based SEM: an illustration and recommendations", *Journal of the Association for Information Systems*, Vol. 13 No. 7, pp. 546-580.
- Legris, P., Ingham, J. and Collette, P. (2003), "Why do people use information technology? A critical review of the technology acceptance model", *Information & Management*, Vol. 40 No. 3, pp. 191-204.
- Leidner, D.E. and Kayworth, T. (2006), "Review: a review of culture in information systems research: toward a theory of information technology culture conflict", *MIS Quarterly*, Vol. 30 No. 2, pp. 357-399.
- Lucas, H.C. and Spitzer, V. (1999), "Technology use and performance: a field study of broker workstations", *Decision sciences*, Vol. 30 No. 2, pp. 291-311.
- Mahmood, M.A., Burn, J.M., Gemoets, L.A. and Jacquez, C. (2000), "Variables affecting information technology end-user satisfaction: a meta-analysis of the empirical literature", *International Journal of Human-Computer Studies*, Vol. 52 No. 4, pp. 751-771.
- Nunnally, J.C. (1967), *Psychometric Theory*, McGraw-Hill, New York, NY.
- Petter, S., DeLone, W. and McLean, E. (2008), "Measuring information systems success: models, dimensions, measures, and interrelationships", *European Journal of Information Systems*, Vol. 17 No. 3, pp. 236-263.
- Robinson, W. (1950), "Ecological correlations and the behavior of individuals", *American Sociological Review*, Vol. 15 No. 3, pp. 351-357.
- Schneider, S.C. and De Meyer, A. (1991), "Interpreting and responding to strategic issues: the impact of national culture", *Strategic Management Journal*, Vol. 12 No. 4, pp. 307-320.
- Srite, M. and Karahanna, E. (2006), "The role of espoused national cultural values in technology acceptance", *MIS Quarterly*, Vol. 30 No. 3, pp. 679-704.
- Straub, D., Loch, K., Evaristo, J.R., Karahanna, E. and Srite, M. (2002), "Toward a theory-based measurement of culture", *Journal of Global Information Management*, Vol. 10 No. 1, pp. 13-23.
- Suki, N.M. and Suki, N.M. (2011), "Exploring the relationship between perceived usefulness, perceived ease of use, perceived enjoyment, attitude and subscribers' intention towards using 3G mobile services", *Journal of Information Technology Management*, Vol. 22 No. 1, pp. 1-7.
- Sulaiman, M.B., Ahmad, N. and Alwi, N. (2004), "Management accounting practices in selected asian countries: a review of the literature", *Managerial Auditing Journal*, Vol. 19 No. 4, pp. 493-508.
- Sundqvist, S., Frank, L. and Puumalainen, K. (2005), "The effects of country characteristics, cultural similarity and adoption timing on the diffusion of wireless communications", *Journal of Business Research*, Vol. 58 No. 1, pp. 107-110.
- Swigger, K., Alpaslan, F., Brazile, R. and Monticino, M. (2004), "Effects of culture on computer-supported international collaborations", *International Journal of Human-Computer Studies*, Vol. 60 No. 3, pp. 365-380.
- Szajna, B. (1996), "Empirical evaluation of the revised technology acceptance model", *Management Science*, Vol. 42 No. 1, pp. 85-92.
- Tax Administration Reform Commission (2014), "Tax administration reform in India – spirit, purpose and empowerment", available at: www.finmin.nic.in/the_ministry/dept_revenue/First_report_TARC.pdf (accessed April 30, 2015).
- (The) World Bank (2015), "GDP growth", available at: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG> (accessed April 30, 2015).

- Udo, G.J. and Bagchi, K.K. (2011), "Understanding the influence of espoused culture on acceptance of online services in a developing country", *Journal of Information Technology Theory and Application*, Vol. 12 No. 2, pp. 25-46.
- Udo, G.J., Bagchi, K.K. and Kirs, P.J. (2010), "An assessment of customers' e-service quality perception, satisfaction and intention", *International Journal of Information Management*, Vol. 30 No. 6, pp. 481-492.
- Venkatesh, V. (2000), "Determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology acceptance model", *Information Systems Research*, Vol. 11 No. 4, pp. 342-365.
- Venkatesh, V. and Davis, F.D. (1996), "A model of the antecedents of perceived ease of use: development and test", *Decision Sciences*, Vol. 27 No. 3, pp. 451-481.
- Venkatesh, V. and Zhang, X. (2010), "Unified theory of acceptance and use of technology: US vs China", *Journal of Global Information Technology Management*, Vol. 13 No. 1, pp. 5-27.
- Vijayasathy, L.R. (2004), "Predicting consumer intentions to use on-line shopping: the case for an augmented technology acceptance model", *Information & Management*, Vol. 41 No. 6, pp. 747-762.
- Walsham, G. (2002), "Cross-cultural software production and use: a structural analysis", *MIS Quarterly*, Vol. 26 No. 4, pp. 359-380.
- Wang, Y.S. (2003), "The adoption of electronic tax filing systems: an empirical study", *Government Information Quarterly*, Vol. 20 No. 4, pp. 333-352.
- Yoon, C. (2009), "The effects of national culture values on consumer acceptance of e-commerce: online shoppers in China", *Information & Management*, Vol. 46 No. 5, pp. 294-301.

Further reading

- Ghosh, B. (2011), "Cultural changes and challenges in the era of globalization: the case of India", *Journal of Developing Societies*, Vol. 27 No. 2, pp. 153-175.
- Hofstede, G. (1984), *Culture's Consequences: International Differences in Work Related Values*, Abridged edition, Sage Publications, Newbury Park, CA