Gender and Culture of Indian IT Workers

Gender-based Differences in Culture in the Indian IT Workplace

ABSTRACT

Global outsourcing increases the complexity of managing IT projects. Gender adds another level of difficulty when managing IT projects. Understanding country and gender -level differences may improve chances for success. This paper provides opportunities to better understand underlying country and gender differences of Indian IT workers. We used Hofstede's value surveys module to analyse gender differences and cultural preferences of 107 Indian IT workers. After correcting for problems with outliers, none of the mean differences between men and women were significant at the 95% level; at the 90% level, we found differences in uncertainty avoidance and long-term orientation only. Our results suggest that women and men working in the IT industry may have more similarities in terms of national culture than differences by gender. To overcome possible differences in uncertainty avoidance and long-term orientation, IT outsourcers to India should ensure adequate professional development opportunities, mentoring programs, and clearly explained career path opportunities. Further, a focus on policies and management strategies that capitalize on the national culture of India, including group work to take advantage of collectivist tendencies, and clearly defined hierarchical systems to take advantage of masculine orientation and high power distances, may allow foreign companies to attract and retain men and women, where in many cases, national culture trumps gender differences. Future research should collect more data from women and investigate the effect of regional differences on cultural perceptions.

Keywords:

Offshoring, outsourcing, culture, women, global IT management, India

Gender and Culture of Indian IT Workers

INTRODUCTION

In spite of the unstable global outlook, the Indian IT outsourcing industry. which includes Business Process Outsourcing (BPO) and IT services, grew from 1.2% of national GDP in 1998 to 7.5% in 2012; for the IT services industry, India increased its world market share from 51% in 2009 to 58% in 2011 (NASSCOM 2013). IT outsourcers recognize India's continued competitiveness and the effectiveness of India-based teams. In addition, the 12 hour time gap between India and most of the western countries has enabled the Indian software and services industry to create a global 24/7 service delivery model while developing relationships and working with 75% of the Fortune 500 companies (Natarajan 2013). With Indian software companies comprising over 70% of the top Capability Maturity Model Level 5 organizations (Ganguly 2007), quality is evident, supporting IT outsourcing investment and increasing employment opportunities in the field for Indian workers.

With the growth of global IT outsourcing projects, India has begun to develop a thriving and information-driven middle class. As a result of their access to information from around the world, this new middle class has been exposed to a global culture (Adhikari 2013). Women, who have encountered limited employment opportunities in the past, now see the possibility of a career in the IT industry. These opportunities have allowed Indian women to become socially mobile and in charge of making their own decisions at work and at home, thus improving their bargaining power in the household (Kelkar and Nathan 2002). In spite of these positive recent changes, women continue to struggle with societal expectations that require them to take primary responsibility for the home and child rearing, continuing to make it difficult for Indian women to meaningfully participate in the IT field (Patel and Parmentier 2005). Although the IT field presents opportunities for Indian women, previous research has indicated that Indian

women must work harder to prove themselves, deal with men who do not respect women bosses, and find a way to be included in informal networks (Kroeker 2011).

In 2013, the Global Gender Gap ranked India 101 out of 136 countries, with sub-rankings of 124 for economic participation and opportunity, 120 for educational attainment, and 135 for health and survival (World Economic Forum 2013). Only 5% of senior-level employees in India are women, and women earn 62% of the wages of men (Inderfurth and Khambadda 2012). Further, India is ranked the fourth most dangerous country for women, behind countries such as Afghanistan and Congo (Udas 2013). Clearly, India has some work to do to level the playing field for women in general and especially for women who choose to pursue careers. Managers outsourcing projects in India must be able to understand and overcome these challenges in order to recruit and retain a diverse and talented workforce.

The increased opportunities for women in the IT field in India have enormous effects on the labour pool of the country. Suddenly, this new generation of Indian women has become an important source of skilled labour for IT outsourcers. However, because of their recent entry into the workforce, outsourcers are often unaware of how differences between Indian men and women may affect the success of globally diverse IT teams, or if indeed, Indian men and women have different cultural perspectives. Indian women IT workers, in particular, have been under-studied in the literature, particularly using a cultural comparison tool. By understanding the motivations of Indian men and women in IT and their viewpoints and ability to work in diverse teams, we provide recommendations which help shape the development of appropriate management strategies for global IT outsourcing companies. Rather than rely on anecdotal evidence, like much of the previous research that studied Indian women in IT, we rely on hard, empirical data to draw interpretations and make recommendations.

Gender and Culture of Indian IT Workers

In addition to understanding individual-level perceptions by gender, IT outsourcers also benefit by understanding the Indian culture at the country-level, a view advocated by Rao (2004). Indians in general possess qualities associated with a collectivist country, including deference to authority, clearly defined expectations of the traditional roles of men and women, and a focus on the family unit. While studies have evaluated overall average scores for culture in India, few studies have divided workers into groups by gender, although Hofstede et al. (2008b) notes that using culture studies to analyse differences between men and women may be appropriate. In effect, men and women live in vastly different worlds, especially in India, and their cultural perceptions may vary. Indian IT workers, in particular, have been understudied, and thus, managers must rely on anecdotal reports or case studies to develop strategies to improve chances of success. By understanding the differing views of Indian men and women IT workers at the individual level, and at the country level, through an examination of cultural views, Western managers may improve chances of successfully managing IT outsourcing projects in India.

Recent studies have noted the need for more studies on culture's influence on globally distributed, culturally diverse development teams (Leidner and Kayworth 2006). Culture often exerts a delicate, yet dominant influence on people, and organizations and technology are very closely intertwined. National culture has been shown to be an important influence on leadership and decision-making in global systems development projects (Heales, Cockcroft, and Raduescu 2004). Moreover, culture theory has often been used to explain behaviours and outcomes in global projects. At the national level, researchers have previously studied western cultures and compared them to non-western cultures (Leidner and Kayworth, 2006). Others authors, such as Gurung and Prater (2006) note the importance of understanding culture at the national,

organizational, and individual levels, introducing a construct which they refer to as psychic distance. Further, developed and developing countries differ in infrastructure access and availability, and companies should not assume that similar policies in developing countries will achieve desired results when implementing technology initiatives (Chen et al. 2006). However, while previous studies completed country-level comparison studies (e.g., US vs. India), often using case study or anecdotal reports, we present an in-depth analysis of Indian women and men in IT, which should allow managers to overcome challenges when trying to recruit and retain Indian IT workers.

While some view India as a homogeneous country, the country is rich with diverse religions, hundreds of languages, traditional caste systems, and large differences in economic wealth (Sahoo 2006; Saran et al. 2007). Due to the diversity of culture, initiatives that work in one part of the country may not work in other parts (Saran et al. 2007). It is clear that outsourcing projects to India presents challenges for IT outsourcers. Managers who understand and respond to cultural and gender differences in India may increase the chances of success. This research project seeks to explore culture at the country level, and by gender, in an effort to better understand the Indian IT worker, and improve the chances of successful implementation of global IT outsourcing projects. Our study is the first to use culture to empirically analyse differences between men and women working in IT in India. We begin with a literature review and then develop predictions based on cultural underpinnings and the traditional role of Indian women in the workforce, based largely on previous reports using anecdotal evidence. We move to data collection and analysis, and conclude with an analysis of the results and implications and conclusions.

LITERATURE REVIEW

Culture

Over the years, many researchers have attempted to define culture. Sachman (1992) defines culture as a coherent set of beliefs and ideologies, along with a shared set of core values and collective will. Others suggest that culture includes more explicit, observable artefacts such as norms and practices (Hofstede 1998), symbols (Burchell et al. 1980), and language, ideology, rituals and ceremony (Pettigrew 1990). Many studies use Hofstede's survey to analyse cultural perceptions. At the core level, Hofstede defines culture as "collective programming of the mind" (Hofstede 1993, p. 89) that distinguishes not only societies (nations), but also organizations, industries, and professions (Martisons, Davison and Martisons 2009). Cross-cultural studies, including those using Hofstede's instrument, have been criticized for not providing clear guidelines (Hofstede 1998). However, Hofstede's research on culture and the resulting survey, have had a major impact on academics and practitioners alike. These studies have been used to explain national cultures in many organizations around the world (Martisons et. al 2009), and have helped to predict global IT product adoption (Bagchi, Hart, and Peterson 2004). In our study, we use an adaptation of Hofstede's culture, the Value Surveys Module (Hofstede et al. 2008a), as described in the next section.

Hofstede's Value Surveys Module (VSM)

One way to measure national cultural beliefs is Hofstede et al.'s (2008a) Values Survey Module (VSM), a research tool which has been used – through several iterations – for more than 30 years. VSM's five constructs include Power Distance (PDI), Individualism (IDV), Masculinity (MAS), Uncertainty Avoidance (UAI), and Long-term Orientation (LTO) (Hofstede and Hofstede 2005; Hofstede et al. 2010). Recently, Indulgence was added as a sixth construct

(Hofstede et al. 2010), although minimal data has been collected to date on this construct. Hofstede's VSM measures national culture perceptions at the country-level.

Power Distance (PDI)

Countries with high PDI scores follow orders without question and defer to authority (Hofstede and Hofstede 2005; Hofstede et al. 2010). Indian culture places a high value on order, following rules within a team, and respect. High scores are further influenced by the traditional view of women in India's patriarchal society and the historical influence of class and caste in India. While they have been eliminated from legal and governmental documents and laws, underlying beliefs about differences based on castes still persist today (Barua and Barua 2012) and provide another hurdle that women (and men) must overcome. Interaction effects of gender, class, and nation have been shown to influence women's success in the business world (Radhikrishnan 2009; Waldrop 2012), and India's high scores on PDI tend to negatively influence societal expectations regarding opportunities available to women. We predict that Indian men working in IT will score high on power distance, similar to the long-term averages for the country; we predict that women will also score high – but even higher than men, due to the patriarchal society and the lower status of women in the workplace.

Individualism (IDV)

IDV measures ambition, the priority given to achieving individual over group goals, and the ability of a person to overcome socioeconomic challenges and achieve success through hard work and ability (Hofstede and Hofstede 2005; Hofstede et al. 2010). Those who score high on IDV tend to value independence in their work environment. High scorers welcome the independence aspect of IT projects, as described by Adhikari (2013), while low scorers prefer the interdependency aspect of IT projects, also described by Adhikari; thus, IT projects appeal in

different ways to high/low scorers on IDV. Managers must find a way to balance the competing individual/group requirements of IT projects. As a collectivist society that values the group, family unit, or team, over the individual, India typically scores low on IDV. We predict that Indian men working IT will score low on IDV, and Indian women may score even lower, due to their limited experience in the workplace and their focus on family and group goals.

Masculinity (MAS)

As expected, India scores high on MAS, which is the opposite of feminism. Those with high MAS scores typically have strong societal gender roles, with men as breadwinners and women showing compassion and being in charge of the household (Hofstede and Hofstede 2005; Hofstede et al. 2010). This view of social gender roles is consistent with traditional Indian culture and explains some of the obstacles faced by Indian women who pursue a career. In the past, the formal education of girls was not considered important. Girls would become homemakers and thus did not need to attend school. In 2011, Indian males had a literacy rate of 82.14%, as compared to 65.46% for women (Kaur 2013). Though there has been a substantial increase in the number of literate women and this gap is narrowing, India still has work to do to capitalize on the potential talent of its women.

Traditional cultural definitions of feminism and the expectations regarding family have served as limitations to success in the workplace (Radhikrishnan 2009), but Indian women have begun to change how femininity is defined (Adhikari 2013) and what it means to be a successful woman. While Indian women have traditionally exerted little personal control over resources, such as money and property, that situation appears to be changing (Waldrop 2012). In fact, Indian women who work in IT actually improve their chances of marrying and increase the prestige of the potential husband (Bhattacharyya and Ghosh 2012). Indian women are struggling

with the same work-family balancing act that women around the world confront – but Indian women face even stronger cultural expectations for being successful in family roles, with work success seen as a secondary pursuit. Further, Indian women face different work-family challenges depending on their life stage; that is, as parents grow older, women are expected to care for elders along with their own children, compounding the work-family life balance struggle (Srinivasan et al. 2013). We predict that Indian men working in IT will score high on masculinity; we predict that Indian women working in IT will score high as well, but may score lower than their male counterparts, due to their gender and perhaps, the changing definitions of femininity for Indian women entering the workplace.

Uncertainty Avoidance (UAI)

In countries that score low on UAI, citizens are open to new ideas and concepts and willing to take risks to accomplish goals (Hofstede and Hofstede 2005; Hofstede et al. 2010). In Indian culture, certainty and order are valued, which leads to high scores on UAI. IT projects, which emphasize independence (along with interdependence) (Adhikari, 2013), offer opportunities for Indians to step outside of their comfort zone and take risks to complete projects. Independence, however, is counter to the traditional cultural norms for women, who generally are dependent on husbands and families, and thus by necessity learn to work in close social networks based on relationships. Finding the right balance between the group and individual aspects of IT projects continues to be a challenge for outsourcers. We predict that Indian women in IT will have higher levels of uncertainty avoidance than their men colleagues, because of their traditional reliance on social networks and interdependence.

Long Term Orientation (LTO)

LTO refers to the country's view of the future. Those with high values on LTO will save before investing, work toward goals, and adapt to achieve future rewards (Hofstede and Hofstede 2005; Hofstede et al. 2010). Indian culture values qualities associated with a long-term viewpoint. Women typically value sustainability over short-term profits, and are aware and concerned about the impact of their decisions on others in the supply chain (Gupta 2008), and should score high on LTO. Thus, we predict that both men and women will score high on long-term orientation, but women will score higher than their men colleagues, due to their traditional long-term focus and concern for internal and external customers in the supply chain.

The VSM provides a tool to help us understand the culture perceptions of men and women in India. Through this lens and by analysing empirical data that we collected, we are able to recommend management policies that will improve chances for successful IT outsourcing projects. First, however, we must better understand the challenges and opportunities faced by Indian women in IT.

Opportunities and Obstacles for Women in the Indian IT Industry

While VSM allows us to analyse country-level culture perceptions, individual-level differences help guide the development of appropriate policies to improve chances of IT outsourcing success. Little research to date has specifically analysed the beliefs, influences, and perceptions of women working in the IT field in India. Women comprise a significant portion of the Indian BPO sector (Dube et al. 2012) and up to 40% of software services workers (Singh 2013), so women as a group are important for success of IT outsourcing projects. However, women tend to be concentrated in entry level positions, with numbers dropping significantly at the senior and board level roles, with Indian women comprising only 3% to 6% of executive level positions (SHRM 2009). Women in India working in the software industry face challenges

Gender and Culture of Indian IT Workers

because of their gender and class, as well as their colour, caste, ethnicity, religion, and marital status (Haq 2013). They need supportive family, supportive workplaces, and an individual passion for success, to achieve their career goals. Companies need to do a better job of recruiting and retaining these valuable IT workers, through incentives and an environment that will foster growth and retention of women in IT.

From a practical level, giving women more opportunities in India could boost economic growth by 4% (Inderfurth and Khambadda 2012). With estimated GDP of over $1800 billion in 2013 (India GDP 2013), having fewer opportunities available for women may translate to a loss of about $72 billion per year, a not insubstantial amount. It is clear that understanding and encouraging Indian women to pursue careers in IT will be advantageous at the country and organizational levels. Understanding women in the IT field presents outsourcers with an opportunity to improve chances for global project success.

The cycle of exclusion of women begins at an early age. Indian children have different educational standards, with a much higher rate of literacy and educational attainment for boys as compared to girls. Girls and boys are shaped by their histories, and in the case of IT, girls may be left behind due to their lack of mentors, role models, and education. In the poorer areas, in particular, Indian girls have fewer role models and mentors and tend to drop out of school and get married at a young age (Jowell 2012). The first mentors and role models for children are their families. Indian girls who achieve success, in fact, state that their families valued education and supported them (Gupta 2008), with Indian girls noting the particular influence of their mothers on their ultimate success (Gopinathan 2009). Other mentors and influential people included teachers and an inspiring peer group (Gopinathan 2009; Rajesh 2013), as well as supervisors (Baral and Bhargava 2011) and supportive males (Damodaran 2013).

Gender and Culture of Indian IT Workers

The Gender Digital Divide also makes it difficult to gain valuable technology skills. Women have less access to IT than their male counterparts and less experience with the Internet than their male colleagues. Moreover, girls are often taught that the Internet is a negative resource, with links to pornography, violent games, and drugs (Johnson 2010). With this perception of the Internet, it is no wonder that Indian girls and women are reluctant to try new technology.

As girls grow into women, they face other challenges, which make it difficult for them to achieve success. Aziz (2004) found that women in India experienced significantly more stress in the IT sector than their male counterparts. Women experience great pressure to work hard to prove themselves in the workplace, and one of the biggest hurdles is how women are treated by their male managers. They often receive differential treatment due to the focus on the group (collective) and the masculinity characteristics of India that reinforce the stereotypical view that women are inferior to men. As a result, women are excluded from challenging projects and are not involved in important organizational issues (SHRM 2009). Women in IT also face the glass ceiling and are not able to rise after a certain level because of their inability to negotiate proper perks, pay scales, etc. Women may be unable to work long and late hours, failing to develop an informal network of peers and mentors, and thus keeping them from receiving information regarding opportunities in the organization (Bhattacharya and Ghosh 2012). Further, since men are able to work long hours, they tend to develop camaraderie, a support system that reinforces the collectivist nature inherent in Indian society, and potential career opportunities that women may never know about.

Mentors offer an opportunity to overcome workplace challenges and help women manage the underlying work-family challenges. Much anecdotal evidence supports the use of mentors,

although few studies have used empirical data to evaluate its applicability to Indian women in IT. Without that empirical evidence, IT outsourcers may have to use a hit-or-miss method of implementing strategies to recruit, support, and retain Indian women working in IT. Indian women may find it difficult to secure role models and mentors in IT due to the dearth of women in the field (Lindawati and Smark 2015); therefore, women – by necessity – often form beliefs about a career in IT from male role models and peers (Srinivasan et al. 2013). Reports show that India has few women as directors, board members, and CEOs, particularly when compared to other countries (The Hindu Business Line 2007), although India recently appointed five women executives of technology firms as members of the National Institutes of Technology to encourage more women into technology-related fields (Mukul 2014). Further, India appears to have a sufficient number of qualified women, with 68% of Indian women indicating that they have the skills to succeed in the global workforce, compared to just 43% of women worldwide (The Hindu Business Line 2008). Finding mentors for women continues to be challenging; without women as mentors, young women are less likely to pursue careers and will feel left out of the network. With fewer women moving to higher levels in the organization, it is difficult to develop a pool of mentors for upcoming women, and the cycle of exclusion continues unabated.

Marriage adds another hurdle that women in India must overcome to remain in the workforce and continue to progress. Married Indian women – who likely have greater responsibilities at home – may experience greater stress than their unmarried co-workers – or indeed, than their married male counterparts, who have a support system (often including a wife) to care for the home and family. Boyar et al. (2012) found that married men and women (with no children) working in IT had higher turnover rates in IT than their unmarried colleagues and their married colleagues with children. Dual income earners with no children possibly have fewer

financial responsibilities that might compel them to remain with their current employer; thus, family configuration is an important variable to consider when seeking to understand IT/BPO employees in India. Many Indian women in IT marry later and choose their own partners, while single women lead active lives and maintain close bonds with family and friends (Adhikari 2013). Indian women in IT are usually young, well-educated, and have better opportunities than women working in other fields in India (Dube et al. 2012). Indian women face similar work-family life challenges as their counterparts in other countries, seeking to balance traditional Indian values, such as strong family connections and high collectivism, with global norms, such as materialism and high individual achievement (Adhikari 2013; Gopinathan 2009; Lindawati and Smark 2015). This struggle shows the tension that exists between the national culture of India and the individual-level perceptions of women who choose to work in IT.

One of the differentiators between married Indian women who fail to persist in the workforce and women who are successful, is family support (SHRM 2009).Women who belong to educated families and have supportive spouses, parents and in-laws fare better at their workplaces and are able achieve success in their desired goals. Studies have shown that as women become involved in family roles, they actually show improved performance and better satisfaction at work (Baral and Bhargava 2011), while others (Adhikari 2013; Gopinathan 2009; Nath 2000) found that Indian women who chose to work in the IT field sought goals beyond family, based on their individual desires and passions to become successful, and indicating possible higher levels of individual achievement as compared to their peers. Ramadoss (2012) credits these Indian women with personal coping resources that allow them to balance work and family life and overcome cultural barriers to success. Barua and Barua (2012) found that family and work roles cannot be separated for women, with family as a woman's first priority, which is

consistent with a patriarchal society. Indian women desire a level of work-life stability that is predictable and compatible with their family needs (Rajesh 2013), and flexible work schedules offer one opportunity for women to overcome the challenges of career and family (Desai et al. 2011; Gupta 2008). In organizations that do not provide flexible work hours, Indian women tend to experience gender bias and lost promotion opportunities, with significant differences between men and women (Dube et al. 2012; Godara 2007; Gopinathan 2009). Without significant family support, women working long and irregular hours that are common in the IT field face more significant work-family balance challenges than their male counterparts. Similarly, even women entrepreneurs, who start their own businesses, feel significant work-family conflicts (Rajesh 2013). Indian women report problems with lack of management support and dissatisfaction with their job (Boyar et al. 2012). As Rajesh (2013) found, Indian women will simply drop out if they do not have a supportive work environment. Instead of leaning in, they leak from the pipeline and become full-time mothers.

The anecdotal evidence seems to suggest that Indian women and men face different challenges, and IT outsourcers may need to use appropriate strategies to overcome barriers to achievement. Unlike previous studies, our study uses empirical data to make recommendations so that managers are able to choose sound, data-based solutions to overcome challenges. To understand cultural differences, at the national level and by gender, we delivered the VSM survey to Indian IT workers, to empirically test assumptions and recommendations that have – in previous studies – been made based largely on non-empirical studies. The next section describes the methodology used.

METHODOLOGY

Gender and Culture of Indian IT Workers

We used Hofstede's Values Survey Module (VSM) (http://stuwww.uvt.nl/~csmeets/VSMChoice.html), to measure the relationship between culture, the workplace, and home lives of Indian IT workers. In the first phase, we pilot tested the survey by sending it to ten persons of Indian descent with experience in the IT field, and made minor changes for clarity, as suggested. In the second phase, we delivered the survey to Indian IT workers, with 111 respondents completing the online survey. Four responses had missing or invalid data and were excluded from the analysis, yielding a final sample size of 107 respondents. Respondents completed the survey online using SurveyMonkey. Table 1 shows the demographic profiles of our respondents.

Table 1. Demographic data of respondents		
Number of respondents	Total	107
	Male	85 (79.44%)
	Female	22 (20.56%)
Age range		24-63 years
Average age	Male	31.48
	Female	29.81
Married		60.75%
	Male	51 (60%)
	Female	14 (63.6%)
Degree status	Less than undergraduate	6.41%
	Undergraduate degree	23.07%
	Master's degree	57.6%
	Greater than Master's degree	10.25%
Field of study	Computer related	43.54%
	Engineering (including computer engineering)	29.48%
	Business management	15.38%
	Other	8.97%
Number of years of full time IT experience (range)		0-39 years
Obtained certification(s)		48.71%
Have a physical disability		3.84%

Gender and Culture of Indian IT Workers

Like the IT industry as a whole, almost 80% of our respondents were male, with an age range from 24-63 years old, with a median age of 31 years. A large percentage (almost 95%) of our respondents had earned at least an undergraduate degree, with over 90% of the degrees in fields related to computers, technology, engineering, and/or business. Respondents varied in their level of experience, ranging from 0 to 39 years. Almost half of our respondents earned certifications in the field. Less than 5% of the respondents stated they had a physical disability. The Indian Census of 2011 (http://punarbhava.in/index.php/disability-register/census-2011-disability-data.html?date=2015-12-01) reported that 2.21% of Indians are disabled, so our respondents are in line with the number of persons with disabilities in India. While our respondents were not necessarily from global project teams, their educational background and level of experience are likely similar to those Indian employees who would work on IT projects. Because our sample is similar in many ways to industry averages, we used our respondents as surrogates for Indian global project team members.

RESULTS

VSM measures country-level differences. The VSM does not account for and is not intended to measure individual differences within a country (Hofstede 2011). We compared two sub-groups within the country context – in this case, Indian men and women. We theorize that there are (at least) two views of Indian society – the view shared by Indian women in IT and the view shared by Indian men in IT. This gendered view of Indian society is akin to the notion that regions of a country may have different measurable cultural perceptions (Kim et al. 2007). Men and women live in different societal "regions" of India, with very different societal constraints and economic opportunities. Our analysis corresponds to Hofstede et al.'s (2008b) note that comparisons may sometimes be made between genders within a country. Further, our analysis

corresponds to the views espoused by Grenness (2012), which suggests that researchers may predict individual behaviour with aggregate data (such as Hofstede) if they understand the similarities and differences of the population in question. In this study, we matched similar respondents (IT workers) from a country (India) and then compared by the sub-group of gender.

Our sample yielded 85 men and 22 women in the Indian IT industry. Hofstede et al. (2008b) recommends a sample of 50 or more as being ideal, with cautions not to develop interpretations about samples of 20 or fewer. While only 22 Indian women participated in our survey, this number equated to almost 21% of our sample, which is in line with or higher than the overall number of women who work in the Indian IT industry.

The VSM statements allow index scores to be calculated for each of the five dimensions of national culture. All content questions are scored on five-point scales (1-2-3-4-5). Index scores are derived from the mean scores on the questions for national samples of respondents. Final scores for each dimension are calculated using the specified formulas. The survey is shown in Appendix A.

The index formula for the 5 dimensions is listed below:

$PDI = 35(m07 - m02) + 25(m23 - m26) + C(pd)$

where m02 is the mean score for question 02, m07 is the mean score for question 07, etc.

The index normally has a range of about 100 points between very small Power Distance and very large Power Distance countries. C(pd) is a constant (positive or negative) that depends on the nature of the samples; it does not affect the comparison between countries. It can be chosen by the user to shift the PDI scores to values between 0 and 100. The formulas for each of the other dimensions are shown below:

Gender and Culture of Indian IT Workers

IDV = 35(m04 – m01) + 35(m09 – m06) + C(ic)

MAS = 35(m05 – m03) + 35(m08 – m10) + C(mf)

UAI = 40(m20 - m16) + 25(m24 – m27) + C(ua)

LTO = 40(m18 – m15) + 25(m28 – m25) + C(ls)

where C(Ic), C(mf), C(ua) and C(Is) are constants (positive or negative) that depend on the nature of the samples.

As Hofstede et al. (2008b) recommends, we developed scaled values so that the averages are between 0 and 100**.** After computing scaled averages for each cultural factor, including total averages and averages of women and men, we then compared our values to Hofstede's reported scores for India (http://geert-hofstede.com/india.html), as shown in Tables 2a (unscaled) and 2b (scaled).

Table 2a. Hofstede Results (unscaled with constants)

	PDI	IDV	MAS	UAI	LTO
Historical India Avg[1]	77	48	56	40	51
Overall Avg	13.61	-2.62	-23.22	-21.59	19.3
Women	24.32	-15.91	-36.59	-52.27	18.86
Men	10.82	0.82	-19.76	-13.65	19.41
Constant	63	51	79	62	42

[1] http://geert-hofstede.com/india.html

Table 2b. Hofstede Results (scaled)

	PDI	IDV	MAS	UAI	LTO
Historical India Avg[1]	77	48	56	40	51
Overall Avg	76.61	48.38	55.78	40.41	51.30

Gender and Culture of Indian IT Workers

Women	87.32	35.09	42.41	9.73	50.86
Men	73.82	51.82	59.24	48.35	51.41

[1] http://geert-hofstede.com/india.html

Non-Parametric Analysis

To further investigate the role of gender in regard to VSM's five constructs (PDI, IDV, MAS, UAI, and LTO), we carried out non-parametric testing by using Wilcoxon's signed-rank test. This was necessary due to the fact that our data set was not normal. We also checked for outliers, which reduced the sample size from 107 to 89, and reduced the number of women from 22 to 19. Thus, just under 15% of women respondents were identified as outliers (3 of 22 or 13.6%), and just over 15% of men respondents were identified as outliers (15 of 85 or 17.6%) The results are presented in Table 3.

Table 3. Non-Parametric Analysis for Difference between Means

Variable	Z-value	Significance
PDI	0.10	0.88
IDV	0.06	0.96
MAS	0.31	0.74
UAI	1.50	0.09*
LTO	1.49	0.10*
* Significant at 90% level		

We notice that at the 95% confidence interval, none of the variables are statistically significant. However, at the 90% confidence interval, differences between UAI and LTO are significant, providing some support for our predictions on those variables. Interestingly, without removing

the outliers, all variables were statistically significant at a 90% confidence interval. Table 4

shows our predictions and the results of the analysis.

Table 4. Predictions and results

Prediction	Removal of outliers		With outliers	
	95% level	*90% level*	*95% level*	*90% level*
Women differ from men on PDI	No	No	No	Yes
Women differ from men on IDV	No	No	No	Yes
Women differ from men on MAS	No	No	No	Yes
Women differ from men on UAI	No	Yes	No	Yes
Women differ from men on LTO	No	Yes	No	Yes

ANALYSIS

Contrary to our predictions, after removal of outliers and statistical analysis, the data

indicated that men and women had similar levels of PDI, IDV, and MAS. These results are

compelling and thought-provoking. While anecdotal studies have suggested mentoring and

work-family life policies to mitigate differences between Indian men and women in IT, perhaps

in the case of these three variables (PDI, IDV, and MAS), at least, culture trumps gender, and

there are no statistically significant differences between Indian men and women in IT. Or, even

more compelling, perhaps IT outsourcers are already doing a good job of using management

strategies to mitigate differences. Perhaps mentoring programs, teamwork, and flexible work

policies have changed the way Indian men and women in IT view power, individualism, and

masculinity. Maybe current management strategies are paying off, and in that case, our results

suggest that IT outsourcers should continue implementing the strategies they have been using,

such as using teams to accomplish goals and setting up clear hierarchical organizational

structures, to capitalize on Indian cultural values of collectivism, masculinity, and high power

distance.

Perhaps the women in our study were part of the privileged few, those who received strong family support and were encouraged to succeed in career and family goals. These women may have received better education than women in general in India, and thus were more like their male counterparts. With more than 50% of our respondents receiving graduate degrees or higher, and almost all (over 90%) of our respondents earning at least an undergraduate degree, our sample may have been tilted toward the privileged few, thus limiting the generalizability of our results.

Interestingly, our results indicated no differences between men and women in terms of their masculinity. Are the women in our study more like men than women in general in India? Have they faced a ruthless workforce where they had to suppress their feminine characteristics, such as being nurturing, in order to be successful? Perhaps the Indian women in our study feel pressured to either adopt more masculine traits or go back to the home and raise a family; or perhaps they face societal scorn if they answer in ways that are perceived to be feminine. Maybe they answered as they thought we wanted them to answer, assuming characteristics that were more associated with their male colleagues. Future research should seek to answer these questions.

After removing outliers, we found differences between men and women in uncertainty avoidance and long-term orientation (at the 90% level). These differences provide a guide for where IT outsourcers might choose to focus their management strategies. IT outsourcers should seek to adopt strategies to recruit and retain a talented staff of Indian men and women professionals.

DISCUSSION

Implications for Practice

Gender and Culture of Indian IT Workers

This study analysed the cultural perceptions of Indian men and women IT workers and the implications for IT outsourcers hoping to increase the chances of project success. Unlike most previous studies, which rely on case studies or anecdotal suggestions for improving the workplace, we used Hofstede's VSM, followed by non-parametric statistical data analysis, to empirically analyse differences between Indian men and women in IT. While some of the implications and recommendations have been discussed before, our study is the first to specifically look at the growing Indian IT workforce, and analyse differences by gender. Our findings should assist IT managers who are developing human resources policies and management strategies in India. Initial data analysis revealed significant statistical differences between Indian men and women for all variables at the 90% level. Further analysis, after removal of outliers, revealed statistically significant differences between Indian men and women for UAI and LTO only, again at the 90% level. Our results imply that IT outsourcers should focus on these two variables, when attempting to recruit and retain Indian men and women in IT.

Women choose to avoid uncertainty and prefer certainty and lack of ambiguity in the workplace. Indian women working in the IT field face an ambiguous future, with possible expulsion from the workplace due to family pressures, at any point and with little notice. While supportive family members help women overcome uncertainty, IT outsourcers have little influence on family situation. However, IT outsourcers may implement formal mentoring programs that simulate a supportive network and assists Indian women striving to achieve their full potential. This network helps make the future less uncertain, allowing women to envision future potential and accomplishment of career goals. Further, organizations with supportive work-family policies may help women overcome inherent challenges. Because of these differences and the growing numbers of women working in IT, outsourcers should analyse

management policies that may mitigate these challenges for Indian women, thus retaining talent, recruiting a diverse and capable workforce, and ultimately contributing to the movement toward social equality in India.

In terms of long-term orientation, women who focus on the short-term may see a bleak future, with few career opportunities after marriage and children. A long-term orientation may offer more hope for societal change and resulting organizational changes that show promise. A clear organizational career path, with steps along the way toward achievement, along with supportive and informed mentors, may alleviate the differences in LTO between men and women and encourage all Indian workers to stay with an organization over the long-term. Women with strong mentors, a company that adopts family-friendly workplace policies, and one that provides a clear career path for the future, are more likely to be able to overcome societal obstacles.

Interestingly, our results disagree with work completed by Gooderham and Norhaug (2002), which showed that gender surpassed culture as an indicating variable; in that study European women as a whole were similar to each other and were different from their male counterparts, regardless of where they were from. Our results implied the opposite; Indian men and women were more alike than different from each other; thus in our analysis, culture surpassed gender in identifying strategies for success. This presents an interesting and provocative result. Are IT outsourcers in India already doing a good job of addressing the inherent cultural challenges with managing men and women and meeting their needs? Perhaps the initiatives in place are already working and helping to overcome inherent cultural challenges. Organizations should consider expanding the mentoring opportunities available, allowing successful senior women managers in the Indian IT field to act as role models for women entering the field and provide them with guidance in managing their careers and developing a

work life balance (Srinivasan 2013). Mentors may help women establish and participate in informal networking opportunities, better understand possible career advancement strategies, and serve as a sounding board for changing societal expectations, thus helping women participate in – and persist in – the IT workforce. Indeed, Ramaswami et al. (2010) found that Indians in general were open to mentoring relationships and found them valuable, and our results seem to support that men and women will benefit from similar programs. Interestingly, however, the power distance between mentors may be relevant. Ramaswami and colleagues (2014a) found that Taiwanese women succeeded when mentoring relationships exhibited high power distances between the mentor and mentee. Taiwan, like India, typically scores high on PDI and is a similarly low gender egalitarian nation. For IT managers in India, simply assigning mentors may not be enough; rather, they may find more success when assigning high-level women as mentors to lower level women mentees, thus creating a significant difference in power between the participants. In contrast, men succeeded in mentoring relationships regardless of the power distance, so IT managers may have more flexibility when assigning mentors to men. Our results showed no PDI differences between Indian men and women; however, successful mentoring programs that consider the power level of both mentors and mentees, in line with previous studies, provide guidance that IT managers may use when establishing mentoring programs. Clearly, organizations need to provide a culture specific perspective on mentoring, as recommended by Ramaswami et al. (2014b). Since men comprise a large portion of the IT industry, supportive "man-bassadors" (as used by Nohria, 2013) may by necessity, be recruited to engage in mentoring activities with their women colleagues.

In a collectivist society such as India, women are expected to shoulder most of the load for managing the home, including caring for children and elders. Surprisingly, our results did not

show differences between collectivist tendencies of Indian men and women through their IDV scores. We speculate, however, that the women in our study may not be representative of Indian women in general. More than half of our respondents had a graduate degree or higher, indicating a higher level of education and achievement than is typical. Perhaps our women are not like other Indian women. Indeed, perhaps the very women we would like to recruit and retain are not part of our study – because they are already out of the workforce, raising their children. Thus, we recommend that organizations continue offering flexible work-time options and leave programs, to recruit and retain men and women. Receiving input from these Indian women is difficult. If they have already left the workplace and are home, they were not part of our study. Clearly, we need to survey a larger number of women before drawing firm, predictive strategies for managers to implement. However, management strategies to soften the impact of work-family life challenges would be beneficial for all Indian IT workers, and thus help outsourcers establish strong working relationships and sound policies for managing projects in India. To recruit and retain a qualified and talented workforce, IT outsourcers to India should consider flexible time and child care; child care options and elaborate training programs, for instance, have been implemented by Indian companies with some success (Rao 2013).

Scores on PDI also provide a window to future careers and opportunities for Indian women in IT. High PDI scores have been associated with low career optimism (Gunkel et al., 2013); while Indian women scored higher on PDI scores than their male counterparts, these differences were not statistically significant. Perhaps using the scaled PDI score does not provide enough evidence of differences. Rather, researchers need to use statistical analysis to determine if the results are indeed significant. Previous studies that compared scaled values may have lacked statistical significance, and we encourage future researchers to use non-parametric testing

or other statistical techniques for non-normal samples, to determine the significance of the differences, rather than the differences themselves. Meanwhile, practitioners can continue using mentoring programs to help Indian men and women see optimism for their future career paths. Further, organizations should try to reduce the negative influence that a woman's marital or parental status has on career development; in contrast, men did not face similar challenges when they married or had children (Ramaswami et al. 2014b), likely due to the supportive family network they counted on for managing the household. Again, perhaps married women and those with small children at home did not have a voice in our survey because they had already left the workforce. Mentoring may help overcome the leaky pipeline program, when Indian women leave their careers to care for their children. Infosys in India has had success with initiatives focused on women, including counselling, flexible work schedules, and paid maternity leave (Khosla 2014), and these strategies may prove beneficial for IT outsourcers in India.

The Department of Science of Technology (DST) in India has undertaken a number of initiatives to empower women in the fields of science and technology and to ensure their full and equal participation. To encourage women to re-enter the workforce, DST has developed policies where women work from home, allowing them to balance work and family priorities. In addition, the department provides professional development and training opportunities for women to update their knowledge and skills through partnerships with top educational institutions (DST 2014). Further, forming diverse teams and offering professional development opportunities to Indian women may help women feel engaged and connected to the organization. Expansion of DST's Science and Technology Entrepreneurship Parks, which have enhanced the research and development infrastructure in women-only institutes to encourage women entrepreneurs and researchers (DST 2014), should serve as an example of how educational

institutions and the government may work together to encourage women to achieve their career and family goals. Nohria (2013) suggests that universities, like Harvard Business School, can do more to encourage women to succeed in business-related endeavours, and we contend that Indian universities should be challenged to undertake similar programs, perhaps in partnerships with organizations. We believe that corporations and universities can learn from the DST and develop similar programs, including part-time employment and professional development opportunities, to allow women to enter or re-enter the workforce, while balancing family and work conflicts.

Gunkel et al. (2013) found that PDI, IDV, and LTO all negatively influenced career planning, while MAS increases career planning by fostering career adaptability and optimism. Our study demonstrated that, of these variables, Indian men and women differ only on LTO. Napasri et al. (2015) found that women must set career goals and strategies to overcome discriminatory social, organizational, and governmental effects – thus taking a long-term view of the future – and our results support those contentions. Thus, the IT manager may need to define and communicate a clearly identified advancement path, in the hopes of mitigating the negative effects of cultural variables, which may be more pronounced in Indian women. Gunkel et al. (2013) recommends starting these types of career management opportunities as early as possible for maximum benefit. As others have reported, these initiatives provide benefits to Indian men and women; however, our study demonstrates that Indian women, in particular, may need these types of initiatives if they are to persist in the workforce.

The cultural differences should not be seen as a hindrance to launching organizations in India. Indeed, India's low scores on IDV and high scores on UAI benefit the organization if it allows for referrals for new hires (Rao 2013). Employees support and favour the collectivist practices of hiring people that they know (part of their group), thus minimizing the uncertainty

when adding new members to the team, and we encourage organizations to embrace this strategy. Our results indicate that Indian men and women are similar on IDV but differ on UAI, with women having higher levels of UAI than men. Thus, they should be even more receptive than their male colleagues to avoiding uncertainty by hiring others from their in-group.

It is evident that, from an early age, Indian women lack access to the technology tools available to their male counterparts. Our study showed that Indian men and women had high scores on LTO, with women scoring higher than their male counterparts. Those workers with a long-term orientation typically succeed with supportive training and development initiatives that may lead to future opportunities (Rao 2013). Rao (2013) continues by recommending internal trainers, since employees with high scores on PDI (like Indian men and women) prefer to receive instruction from someone they trust and respect. These professional development opportunities and training may allow Indians to reach their full potential and contribute to organizational success. Further, group/team opportunities for technology training may allow women to develop a network of peers throughout the organization, encourage them to become engaged in the company, and help them achieve their potential.

Some Indian women have turned to entrepreneurial opportunities to find a family-friendly workplace (Mitra 2002), although Imran et al. (2011) proposed that higher power distance between men and women may actually discourage innovation and entrepreneurial intentions. However, our study found no differences in PDI between Indian men and women, thus indicating a higher potential for innovation. These innovative activities should be encouraged through professional development and mentoring opportunities, so that the company may benefit from the ideas of its employees. When possible, mentors to innovative and entrepreneurial women improve self-confidence levels and strategic thinking ability (Rao 2014).

Further, IT outsourcers should not overlook opportunities to engage with women-led entrepreneurial organizations to complete IT projects. Through policies that allow Indian men and women to balance home and family life commitments, along with professional development opportunities, establishment of networks and teams, and communication of a clear career path, organizations may increase the chances of successful IT outsourcing projects in India.

Implications for Research

Our sample was fairly large (107 usable respondents), but we only had 22 women respondents. While that percentage is in line with industry averages for women participating in the IT field and meets the minimum suggested by Hofstede, future research should conduct studies with more women respondents. Perhaps focusing on BPO, where women comprise a higher percentage of the workforce, would yield a larger number of women respondents. In addition, our study had a high number (almost 15%) of outliers. Perhaps these outliers present unique attitudes of women who are in the Indian IT workforce, or perhaps they were outside the norm and should have been excluded. Keeping the outliers in the analysis, we found significant differences between Indian men and women for all variables, but only at the 90% level. We likely need a larger sample size, including more women respondents, to accurately measure the differences, and we encourage future researchers to collect this data and extend our exploratory research. In addition, after removing outliers, we only had 19 women respondents, which is below the 20 that Hofstede (2008b) recommends, so our results should be interpreted with caution.

Recent research has called for studies of culture at the IT occupational level (Jacks and Palvia 2014), and future researchers should consider adding this variable to better predict success in IT outsourcing endeavours. Finally, with the growing number of young people entering

India's workforce, researchers should investigate gender and generational diversity in India and its potential impact on the workforce (Rai 2013).

Future research should analyse the collective influence of social, political, governmental, and cultural values on Indian women and men in the organization. While many of our recommendations are organizational specific, we recognize that there are substantial other issues which must be addressed prior to Indian women achieving equal opportunities in the workplace. While cultural expectations play an important role in determining successful outsourcing endeavours to India, other factors must be considered as well, and IT outsourcers should not overlook these additional variables. In fact, Mensa and Grow (2015) noted that, even in a collectivist society, the benefits (camaraderie, bonding, and ample time to work) were often only available to men. In effect, gender trumped culture, with women losing the benefits of the group collective. In another study, men were less likely and women were more likely to be passive – regardless of their culture (Richards and Busch 2013); in effect, gender trumped culture again. By contrast however, Richards and Busch (2013) found that assertiveness was influenced by culture but not gender, while our work suggests that at the 95% level, culture trumps gender for all variables. Clearly, more work needs to be done. While our study provides an exploratory look at the interplay of culture and gender in India, future research should examine the complex relationship between culture, gender, social, organizational, regional, and governmental variables that influence success.

Limitations

Any self-report study runs the risk of method bias, and our study is no different. We selected a previously validated instrument (VSM) and pilot tested the complete survey with experts of Indian descent prior to releasing it. Further, we analysed the data at the country levels.

We then analysed the responses from VSM and made interpretations based on gendered views of both surveys, thus minimizing the effect of method bias. Future studies should consider adding the sixth variable, Indulgence, as proposed by Hofstede et al. (2010). Further, over half of our respondents had a graduate degree or higher; future studies should seek to gather cultural perceptions from a wider range of respondents, from entry level, young Indian men and women to those later in their career path.

While we made interpretations of the differences between men and women in our study, we must remember that it may not be valid to assume that all Indian women/men in IT are the same. Studies of variables in isolation – without context of caste, region, etc. – should be interpreted with caution. Future studies with larger samples and with additional demographic information, including region, type of technology firm (BPO, software, etc.), and other variables may provide additional insights and modifications to the model proposed. Open-ended responses may also yield insightful data to help develop management strategies for success.

Further, we encourage future researchers to analyse statistical significance when evaluating differences in cultural variables, rather than the raw scaled values. Although our data suggested differences based on face comparisons, these differences did not turn out to be statistically significant. The non-normal distribution of most culture variables, combined with our dataset characteristic of a large number of outliers, impacts the analysis, and future researchers should consider these qualities when making recommendations.

CONCLUSION

IT outsourcing continues to be a popular cost-saving alternative. While India is a leader in IT outsourcing, other countries are constantly jockeying to become the new low-cost, high-quality leader. IT managers cannot assume that simply transferring the home country's

management style to the outsourcing country will yield similarly positive results. Rather, it is imperative to understand the cultural perceptions of men and women in the country where the project is outsourced prior to establishing management policies. The IT manager must become culturally attuned and sensitive to how work is accomplished around the world. Understanding underlying national culture issues, along with differences between men and women, is critical to continuing to deliver high-quality, low-cost outsourced IT projects. Further, assuming that men and women are different may not be valid. As our data indicated, Indian men and women were more alike than different in their culture; in effect, culture trumped gender when we attempted to understand the Indian IT worker.

References

Adhikari, H. 2013, "Appropriately Indian: Gender and culture in a new transnational class", *Journal of International Women's Studies*, vol. 14, no. 3, pp. 335-336.

Aziz, M. 2004, "Role stress among women in the Indian information technology sector", *Women in Management Review*, vol. 19, no. 7, pp. 356-363.

Bagchi, K., Hart, P., and Peterson, M. F. 2004, "National culture and information technology product adoption", *Journal of Global Information Technology Management*, vol. 7, no. 4, pp. 29-46.

Baral, R. and Bhargava, S. 2011, "Predictors of work-family enrichment: moderating effect of core self-evaluations", *Journal of Indian Business Research*, vol. 3, no. 4, pp. 220-243.

Barua, A. and Barua, A. 2012, "Gendering the digital body: women and computers", *AI & Society*, vol. 27, no. 4, pp. 465-477.

Bhattacharyya, A., and Ghosh, BN. 2012, "Women in Indian information technology (IT) sector: a sociological analysis", *Journal of Humanities and Social Sciences*, vol. 3, no. 6, pp. 45-52.

Boyar, S.L., Valk, R., Maertz, C.P. Jr., and Sinha, R. 2012, "Linking turnover reasons to family profiles for IT/BPO employees in India", *Journal of Indian Business Research*, vol. 4, no. 1, pp. 6-23. doi:http://dx.doi.org/10.1108/17554191211206771

Burchell S., Club C., Hopwood, A.G., Hughes, J., and Nahapiet J. 1980, "The role of accounting in organizations and societies," *Accounting, Organizations and Societies,* vol. 5, no. 1, pp. 5-27.

Gender and Culture of Indian IT Workers

Chen, Y. N., Chen, H. M., Huang, W., and Ching, R. K. H. 2006, "E-government strategies in developed and developing countries: an implementation framework and case study", *Journal of Global Information Management*, vol. 14, no. 1, pp. 23-46.

Damodaran, V. 2013, "Gender, race, and science in twentieth-century India", *History of Science*, vol. 51, no. 172, pp. 283-303.

Department of Science and Technology (DST) 2014, "A way forward for gender mainstreaming of women in science and technology sector," available at: http://www.indousstf.org/pdf/Department-of-Science-Technology.pdf (accessed 3 November 2014).

Desai, M., Majumdar, B., Chakraborty, T. and Ghosh, K. 2011, "The second shift: working women in India", *Gender in Management*, vol. 26, no. 6, pp. 432-450.

Dube, D., Dube, I., Gawali, B.R. and Haldar, S. 2012, "Women in BPO sector in India: a study of individual aspirations and environmental challenges", *Asian Social Science*, vol. 8, no. 7, pp. 157-183.

Ganguly, D. 2007, "To India, Inc., it's seduction by certification", 12 January, *The Economic Times*, available at: http://articles.economictimes.indiatimes.com/2007-01-12/news/28479939_1_certification-capability-maturity-model-bill-curtis (accessed 21 October 2013).

Godara, V. 2007, "E-Business applications and information technologies: providing new opportunities for women", *The Business Review*, Cambridge, vol. 8, no. 1, pp. 154-161.

Gooderham, Paul N., & Norhaug, Odd. 2002, "The Decline of Cultural Differences in Europe", *Electronic Business Forum*, iss. 8, pp. 48-50.

Gopinathan, A. 2009, "Bridging the gender gap in Indian science", *Nature*, vol. 460, no. 7259, p. 1082.

Grenness, T. 2012, "Hofstede revisited: is making the ecological fallacy when using Hofstede's instrument on individual behavior really unavoidable?", *International Journal of Business and Management*, vol. 7, no. 7, pp. 75-84.

Gunkel, M., Schlägel, C., Langella, I. M., Peluchette, J. V., and Reshetnyak, E. 2013. "The influence of national culture on business students' career attitudes — an analysis of eight countries". *Zeitschrift für Personalforschung / German Journal of Research in Human Resource Management*, vol. 1, p. 47.

Gunkel, M., Schlägel, C., and Engle, R. L. 2014. "Culture's influence on emotional intelligence: an empirical study of nine countries", *Journal of International Management*, vol. 20, pp. 256-274. doi:10.1016/j.intman.2013.10.002

Gupta, V. 2008, "An inquiry into the characteristics of entrepreneurship in India ", *Journal of International Business Research*, vol. 7, pp. 53-69.

Gurung, A., and Prater, E. 2006. "A research framework for the impact of cultural differences on IT outsourcing", *Journal of Global Information Technology Management*, vol. 9, no. 1, pp. 24-43.

Haq, R. 2013, "Intersectionality of gender and other forms of identity", *Gender in Management*, vol. 28, no. 3, pp. 171-184.

Heales, J., Cockcroft, S., and Raduescu, C. 2004, "The influence of national culture on the level and outcome of IS development decisions", *Journal of Global Information Technology Management*, vol. 7, no. 4, pp. 3-28.

Gender and Culture of Indian IT Workers

The Hindu Business Line 2007, "Wanted, women directors", Interview, Chennai, India, 29

    October, available at: http://willforum.blogspot.com/2013/07/the-hindu-business-line-

    interview.html (accessed 11 October 2011).

The Hindu Business Line 2008, "News: India working women more ready, skills-wise",

    Chennai, India, 9 March, available at:

    http://www.thehindubusinessline.in/bline/2008/03/09/stories/2008030951200500.htm

    (accessed 9 October 2011).

Hofstede, G. 1993, "Cultural constraints in management theories," *Academy of Management*

    Executive, vol. 7, no. 1, pp. 81-93.

Hofstede G. 1998, "Identifying organizational subcultures: an empirical approach", *Journal of*

    Management Studies, vol. 35, no. 1, pp. 1-12.

Hofstede, G., and Hofstede, G. J. 2005, *Cultures and organizations: Software of the mind*. New

    York: McGraw-Hill.

Hofstede, G., Hofstede, G. J., Minkov, M., and Vinken, H. 2008a, "Announcing a new version of

    the Values Survey Module: the VSM 08", available at:

    http://stuwww.uvt.nl/~csmeets/VSM08.html (accessed 1 October 2012).

Hofstede, G., Hofstede, G. J., Minkov, M., and Vinken, H. 2008b, "Values Survey Module 2008

    Manual", available at: http://stuwww.uvt.nl/%7Ecsmeets/ManualVSM08.doc (accessed

    1 October 2012).

Hofstede, G., Hofstede, G. J., and Minkov, M. 2010, *Cultures and organizations: Software of the*

    mind, New York: McGraw-Hill.

Gender and Culture of Indian IT Workers

Hofstede, G. 2011, "Dimensionalizing cultures: the Hofstede model in context", *Online Readings in Psychology and Culture,* vol. 2, no. 1. doi: http://dx.doi.org/10.9707/2307-0919.1014.

Inderfurth, K.F. and Khambadda, P. 2012, "India's economy: the other half", *US-India Insights,* vol. 2, no. 2, pp. 1-3, February, Center for Strategic & International Studies, available at: http://csis.org/publication/indias-economy-other-half (accessed 12 March 2013).

Imran, Ali, Yilmaz, Ayse Kucuk, and Ahmed, Sarfraz 2011. "Effects of national culture on development of entrepreneurial intentions", *Elixir Management Arts*, vol. 39, pp. 4622-4626.

India GDP 2013, "Trading economics", available at: http://www.tradingeconomics.com/india/gdp (accessed 19 November 2013).

Jacks, T., and Palvia, P. 2014, "Measuring value dimensions of IT occupational culture: an exploratory analysis", *Information Technology and Management*, vol. 15, no. 1, pp. 19-35. doi: http://dx.doi.org/10.1007/s10799-013-0170-0.

Johnson V. 2010, "Women and the internet: a micro study in Chennai, India", *Indian Journal of Gender Studies*, vol. 17, pp. 151–163.

Jowell, T. 2012, "Children on a journey to a better future", *The Telegraph*, London, UK, available at: http://www.telegraph.co.uk/news/worldnews/asia/india/9764198/Children-on-a-journey-to-a-better-future.html (accessed 13 October 2013).

Kaur, R. 2013, "Low female literacy rate and its impact on our society", *MapsofIndia.com*, 13 June, available at: http://www.mapsofindia.com/my-india/society/low-female-literacy-rate-and-its-impact-on-our-society-2 (accessed 2 October 2013).

Gender and Culture of Indian IT Workers

Kelkar, G. and Nathan, D. 2002, "Gender relations and technological change in Asia", *Current Sociology*, vol. 50, no. 3, pp. 427- 441.

Khosla, Rekha 2014. "An inclusive workplace: A case study of Infosys", *Proceedings of the 4th National Conference on Human Resource Management (NCHRM)*. Vol. 3.

Kim, Y-C., Jung, J-Y., and Ball-Rokeach, S. 2007, "Ethnicity, place, and communication technology: effects of ethnicity on multi-dimensional internet connectedness", *Information Technology & People,* vol. 20, no. 3, pp. 282-303.

Kroeker, K. 2011, "Gayatri Buragohain on women and technology in India", *Communications of the ACM* (ACM Opinion), 20 January, available at: http://cacm.acm.org/opinion/articles/104130-gayatri-buragohain-on-women-and-technology-in-india/fulltext (accessed 9 January 2014).

Leidner, D. and Kayworth, T. 2006, "A review of culture in information systems research: towards a theory of information technology culture conflict", *MIS Quarterly,* vol. 30, no. 2, pp. 357-399.

Lindawati, A. S. L., and Smark, Ciorstan 2015. "Barriers to women's participation in the accounting profession in Java, Indonesia", *AABFJ*, Vol. 9, No. 1, pp. 89-101.

Martisons M., Davidson, R., and Martisons, V. 2009, "How culture influences IT-enabled organizational change and information systems," *Communications of the ACM*, vol. 52, no. 4, pp. 118-122.

Mensa Torras, M. and Grow, J.M. 2015. "Creative women in Peru: outliers in a machismo world", *Communication & Society*, vol. 28, no. 2, pp. 1-18.

Mitra, R. 2002, "The growth pattern of women-run enterprises: an empirical study in India", *Journal of Developmental Entrepreneurship*, vol. 7, no. 2, pp. 217-237.

Gender and Culture of Indian IT Workers

Nakul, A. 2014 "Women tech honchos to lead 5 NIT Boards," *Times of India*, available at :

http://timesofindia.indiatimes.com/home/education/news/Women-tech-honchos-to-head-

5-NIT-boards/articleshow/45017332.cms (accessed 3 November 2014).

Napasri, Tanaval, and Yukongdi, Vimolwan. 2015. "A study of Thai female executives:

perceived barriers to career advancement", *Review of Integrative Business & Economics*,

vol. 4, no. 3, pp. 108-120.

NASSCOM 2013, "Indian IT-BPO industry, key highlights during FY 2012", available at:

http://www.nasscom.in/indian-itbpo-industry#sthash.dh1yL49D.dpuf (accessed 12

September 2013).

Natarajan, K., 2013, "Brand India: the shining star in the world of business", *SiliconIndia*,

available at:

http://www.siliconindia.com/guestcontributor/guestarticle/248/Brand_India_The_shining

_star_in__the_world_of_business_Krishnakumar_Natarajan.html (accessed 20

November 2013).

Nath, D. 2000, "Gently shattering the glass ceiling: experiences of Indian women managers",

Women in Management Review, vol. 15, no. 1, pp. 44-52.

Nohria, N. 2013, "Time to tackle workplace gender bias", *The Financial Times (ft.com)*, 17

November, available at: http://www.ft.com/cms/s/2/c8d171da-418e-11e3-9073-

00144feabdc0.html?goback=.gde_5153945_member_5808277550224404483#axzz2l1d8

Yj00 (accessed 21 November 2013).

Patel, R., and Parmentier, M. J. C. 2005, "The persistence of traditional gender roles in the

information technology sector: a study of female engineers in India", *Information

Technologies and International Development*, vol. 2, no. 3, pp. 29-46.

Gender and Culture of Indian IT Workers

Pettigrew A.M. 1990, "Organizational climate and culture: two constructs in search of a role,"
Organizational Culture and Climate, B. Scheinder, San Francisco.

Radhakrishnan, S. 2009, "Professional women, good families: respectable feminity and the
cultural politics of a 'new' India," *Qualitative Sociology*, vol. 32, pp. 195-212.

Rai, S. 2013, "Re-thinking workforce diversity in the context of India", *Journal of Strategic
Human Resource Management,* vol. 2, no. 2, pp. 1-10.

Rao, M. T. 2004, "Key issues for global IT sourcing: country and individual factors",
Information Systems Management, vol. 21, no. 3, pp. 16-21.

Rao, P. 2013, "The role of national culture on 'best' practices in India: a multiple case study
approach", *Journal of Indian Business Research*, vol. 5, no. 2, pp. 122-143. doi:
http://dx.doi.org/10.1108/17554191311320782.

Rao, Srinivasa 2014. "Nurturing entrepreneurial women: insights from a developing country",
Journal of Entrepreneurship in Emerging Economies, Vol. 6, No. 3, pp. 268-297.

Rajesh, S. 2013, "Board, game for diversity?", *The Hindu Business Line*, Chennai, India,
available at: http://www.thehindubusinessline.com/features/weekend-life/board-game-
for-diversity/article4627429.ece (accessed 26 June 2013).

Ramadoss, K. 2012, "Job demand, family supportive organizational culture and positive spillover
from work-to-family among employees in the information technology enabled services
in India", *International Journal of Business and Social Science*, vol. 3, no. 22, pp. 33-41.

Ramaswami, Aarti, and Dreher, George F. 2010. "Dynamics of mentoring relationships in India:
a qualitative exploratory study", *Human Resource Management*, vol. 49, no. 3. Pp. 501-
530.

Gender and Culture of Indian IT Workers

Ramaswami, Aarti, Huang, Jia-Chi, & Dreher, George 2014s. "Interaction of gender, mentoring, and power distance on career attainment: a cross-cultural comparison", *Human Relations*, vol. 67, no. 2, pp. 153-173.

Ramaswami, Aarti, Huang, Jia-Chi, and Dreher, George F. 2014b. "Mentoring across cultures: the role of gender and marital status in Taiwan and the U.S.", *Journal of Business Research*, vol. 67, pp. 2542-2549.

Rao, Pramila 2013. "The role of national culture on 'best' practices in India: multiple case study approach", *Journal of Indian Business Research*, vol. 5, no. 2, pp. 122-143.

Richards, Deborah, and Busch, Peter 2013. "Knowing-doing gaps in ICT: gender and culture", *VINE: The journal of information and knowledge management systems*, vol. 43, no. 3, pp. 264-295.

Sachman S.A. 1992, "Cultures and sub-cultures: an analysis of organizational knowledge," *Administrative Science Quarterly,* vol. 37, no. 1, pp. 140-161.

Sahoo, A. 2006, "Issues of identity in the Indian diaspora: a transnational perspective", *Perspectives on Global Development and Technology*, vol. 5, no. 1-2, pp. 81-98.

Saran, A., Guo, C., and Kulviwat, S. 2007, "Marketing strategy in transition economies: the case for India", *International Journal of Business Research,* vol. 7, no. 2, pp. 85-93.

Singh, N. 2013, "Getting even at work: number of women employees up in many sectors", *The Times of India*, 20 October, available at: http://articles.timesofindia.indiatimes.com/2013-10-20/india/43219861_1_women-employees-indian-working-women-more-women. (Accessed 19 November 2013).

Society of Human Resource Management (SHRM) 2009, " Perspectives on women in management in India", available at:

http://www.shrm.org/research/articles/articles/documents/09-0677_india_women_ldrshp_fnl.pdf (accessed 3 November 2014).

Srinivasan, V., Murty, L. S., and Nakra, M. 2013, "Career persistence of women software professionals in India", *Gender in Management,* vol. 28, no. 4, pp. 210-227. doi: http://dx.doi.org/10.1108/GM-01-2013-0011.

Waldrop, A. 2012, "Grandmother, mother and daughter: changing agency of Indian, middle-class women, 1908-2008", *Modern Asian Studies*, vol. 46, no. 3, pp. 601-638.

World Economic Forum 2013, "The global gender gap report 2013", available at: http://www3.weforum.org/docs/WEF_GenderGap_Report_2013.pdf (accessed 19 November 2013).

Gender and Culture of Indian IT Workers

Appendix A

Please think of an ideal job, disregarding your present job, if you have one. In choosing an ideal job, how important would it be to you to...

<u>Rating Scale</u>

1 = of utmost importance

2 = very important

3 = of moderate importance

4 = of little importance

5 = of very little or no importance

1. have sufficient time for your personal or home life
2. have a boss (direct superior) you can respect
3. get recognition for good performance
4. have security of employment
5. have pleasant people to work with
6. do work that is interesting
7. be consulted by your boss in decisions involving your work
8. live in a desirable area
9. have a job respected by your family and friends
10. have chances for promotion

In your private life, how important is each of the following to you:

11. keeping time free for fun
12. moderation: having few desires
13. being generous to other people
14. modesty: looking small, not big
15. If there is something expensive you really want to buy but you do not have enough money, what do you do?
    1. always save before buying
    2. usually save first
    3. sometimes save, sometimes borrow to buy
    4. usually borrow and pay off later
    5. always buy now, pay off later

16. How often do you feel nervous or tense?
    1. always
    2. usually
    3. sometimes
    4. seldom
    5. never

17. Are you a happy person?

1. always
2. usually
3. sometimes
4. seldom
5. never

18. Are you the same person at work (or at school if you're a student) and at home?
    1. quite the same
    2. mostly the same
    3. don't know
    4. mostly different
    5. quite different

19. Do other people or circumstances ever prevent you from doing what you really want to?
    1. yes, always
    2. yes, usually
    3. sometimes
    4. no, seldom
    5. no, never

20. All in all, how would you describe your state of health these days?
    1. very good
    2. good
    3. fair
    4. poor
    5. very poor

21. How important is religion in your life?
    1. of utmost importance
    2. very important
    3. of moderate importance
    4. of little importance
    5. of no importance

22. How proud are you to be a citizen of your country?
    1. not proud at all
    2. not very proud
    3. somewhat proud
    4. fairly proud
    5. very proud

23. How often, in your experience, are subordinates afraid to contradict their boss (or students their teacher?
    1. never
    2. seldom
    3. sometimes
    4. usually
    5. always

24. To what extent do you agree or disagree with each of the following statements?
    1. strongly agree
    2. agree
    3. undecided
    4. disagree

     5. strongly disagree

25. One can be a good manager without having a precise answer to every question that a subordinate may raise about his or her work
     1. strongly agree
     2. agree
     3. undecided
     4. disagree
     5. strongly disagree

26. Persistent efforts are the surest way to results.
     1. strongly agree
     2. agree
     3. undecided
     4. disagree
     5. strongly disagree

27. An organization structure in which certain subordinates have two bosses should be avoided at all cost.
     1. strongly agree
     2. agree
     3. undecided
     4. disagree
     5. strongly disagree

28. A company's or organization's rules should not be broken – not even when the employee thinks breaking the rule would be in the organization's best interests.
     1. strongly agree
     2. agree
     3. undecided
     4. disagree
     5. strongly disagree

29. We should honour our heroes from the past.
     1. strongly agree
     2. agree
     3. undecided
     4. disagree
     5. strongly disagree