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Human Capital is Not Enough: How Offshore BPO Professionals Use Social Support to Deal with Strenuous Work Conditions

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ABSTRACT: The past decade has witnessed explosive growth in the segment of information technology (IT) professionals who work in the offshore business process outsourcing (BPO) industry. BPO positions are highly regimented and standardized with coercive and normative controls to deter employees from deviating from prescribed work procedures and exercising independent judgment. Coping with these challenges requires a different set of skills than human capital and technical competencies that are discussed in most prior information systems (IS) research. This paper develops theory on the role of social support in employee compensation, and tests the theory using a unique data set of 8,000+ Indian BPO professionals during the 2006–2011 time period. Co-worker social support has a larger impact at higher levels of time stress and supervisor stress, while supervisor social support plays a larger role for senior-level positions than for junior-level positions. We discuss implications of our theory and findings for research and practice.

KEY WORDS AND PHRASES: BPO, compensation, co-worker, employee, human capital, IT, offshore, outsourcing, professional, social, support, wages.

Introduction

The past decade has witnessed explosive growth in the segment of information technology (IT) professionals who work in the offshore business process outsourcing (BPO) industry (Whitaker, Mithas and Krishnan, 2011). This growth occurred as multi-national corporations reevaluated and reconfigured their vendor and geographic platforms, and are increasingly using offshore BPO to manage primary and support functions and achieve their strategic objectives (Mani and Barua, 2015). While information systems (IS) research has

provided insights on compensation and career considerations for IT professionals (Joseph, Boh, Ang and Slaughter, 2012), it explicitly recognizes the need to study IT professionals in their work context. For example, turnover intention may be very different for a segment of IT professionals such as 'Road Warriors' compared with home office IT professionals, due to unique demands for 'Road Warriors' to work at distant client sites and spend most of their time with client personnel (Ahuja, Chudoba, Kacmar, McKnight and George, 2007). Other segments of IT professionals identified in recent research include dispersed virtual teams (Magni, Ahuja and Maruping, 2018, Nordbäck and Espinosa, 2019), globally-distributed software developers (Sarker, Ahuja and Sarker, 2018), and offshore IT professionals (Whitaker, Mithas and Liu, 2019).

There are unique elements of BPO work that warrant a study of compensation and career considerations for this segment of IT professionals. BPO jobs are demanding and taxing, with environments that expose BPO workers to elevated levels of stress (Kuruvilla and Ranganathan, 2010). Key sources of stress for BPO professionals include atypical work schedules that require long and irregular hours such as overnight shifts to cater to an international clientele, limited vacation time, specific log-in times, and even timed bathroom breaks (Budhwar, Luthar and Bhatnagar, 2006). Another stressor is the demanding performance metrics imposed on BPO professionals. BPO call center workers can respond to as many as 100 telephone calls in one shift, and are required to abide by prescribed scripts in each call (Vaid, 2009). BPO professionals are given strict deadlines and targets, and are subject to multiple quality control mechanisms such as constant monitoring and remote call listening by supervisors (Budhwar, Luthar and Bhatnagar, 2006).

Coping with these challenges requires a different set of skills than human capital and technical competencies, which do not prepare professionals to deal with these work conditions. While prior information systems (IS) research has argued that 'practical intelligence' and 'social skills' are important to the performance of technical employees (Langer, Slaughter and Mukhopadhyay, 2014, Robert, Dennis and Ahuja, 2008), IS research has not yet studied the conditions under which these 'soft' skills help IT-enabled service workers succeed in a strenuous work environment, or demonstrated that such skills can yield financial benefits to those who possess them.

This paper develops theory on the roles of supervisor and co-worker social support in employee compensation, and tests the theory using a unique data set of 8,000+ Indian BPO professionals during the 2006–2011 time period. We expect the relationship of supervisor and co-worker social support with compensation to vary based on three contextual moderators that reflect defining characteristics of BPO work. The first two moderators are job stressors with strong application in a BPO environment – stressors related to time pressure and to supervisor issues (Dhar and Dhar, 2010, Raghavan, Sakaguchi and Mahaney, 2008). We investigate individuals' career stage as a third moderator, because higher-level managerial work differs from lower-level technical work, and the nature of work together with the type of stress is likely to differ between these stages (Joseph, Boh, Ang and Slaughter, 2012).

In our empirical analysis, we find that co-worker social support has a stronger impact on compensation at higher levels of time stress and supervisor stress, and that supervisor social support has a stronger impact on compensation for senior-level positions than for junior-level positions. Our empirical analysis controls for employee human capital characteristics such as experience and education and also controls for psychological energy, an individual factor that

prior organizational behavior (OB) research has discussed as a form of psychological capital and coping mechanism (Luthans, Avolio, Avey and Norman, 2007).

This paper makes three important contributions to IS research. First, we go beyond human capital that is the focus of most prior IS research on IT professionals (Mithas and Krishnan, 2008), and we extend the discussion to supervisor and co-worker social support as another important determinant of compensation for IT professionals. Second, we build on prior IS research that has studied the relationship of social support with intermediate outcomes such as knowledge sharing (Borges, 2013) and employee engagement (Lehner, Jung, Stieler-Lorenz, Nitzsche, Driller, Wasem and Pfaff, 2013), by studying the financial outcome of compensation and demonstrating that social support can bring financial benefits, not just enhanced attitudes and performance, for BPO workers. Third, by showing that the financial benefits of social support are not constant, but instead are contingent on the three moderators examined here, we provide a more contextualized account of social support than currently offered in IS research. The remainder of this paper is organized as follows. We review relevant literature from the OB and IS disciplines, and develop a theoretical framework and hypotheses for this paper. We describe our data and empirical model, present the results of empirical analysis, and discuss implications of our model and results.

Background and Theoretical Framework

Prior IS Research on IT Professionals

We begin with an overview of prior IS research on IT professionals, to summarize the current state of knowledge and identify some promising opportunities to create new knowledge. IS journals began to publish research on IT professionals over 25 years ago, with early papers focused on broad topics such as the career orientations of IT professionals and the implications

of those career orientations for career paths and career planning (Crepeau, Crook, Goslar and McMurtrey, 1992, Igbaria, Greenhaus and Parasuraman, 1991). Once the topic of IT professionals was established as a line of inquiry, IS research quickly progressed to study 'desirable' qualitative outcomes such as job satisfaction and career satisfaction based on the individual IT professional as the unit of analysis (Igbaria and Guimaraes, 1993, Jiang and Klein, 2000). Among other findings, this research found that these desirable qualitative outcomes such as career success and career advancement were more elusive for female IT professionals than for male IT professionals (Baroudi and Igbaria, 1995, Igbaria and Baroudi, 1995). IS research also studied 'undesirable' qualitative outcomes such as turnover intention, work exhaustion, stress and burnout (King and Sethi, 1997, Moore, 2000), reaching a general consensus that key drivers of undesirable outcomes are work overload and role ambiguity (Raghavan, Sakaguchi and Mahaney, 2008, Rutner, Hardgrave and McKnight, 2008). A mismatch of personality traits and cognitive style with IT job responsibilities can also result in increased strain and reduced career satisfaction for IT professionals (Chilton, Hardgrave and Armstrong, 2005, Lounsbury, Moffitt, Gibson, Drost and Stevens, 2007).

While this IS research generated many important insights for the IT profession, it is worthwhile to note that most outcome variables in these studies were attitudinal in nature, and that attitudes do not always correspond to actions. For example, while an IT professional may respond to a survey to state that they desire or intend to depart their job or company, actual turnover is based on numerous factors beyond the employee's attitude, such as the stage of the business cycle and market forces that influence the availability of desirable jobs in attractive companies and geographic locations (Longnecker and Scazzero, 2003, Sumner and Niederman, 2004). As far as we know, one of the few exceptions to the use of attitudinal outcome measures

in early IS research on IT professionals is (Josefek and Kauffman, 2003), which used actual job separation data for 650+ IT professionals in a large multi-division firm.

Moving beyond attitudinal measures, IS research began to study the quantitative measure of compensation for IT professionals. As an objective measure, compensation can reflect the market dynamics for a profession (e.g., overall salary level across occupations and geographies) and the individual dynamics of job performance (e.g., relative salary level for a given occupation within a firm) (Ang, Slaughter and Ng, 2002). Consistent with these dynamics, early IS research on compensation for IT professionals focused on institutional factors (Levina and Xin, 2007) and on human capital factors such as education and experience (discussed in more detail below) (Mithas and Krishnan, 2008). However, as we note in the Introduction above, while IS research has noted the importance of 'soft skills' and has studied the quantitative measure of compensation for IT professionals based on human capital and 'hard skills', we are not aware of IS research that studies how 'soft skills' build on 'hard skills' and translate into measurable compensation increases for IT professionals.

Human Capital and Social Support

We build on prior human capital research by considering the circumstances under which social support predicts compensation. Human capital theory contends that professionals with higher education and more work experience will be better compensated (Becker, 1975). With higher education, professionals acquire more knowledge, skills and competencies which they bring to their jobs (Ang, Slaughter and Ng, 2002). To the extent that these capabilities translate into higher productivity and career success, organizations will offer higher compensation in return (Mithas and Krishnan, 2008). In the context of BPO firms, the key source of competitive advantage is young graduates who are computer literate (Remesh, 2004). To attract employees

who have made the human capital investments to meet these criteria, labor economics dictate that firms will provide higher compensation to these employees who can make greater contributions to the firms' strategy.

Work experience is another element of human capital for which BPO firms will offer higher compensation. The BPO industry has been experiencing labor shortages in trained professionals (Kuruvilla and Ranganathan, 2010). As a result, BPO firms do not have the time or resources to invest in training new employees, and instead prefer professionals with previous BPO experience (Kim, Mithas, Whitaker and Roy, 2014). Professionals with such experience spend less time learning the job and are able to more quickly contribute to the firm's strategy, commanding a higher salary premium.

Beyond cognitive abilities and knowledge, professionals can possess other contextual resources that enhance their contribution to the firm and command a higher salary premium (Goleman, 2006). For example, employees with supervisors and co-workers who value their contributions and care about their well-being (Eisenberger, Stinglhamber, Vandenberghe, Sucharski and Rhoads, 2002) can tap these relationships to enhance their career success and in turn their compensation. The benefits of workplace social support have been documented (Baruch-Feldman, Brondolo, Ben-Dayan and Schwartz, 2002), and two arguments have been advanced to explain the positive link between social support and career success.

The first argument hinges on the role of social support in providing various resources, such as advice and encouragement, to help professionals cope with work stress and job demands (Cohen and Wills, 1985), such that professionals with more social support are better able to deal with stressful job demands and report higher performance outcomes. Social support has been found to be especially valuable in high stress situations, suggesting that social support would be

critical for BPO professionals given the stressful nature of their jobs. In particular, time-related stressors associated with BPO work have been consistently documented in prior studies (Aziz, 2013, Dhanesha, 2014), where BPO professionals are expected to work long hours and night shifts to cater to clients in the Western hemisphere, while having limited breaks and vacation time in order to meet the demanding performance metrics expected of them. Ensuing from these performance metrics is another major stressor – the close supervision associated with BPO work. To ensure that BPO professionals abide by prescribed scripts and pronunciation in each call (Vaid, 2009), meet assigned deadlines and call targets, and are able to handle difficult clients (Budhwar, Luthar and Bhatnagar, 2006), supervisors engage in constant monitoring and remote call listening, analyzing each call, comparing to the metrics, and providing feedback to the workers. Given these major job stressors, BPO professionals who have more social support at work would be better able to cope with these stressful job demands and perform their jobs well.

A second argument linking social support to career success draws from social exchange theory and the norm of reciprocity, which dictates that in an exchange relationship such as employment, receiving some form of benefit obligates the recipient to reciprocate in some way (Gouldner, 1960). This argument is most commonly used to explain the role of supervisor social support to predict work performance, and contends that professionals who have supportive supervisors will reciprocate the support by putting in extra effort and will in turn be more successful at achieving the firm's strategy, because supervisors act as agents for the firm.

Building from this discussion, Table 1 provides a summary of prior IS research on social support. One insight from Table 1 is that social support has attracted relatively little research in an IT setting, despite the importance of social support for employee welfare and job performance. And only some of the papers that study social support in an IT setting are

published in IS journals (Shih, Lie, Klein and Jiang, 2014), which would provide the best outlet to synthesize findings for IT professionals. Columns 1 and 2 of Table 1 indicate whether each paper includes co-worker support and/or supervisor support as separate dimensions of social support. We are aware of only two papers that includes both dimensions (Lehner, Jung, Stieler-Lorenz, Nitzsche, Driller, Wasem and Pfaff, 2013). Because supervisor support and co-worker support are related but distinct concepts, we believe that the greatest insights can be developed by studying both concepts together.

Column 3 of Table 1 indicates whether each paper includes quantitative (or empirical) analysis. Again demonstrating the paucity of research for this area in an IT setting, not all of the relatively few papers that have been published include empirical data. Column 4 indicates whether each paper tests for moderating effects of social support. The majority of studies examine the direct relationship between social support and outcomes, with only two studies adopting a more nuanced perspective of social support by examining how social support interacts with work stress to predict employee attitudes. Even though research in applied psychology and OB has demonstrated that the efficacy of social support in buffering against stress increases at higher levels of stress (Cohen and Wills, 1985), this buffering effect has yet to be systematically established in the BPO industry. Beyond the fact that research evidence is slim, this issue is also important because the BPO industry is notorious for the high levels of stress that workers face on a daily basis, and it is unclear whether the buffering effect of social support demonstrated in other industries is sufficient to counter the stressors experienced by BPO workers, or whether there is a threshold effect such that prior findings do not extend to the BPO industry.

Table 1. Prior IS Research on Supervisor and Co-worker Support for IT Professionals

Reference	Supervisor Support[2]	Co-worker support	Quantitative analysis	Moderating effects	Outcome variable	Summary
(Allen, Armstrong, Reid and Riemenschneider, 2008) Allen, Armstrong, Reid and Riemenschneider 2008	Yes	—	Yes	—	Organizational support	Organizational actions positively associated with organizational support
(Borges, 2013) Borges 2013	—	Yes	Yes	—	Knowledge sharing	Social network ties positively associated with knowledge sharing
(Dhar and Dhar, 2010) Dhar and Dhar 2010	—	Yes	—	—	Stress	IT workers socialize with others to cope with stress
(Dhar, 2012) Dhar 2012	Yes	—	—	—	Organizational support	Supervisor support contributes to organizational support
(Jiang and Klein, 2000) Jiang and Klein 2000	Yes	—	Yes	—	Career satisfaction, External career opportunities	Supervisor support positively associated with career satisfaction and external career opportunities
(Ferratt, Prasad and Enns, 2012) Ferratt, Prasad, and Enns 2012	—	Yes	Yes	—	Job search behavior	Co-worker social support used as control variable, *not significant* for outcome variable
(Lee, 2004) Lee 2004	Yes	Yes	Yes	—	Job satisfaction, leaving intention	Supervisor support and co-worker support positively associated with job satisfaction, supervisor support negatively associated with leaving intention
(Lehner, Jung, Stieler-Lorenz, Nitzsche, Driller, Wasem and Pfaff, 2013) Lehner, Jung, Stieler-Lorenz, Nitzsche, Driller, Wasem and Pfaff 2013	Yes	Yes	Yes	—	Work engagement (vigor, dedication, absorption)	Supervisor support positively associated with work engagement. Peer support associated with dedication only
(McKnight, Phillips and Hardgrave, 2009) McKnight, Phillips and Hardgrave 2009	Yes	—	Yes	—	Turnover intention	Trust in senior management negatively correlated with turnover intention
(Sawang, 2012) Sawang 2012	Yes	—	Yes	Yes	Work engagement	Supervisor support moderates relationship of job demands with work engagement
(Shih, Lie, Klein and Jiang, 2014) Shih, Lie, Klein and Jiang 2014	—	—	Yes	Yes	Emotional labor	Organizational support moderates relationship of customer aggression with emotional labor
This paper	Yes	Yes	Yes	Yes	Compensation	See results section

Notes: 1. This list is intended to be illustrative rather than exhaustive.
2. We mark this column 'Yes' for papers that label a related construct as 'supervisor support', 'organizational support' or 'top management support', as we do not want to omit relevant papers from this list.

Column 5 of Table 1 indicates the outcome variable of interest in each study. As shown in Column 5, we are not aware of any studies that look at the financial implications of social support in an IT setting. While managers and business school academics would want to understand the financial implications of social support in terms of firm costs and employee compensation[1], we would characterize the outcome variables in existing IT research as intermediate constructs such as knowledge sharing, work engagement, or emotional labor. These intermediate constructs may have financial implications, but the financial implications have not yet been studied in an IT setting. The last row of Table 1 illustrates the positioning and contributions of this paper with respect to prior research, and we build the contributions of this paper with hypotheses in the next sub-section.

Hypotheses

Time Stress and Supervisor Stress

As described earlier, BPO work is characterized by two major work stressors – those associated with time (including time pressure, overtime work, limited breaks and vacation, and working night shifts) and with tight supervision (including constant monitoring, surveillance, and feedback). Beyond the direct effect of social support on work attitudes demonstrated in prior IS research, we examine whether the effect of two different forms of social support at work – from one's co-workers and supervisor – varies based on the level of job stressors experienced.

The buffering hypothesis, originally advanced in the field of psychology, posits that "*stress will have deleterious effects on the health and well-being of those with little or no social*

[1] From a financial perspective, managers would also be interested in the revenue and productivity implications of social support. For example, if an IT or BPO employee is more productive and more highly-compensated because they receive adequate supervisor and co-worker support in the workplace, would it be possible to produce the same output with fewer employees? While this paper focuses on a different research question, and we do not have the data to study this additional research question in this paper, we note this as an area for future research.

support, while these effects will be lessened or eliminated for those with stronger support systems" (Cohen and McKay, 1984, p. 253). Equally important, the hypothesis contends that for non-stressed individuals, their outcomes will be "*relatively unaffected by their level of support*" (Cohen and McKay, 1984, p. 254), suggesting that the impact of social support will vary based on the amount of stress the individual experiences. This hypothesis differs from the main effect of social support on employee outcomes demonstrated in extant IS research, in that it incorporates the moderating role of stressors and contends that social support will interact with the level of stress to predict employee outcomes. Extending the buffering hypothesis to the context of BPO work and the time stress associated with such work, we expect that BPO professionals who experience high levels of time stress will benefit more from social support, whereas those who experience less time stress will derive less benefits from social support.

Co-workers can provide both instrumental and emotional resources (Fenlason and Beehr, 1994) that allow BPO professionals to better cope with time pressures. In terms of instrumental resources, co-workers can provide advice on dealing with time demands, such as how to address client issues more efficiently, and can also volunteer to take on some of the workload of their colleagues, which can be particularly useful when dealing with high levels of time stress. In terms of emotional support, prior research has demonstrated that co-workers can help one focus on positive aspects of the job and also provide expressions of empathy, which can enhance a BPO worker's resilience and positive mindset (Zellars and Perrewe, 2001). At the same time, supervisors can provide different forms of support that can be particularly useful when BPO professionals face high time demands. For instance, because supervisors more closely monitor and have more accurate knowledge of how a worker is carrying out work duties, they can offer instrumental feedback on how to better deal with client demands or how to

prioritize responsibilities so as to meet deadlines. Additionally, supervisors can provide encouragement and other forms of positive feedback to help BPO professionals cope with time stress. Together, these arguments suggest that both co-worker and supervisor social support can help BPO professionals cope with time stress, and that the compensation benefits of social support are stronger at higher levels of time stress.

H1a: Co-worker social support has a stronger positive impact on compensation at higher levels of time stress.

H1b: Supervisor social support has a stronger positive impact on compensation at higher levels of time stress.

Stress from a supervisor represents another major stressor in the BPO industry, and the buffering hypothesis leads us to predict that co-worker social support will again be instrumental in helping workers cope with this form of stress, such that the effect of co-worker social support on compensation will be stronger at higher levels of supervisor stress. Specifically, co-workers can offer tangible assistance or advice that allows a worker to meet his/her performance targets and alleviate the close monitoring by the supervisor. Additionally, because co-workers face similar pressures from the supervisor, they can commiserate with the worker about their joint situation, and together these forms of instrumental and emotional support are likely to be particularly beneficial when the worker faces high levels of supervisor stress.

However, in the context of supervisor social support and supervisor stress, prior evidence suggests that the buffering hypothesis will be less applicable and that instead a within-domain exacerbating effect is more likely (Hobman, Restubog, Bordia and Tang, 2009). Specifically, researchers have contended that for social support to be effective, the source of that support has to be different from the source of stressor (Blau, 1981). If the social support comes from the same source as the stressor, such support could do more harm than good, leading to even more

negative outcomes than if such support were absent. This within-domain exacerbating effect has been explained by cognitive dissonance theory (Beehr, Farmer, Glazer, Gudanowski and Nair, 2003). When the source of the stressor is the same as the source of social support, this could lead to the individual having conflicting or dissonant thoughts and feelings about the source, and could reduce the individual's sense of control and predictability toward the source, which in turn creates even more stress that negates the potential benefits of social support (Duffy, Ganster and Pagon, 2002). Another explanation is that receiving social support from a source of stress increases the salience and impact of the stress, in part because such support is contrary to one's expectation of the source, and also because the mere presence of the source reminds the individual of the stress (Hobman, Restubog, Bordia and Tang, 2009). Finally, it is likely that an individual will question the authenticity and motive of support offered by someone who simultaneously creates stress for him/her, thereby negating the benefits that such support can provide. Together, these reasons indicate that while the financial benefits of co-worker social support increase with higher levels of supervisor stress, the benefits of supervisor social support will decrease as supervisor stress increases.

H2a: Co-worker social support has a <u>stronger</u> positive impact on compensation at higher levels of supervisor stress.

H2b: Supervisor social support has a <u>weaker</u> positive impact on compensation at higher levels of supervisor stress.

Employee Career Stage

The nature of work, job demands and career needs vary across career stages for junior-level positions such as software developers versus more senior-level positions such as project managers (Venkatesh, Rai and Maruping, 2018). Social support represents an important resource that BPO professionals can deploy to meet the specific demands of their respective

career stages. Building on prior evidence that the link between social support and work outcomes is moderated by contextual factors (Ng and Sorensen, 2008), we investigate how this resource differs for junior-level versus senior-level positions. Junior-level positions such as customer service representatives and call center personnel face job conditions that are highly standardized, scripted and repetitive (Taylor and Bain, 2006), and the sources of stress they face derive primarily from doing monotonous work that involves demanding time pressures and performance metrics, and interfacing with customers who can be unreasonable (Shih, Lie, Klein and Jiang, 2014). Prior research examining call center employees in the U.S. and U.K. found that in such contexts, informal communities are essential to help these service workers cope with the emotional labor, over and above the formal organizational mechanisms and interventions that may exist (Korcynski, 2003). The importance of co-worker social support for junior-level professionals derives from the fact that fellow workers experience similar stressors and can provide emotional and instrumental support to aid coping. The fact that supervisors, because of their role to monitor and enforce performance metrics for subordinates, are a major source of subordinates' stress makes supervisors less likely to be sought out for social support and a less effective source of social support for junior-level professionals.

By contrast, senior-level positions involve supervisory and managerial functions that present a different set of work challenges. Compared to junior-level positions with highly standardized job scopes and responsibilities, senior-level positions face more dynamic, complex and ambiguous role requirements. Compared to junior-level positions where the emphasis is on co-worker acceptance and support to establish professional self-image, career needs at senior-level positions shift to achieving success and promotion (MacCrory, Choudhary and Pinsonneault, 2016). For a manager, getting support from their supervisor is especially critical,

because the supervisor is critical to clarify the manager's role requirements (Monnot and Beehr, 2014). To fulfill the career needs of senior-level positions for success, "*exposure to higher management is… desired as it relates to getting promoted*" (Cron, 1984, p. 44). Managerial support is also more critical for senior-level professionals' work-life balance compared with junior-level professionals (Darcy, McCarthy, Hill and Grady, 2012). These arguments suggest that co-worker social support plays a more critical role for junior-level professionals, and supervisor social support plays a more critical role for senior-level professionals.

H3a: Co-worker social support has a <u>weaker</u> positive impact on compensation at higher levels of career stage.

H3b: Supervisor social support has a <u>stronger</u> positive impact on compensation at higher levels of career stage.

As an additional analysis, we also explore the moderating effect of gender (Venkatesh, Windeler, Bartol and Williamson, 2017). Even though women make up half or more of the BPO workforce in India (Shastri, 2008), women face a different and larger set of challenges than men that make it more difficult for women to succeed at work (Joseph, Ang and Slaughter, 2015). Female BPO workers face additional stressors at work compared to their male counterparts (Dube, Dube, Gawali and Haldar, 2012, Pathak and Sarin, 2011), ranging from concerns for their physical safety (based on the requirement to work night shifts) to gender discrimination, where women in traditionally male-dominated fields such as engineering and IT still face implicit stereotypes and constraints in accessing equal opportunities at work. Gender is a key individual difference that moderates the link between IT workers' perceptions and behaviors (Ahuja and Thatcher, 2005), and women react more strongly and negatively than men to interpersonal stressors (Almeira and Kessler, 1998). Because the nature of BPO work involves emotional

labor and negative forms of interpersonal interactions, female workers are more likely to be adversely affected by these stressors.

A strength of our empirical analysis is that we test our hypotheses while controlling for all major alternative explanations for employee compensation. We control for human capital and productive competencies of professionals using multiple variables related to education and experience (Slaughter, Ang and Boh, 2007). Our use of variables for education and experience to represent human capital is consistent with over 75% of papers in a meta-analytic review of human capital research (Ng, Eby, Sorensen and Feldman, 2005). We go further than most prior research by including fine measures of education and experience to represent a broader range and gradation of skill levels (Crino, 2008). We control for an MBA degree as an indicator of managerial education, and a Bachelor in Engineering degree as an indicator of technical education. We control for multiple forms of experience-related human capital, including firm-specific BPO experience, general BPO experience, and other work experience. It is important to analyze various forms of experience-related human capital, because some forms of experience represent technical skills that are specific to a particular firm (firm-specific BPO experience), and other forms of experience represent technical skills that may be transferrable to other firms (general BPO experience) (Sturman, Walsh and Cheramie, 2008). We control for other non-BPO work experience that may not represent technical skills. We also control for hours per week in the current position, because overtime policies have a direct bearing on compensation.

To account for individual-level demographic variables that influence compensation for technical professionals, we control for age, marital status and gender. Consistent with prior research in labor economics, we control for squared terms of firms-specific BPO experience, general BPO experience, and other work experience (Krueger, 1993). We include a variable for

each year to control for general unemployment levels and other labor market demand factors (Granovetter, 1981). We control for the individual-level factor of psychological energy, because individuals vary in their character strengths and positive psychological states, and employees who can harness their psychological resources to overcome negative aspects of their work report greater job satisfaction and better work performance (Luthans, Avolio, Avey and Norman, 2007). One study conducted in an Indian BPO firm confirmed that BPO workers who had higher levels of hope (a form of positive psychological resource) performed better at their jobs, establishing the relevance of psychological resources to the BPO context (Combs, Clapp-Smith and Nadkarni, 2010).

In addition to individual-level factors, we control for the firm-level factor of national origin, because human resources (HR) research has consistently demonstrated that organizational policies, practices, values and norms vary according to the firms country of origin (Lau and Ngo, 1996). For example, systems and practices in foreign origin firms tend to be more fully developed compared with those in Indian origin firms. A study contrasting Indian and foreign multi-national corporations (MNCs) found that a higher proportion of employees in foreign MNCs was satisfied with their firm's HR practices, training environment and usefulness of training compared with employees in Indian MNCs (Ishrat, 2013). Foreign origin firms provide more and varied training programs and career development plans than Indian origin firms (Kuruvilla and Ranganathan, 2008), because foreign origin firms can draw from more diverse experience and global best practices to shape their management approaches and organizational policies. In contrast, HR policies in Indian origin firms have been consistently identified as a key problem area across all management levels and a significant reason for employee turnover (Mehta, Armenakis, Mehta and Irani, 2006).

Method

Our data on BPO professionals in India come from six national surveys conducted by a leading Indian market research firm from 2006–2011. The BPO professionals work for Indian firms such as TCS and Wipro, and multi-national firms with a presence in India such as IBM Daksh. The research firm worked to obtain an unbiased sample by promising confidentiality to respondents and by taking steps to ensure that management did not influence the selection of respondents or their responses. The surveys for 2006–2011 included a total of 8,280 BPO professionals with complete responses for the variables in our baseline model. We believe the respondent profile in these surveys is a reasonable representation of BPO professionals working for large firms in India. Because of the large number of participating firms and the large number of employees at those firms, along with the study design that randomly picks employees from participating firms, we expect a negligible amount of overlap in respondents across years.

The data include measures related to human capital (education and experience), social support, psychological energy, and compensation. To measure supervisor social support, we used five items to capture the resources supervisors provide as part of their managerial role, including advice, feedback, recognition and concern (Eisenberger, Stinglhamber, Vandenberghe, Sucharski and Rhoads, 2002, Morrison, 2002). To measure co-worker social support, we used two items that assessed a broader, more global form of co-worker support, because co-worker support can take on different forms that are often informal and discretionary in nature (Settoon and Mossholder, 2002). To measure psychological energy, we used four items to capture respondents' level of energy and excitement for various facets of their jobs, including growth opportunities, the work itself, and how work contributes to the firm. To measure time stress, we used four items to capture whether time-related stressors are chief reasons for respondents' stress

at work, and to measure supervisor stress we used three items to capture whether supervisor-related stressors are chief reasons for respondents' stress at work.

Table 2 provides a summary description of variables, and Table 3 provides factor loadings for the main variables. Factor loadings of the items measuring social support were above the 0.5 threshold conventionally accepted as meaningful (Hair, Anderson, Tatham and Black, 1998). The fact that the items loaded onto distinct factors also provides evidence of discriminant validity. Alpha coefficients for the scales measuring supervisor social support and co-worker social support were 0.945 and 0.859 respectively, indicating that the scales are reliable (Nunnally and Bernstein, 1994).

Table 2. Variable Descriptions

	Variable	**Description**
Dependent	Compensation	Log of bracketed variable for annual gross compensation in Rupees.
Social support	Supervisor social support	Extent to which a professional perceives support from their supervisors (five items in Table 3).
	Co-worker social support	Extent to which a professional perceives support from their co-workers (two items in Table 3).
	Psychological energy	Extent to which a professional perceives psychological capital (four items in Table 3).
Moderators	Time stress	Chief reasons for stress at work (long working hours, overtime, insufficient breaks, insufficient holidays).
	Supervisor stress	Chief reasons for stress at work (your immediate superior, constant monitoring by superiors).
Human capital	Firm experience	Months of BPO experience at current firm.
	Industry experience	Months of BPO experience at other firms.
	Total experience	Months of total work experience.
	MBA	Highest education is Master's degree in Business.
	Bachelor of Engineering	Highest education is Bachelor's degree in Engineering.
Control	Male	Gender (1=male, 0=female).
	Married	Marital status (1=married, 0=single).
	Age	Bracketed variable for respondent age.
	Hours per week	Hours worked per week in the office.
	Year	Dummy variables for years 2007, 2008, 2009, 2010 and 2011.

Table 3. Construct Items and Factor Loadings

Construct Item	Supervisor social support	Co-worker social support	Psychological energy
My manager genuinely cares about my professional and personal growth.	**0.8902**	–0.0497	0.0745
My manager encourages me to speak freely at meetings.	**0.8623**	0.0045	0.0241
My manager is always available when I need help or advice.	**0.8398**	0.0493	0.0090
My superiors give recognition immediately for outstanding work done.	**0.7216**	0.1295	0.0620
I get regular and constructive feedback from my manager / superiors.	**0.7260**	0.1643	0.0351
My colleagues help me when I need them.	0.0970	**0.7419**	–0.0065
My relationship with my peers makes for a better work environment.	0.1009	**0.7040**	0.0871
I am very excited about the work I handle here.	–0.0213	0.0281	**0.8569**
I am very excited by the process I am working on.	0.0874	–0.0092	**0.7654**
The work I do adds value to the company & contributes to its growth.	–0.0011	0.1682	**0.5958**
I have exciting growth opportunities at the company.	0.3188	–0.0488	**0.5735**

Table 4 provides descriptive statistics and Table 5 provides correlations. For our data, average annual compensation is Rupees 249,875 ($5,543 at an average exchange rate of US$ 1 = Rupees 45.08 in 2006–2011). Compensation includes take home pay plus other allowances, and does not include stock options and other non-monetary benefits. In our data, 19% of respondents earned a four-year Bachelor of Engineering degree, 17% earned an MBA degree, and the remaining 64% earned another degree such as a three-year Bachelor of Arts or Bachelor of Business degree. The average length of BPO experience at the current firm is 28 months, the average length of BPO experience in the BPO industry is 38 months, and the average length of total work experience is 54 months. The average age of BPO professionals is 26.5 years old, and 70% of BPO professionals in our data are male. Table 5 shows that compensation is positively correlated with BPO experience at the current firm (0.38), BPO experience at previous firms (0.54), and total experience (0.51). The consistency of these correlations with prior research on human capital in the compensation of IT professionals (Mithas and Krishnan, 2008) provides

Table 4. Descriptive Statistics

(n = 6,351)	Mean	Std Dev	Min	Max
Compensation (log)	5.303	0.305	4.778	6.000
Supervisor social support	–0.036	1.947	–7.182	1.986
Co-worker social support	–0.010	1.454	–7.751	1.272
Psychological energy	–0.023	1.611	–7.192	1.979
Time stress	0.212	0.248	0.000	1.000
Supervisor stress	0.076	0.208	0.000	1.000
India origin	0.728	0.445	0.000	1.000
Firm experience	30.271	24.359	0.000	190.000
Industry experience	40.277	28.695	0.000	190.000
Total experience	55.839	43.015	0.000	384.000
MBA	0.177	0.382	0.000	1.000
Bachelor of Engineering	0.171	0.376	0.000	1.000
Male	0.709	0.454	0.000	1.000
Married	0.298	0.457	0.000	1.000
Age	2.720	0.878	1.000	7.000
Hours per week	44.171	15.441	5.000	90.000

added confidence in our data. To analyze the moderating role of career stage, we separated the subgroup of junior-level positions from middle- and senior-level positions based on job titles.[2] The means of firm experience (23 months for junior-level positions and 42 months for middle- and senior-level positions), industry experience (29 and 60 months, respectively), and total experience (42 and 82 months, respectively) supports the classification of junior-level positions and middle- and senior-level positions. To analyze the moderating role of gender, we separated the subgroup of male BPO professionals from females. Following previous research in labor economics (Krueger, 1993, Mincer, 1974) and IS (Levina and Xin, 2007, Mithas and Lucas, 2010), we specify standard cross-sectional log-linear earnings models. Let W represent annual compensation of the respondent, X_1 a vector of education- and experience-related endowments

[2] Our analysis of the moderating role of career stage includes 4,968 BPO professionals in junior-level positions and 2,220 BPO professionals in middle- and senior-level positions. The 1,092 respondents who did not provide their position are not included in this analysis.

Table 5. Correlations

	(n = 6,351)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Compensation (log)	1.00														
2	Supervisor social support	–0.06	1.00													
3	Co-worker social support	–0.10	0.66	1.00												
4	Psychological energy	–0.01	0.69	0.59	1.00											
5	Time stress	–0.08	–0.27	–0.19	–0.27	1.00										
6	Supervisor stress	0.04	–0.36	–0.21	–0.24	0.17	1.00									
7	India origin	–0.09	0.07	0.05	0.05	0.03	–0.06	1.00								
8	Firm experience	0.39	–0.10	–0.09	–0.06	–0.04	0.02	–0.07	1.00							
9	Industry experience	0.54	–0.11	–0.13	–0.05	–0.05	0.04	–0.05	0.65	1.00						
10	Total experience	0.52	–0.10	–0.11	–0.03	–0.05	0.03	–0.06	0.53	0.66	1.00					
11	MBA	0.19	–0.07	–0.07	–0.05	–0.02	0.04	–0.05	0.04	0.09	0.07	1.00				
12	Bachelor of Engineering	–0.01	0.02	0.04	0.03	–0.00	–0.01	–0.01	–0.07	–0.12	–0.09	–0.18	1.00			
13	Male	0.08	0.03	0.04	0.06	–0.04	0.00	–0.02	0.03	0.07	0.10	–0.00	0.04	1.00		
14	Married	0.32	–0.06	–0.06	–0.02	–0.03	0.03	–0.06	0.29	0.38	0.49	0.07	–0.05	0.03	1.00	
15	Age	0.44	–0.10	–0.10	–0.05	–0.04	0.05	–0.08	0.43	0.50	0.75	0.09	–0.06	0.13	0.52	1.00
16	Hours per week	0.04	0.02	0.02	0.00	0.04	0.02	0.04	–0.04	–0.07	–0.06	0.01	0.01	–0.03	–0.02	–0.05

* Correlations greater than 0.02 significant at $p<0.05$.

for the respondent, X_2 a vector of demographic characteristics for the respondent, and Z a vector of observed characteristics for the firm, respectively.

$$ln\ W_i = \alpha\ X_{1\,i} + \beta\ X_{2\,i} + \gamma\ Z_i + \delta\ X_{1\,i}\ Z_i + \varepsilon_i, \qquad (1)$$

where α, β, γ, and δ are parameters to be estimated, and ε is the error term associated with observation i. We estimate Equation 1 by ordinary least squares. The average of variance inflation factors (VIF) in our model is 2.44, with a maximum VIF of 4.80, which suggests that multi-collinearity is not a serious concern in this study.

Results

Hypothesis 1a predicted that co-worker social support would have a stronger positive impact on compensation for BPO professionals at higher levels of time stress. Our empirical findings in column 2 of Table 6 support this hypothesis because the interaction term of co-worker social support and time stress is positive and statistically-significant (β= 0.019, p<0.05). While Hypothesis 1a is supported, Hypothesis 1b which predicted that supervisor social support would have a stronger positive impact on compensation at higher levels of time stress is not supported, as the interaction term of supervisor social support and time stress is negative (β= –0.002, p<0.01). We discuss potential reasons for this counter-finding in the next section.

Hypothesis 2a predicted that co-worker social support would have a stronger positive impact on compensation at higher levels of supervisor stress. This hypothesis is supported, as the interaction between co-worker support and supervisor stress is positive and statistically-significant (β= 0.019, p<0.05). Hypothesis 2b, which predicted that supervisor social support would have a weaker positive impact on compensation at higher levels of supervisor stress, is also supported, as the interaction term of supervisor social support and supervisor stress is negative (β= –0.022, p<0.01).

Table 6. OLS Results

Dependent variable is natural log of compensation

Independent variables	Main effects	Moderating effects		
	(1) Baseline model	(2) Time stress	(3) Supervisor stress	(4) Career stage
Co-worker social support	–0.013***	–0.019***	–0.016***	–0.007
	(0.003)	(0.004)	(0.003)	(0.005)
Co-worker social support × Moderator [2, 3, 4]		0.019**	0.019**	–0.000
		(0.009)	(0.009)	(0.000)
Supervisor social support	0.004	0.005	0.008***	–0.007
	(0.003)	(0.004)	(0.003)	(0.005)
Supervisor social support × Moderator [2, 3, 4]		–0.002***	–0.022***	0.000***
		(0.008)	(0.008)	(0.000)
Psychological energy	0.007**	0.013***	0.007**	0.002
	(0.003)	(0.004)	(0.003)	(0.005)
Psychological energy × Moderator [2, 3, 4]		–0.022**	–0.009	0.000
		(0.009)	(0.010)	(0.000)
Time stress	–0.053***	–0.059***	–0.051***	–0.057***
	(0.013)	(0.013)	(0.013)	(0.013)
Supervisor stress	0.020	0.021	–0.012	0.022
	(0.016)	(0.016)	(0.019)	(0.016)
India origin	–0.036***	–0.036***	–0.036***	–0.036***
	(0.007)	(0.007)	(0.007)	(0.007)
BPO experience	0.003***	0.003***	0.003***	0.003***
	(0.000)	(0.000)	(0.000)	(0.000)
Firm experience	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Total experience	0.002***	0.002***	0.002***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
Bachelor of Engineering	0.067***	0.068***	0.068***	0.067***
	(0.008)	(0.008)	(0.008)	(0.008)
MBA	0.119***	0.119***	0.118***	0.117***
	(0.009)	(0.009)	(0.009)	(0.009)
Male	0.018***	0.018***	0.018***	0.017***
	(0.007)	(0.007)	(0.007)	(0.007)
Married	0.015*	0.015*	0.014*	0.014*
	(0.008)	(0.008)	(0.008)	(0.008)
Age	0.027***	0.027***	0.027***	0.027***
	(0.006)	(0.006)	(0.006)	(0.006)
Hours per week	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	4.896***	4.877***	4.874***	4.880***
	(0.017)	(0.025)	(0.025)	(0.025)
F-statistic	202.51***	178.76***	178.50***	180.68***
R-squared	0.398	0.399	0.399	0.400
Observations	6,351	6,351	6,351	6,351

Models include dummy variables for years, and squared terms for firm, industry, and total experience
Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Hypothesis 3a predicted that co-worker social support would have a weaker positive impact on compensation at higher career stage, is not supported as the interaction term of co-worker social support and career stage is not statistically significant. Hypothesis 3b, which predicted that supervisor social support would have a stronger positive impact on compensation for senior-level positions, is supported as the interaction term of co-worker social support and career stage is positive and statistically-significant (β= 0.000, p<0.01).

Baseline results for human capital variables in column 1 of Table 6 provide added confidence in our model. Consistent with previous IS research (Mithas and Krishnan, 2008), our results indicate that all forms of human capital are positively associated with compensation, including work experience at other firms in the BPO industry (β= 0.003, p<0.01), total work experience (β= 0.002, p<0.01), managerial education in the form of an MBA (β= 0.119, p<0.01), and technical education in the form of a Bachelor in Engineering degree (β= 0.067, p<0.01). Compensation for BPO professionals is positively related to psychological energy (β= 0.007, p<0.05), consistent with theory that individuals with high levels of psychological energy feel enthusiastic, and are able to apply this energy to sustain their motivation and performance even in repetitive BPO tasks. Interestingly, compensation for BPO professionals is negatively associated with co-worker social support (β= –0.013, p<0.01), and we discuss potential implications of this finding below.

Table 7 provides results of our additional analysis on the moderating impact of gender. These results reveal that co-worker social support has the opposite relationship with compensation for males than for females, as the interaction term for co-worker social support and male is negative (β= –0.015, p<0.05). Supervisor social support has a stronger relationship

with compensation for males than for females, as the interaction term for supervisor social support and male is positive (β= 0.008, p<0.10).

Table 7. OLS Results for Moderating Effect of Gender

Dependent variable is natural log of compensation

Independent variables	Moderating effects
	(1) Gender
Co-worker social support	–0.003 (0.005)
Co-worker social support × Male	–0.015** (0.006)
Supervisor social support	–0.002 (0.004)
Supervisor social support × Male	0.008* (0.005)
Psychological energy	0.001 (0.005)
Psychological energy × Male	0.008 (0.006)
Supervisor stressor	0.020 (0.016)
Time stress	–0.053*** (0.013)
India origin	–0.036*** (0.007)
BPO experience	0.003*** (0.000)
Firm experience	0.001*** (0.000)
Total experience	0.002*** (0.000)
Bachelor of Engineering	0.067*** (0.008)
MBA	0.119*** (0.009)
Male	0.018*** (0.007)
Married	0.015* (0.008)
Age	0.027*** (0.006)
Hours per week	0.001*** (0.000)
Constant	4.896*** (0.017)
F-statistic	179.51***
R-squared	0.399
Observations	6,351

Models include dummy variables for years, and squared terms for firm, industry, and total experience
Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Discussion

Our goal in this paper is to develop theory on the role of social support in employee compensation for offshore BPO professionals, and to test the theory using data from 8,000+ Indian BPO professionals during the 2006–2011 time period. We examine the moderating effects of supervisor social support and co-worker social support, and consistent with our hypotheses, we find that co-worker social support has a stronger positive effect on compensation at higher levels of time stress and supervisor stress, and supervisor social support has a weaker effect on compensation at higher levels of supervisor stress. Not consistent with our hypothesis, we find that supervisor support has a weaker effect at higher levels of time stress. We also find that supervisor social support has a stronger positive impact on compensation for senior-level positions. We performed additional analysis to study the moderating effect of employee gender, and find that the relationship of supervisor social support with compensation is stronger for male employees than for female employees, whereas the relationship of co-worker social support with compensation is stronger for female employees than for male employees.

Contributions and Research Implications

This paper makes several contributions to the IS literature. Our primary contribution is to extend prior research on the role of human capital in compensation for IT professionals by developing theory on the role of social support in compensation for BPO professionals. Our theory addresses the conditions under which social support does (and does not) make a difference in compensation of BPO professionals, thereby providing a more contextualized and contingent perspective of when social support will yield financial benefits, not merely enhanced work attitudes. This theory is consistent with the call to research compensation for IT professionals in their work context (Ang and Slaughter, 2000). Because BPO positions are

challenging due to high time pressure, repetitive nature of technical tasks, and heavy emphasis on continual monitoring and performance measurement, it is important to understand the conditions under which BPO professionals can draw on positive supervisor and co-worker relationships to maintain their productivity, which will lead to better career success including higher compensation.

We find a consistent pattern of results whereby co-worker social support is more strongly related to compensation at higher levels of time stress and supervisor stress, whereas supervisor social support is less strongly related to compensation at higher levels of time stress and supervisor stress. These findings indicate that co-worker social support does play a buffering role against stress, such that the beneficial effects of this form of support increase as stress levels increase. In contrast, supervisor social support exhibits an exacerbating effect, in that such support is less positively associated with one's compensation as time stress and supervisor stress increase. While this pattern of results was predicted in the context of supervisor stress, it is noteworthy that it also manifested in the context of time stress. Even though this is contrary to our hypothesis, it nonetheless provides important insights by suggesting that BPO professionals may attribute the time pressures they face to their supervisor, such that when supervisors try to provide social support to alleviate such pressures, this form of support is not helpful.

Our analysis segmented by the contextual factor of position-level shows that supervisor support has a stronger effect on compensation for senior-level positions than for junior-level positions. These results suggest that under conditions of high work stress as in the BPO industry, the division between 'management' and 'workers' may be more pronounced, and that it may not be possible to fully remedy the division through supervisor support. While supervisor support may help senior-level positions to more clearly understand the management perspective and be

more effective in managing under conditions of high stress, supervisor support does not appear to help junior-level positions achieve greater career success and compensation. It is also possible that continual monitoring and metrics may make junior-level positions suspicious of their supervisors, such that even positive personal interactions with supervisors may not be enough to allay the suspicions. While we do not suggest that supervisors should abandon efforts to provide support for junior-level employees, this finding is important because it indicates that BPO firms still have much work to do to identify the types of policies and interactions that will help junior-level positions to achieve greater compensation.

In our empirical results, co-worker social support did not have a positive relationship with compensation for junior-level positions. In fact, the baseline empirical finding for co-worker social support was not in the expected direction. Contrary to the prediction of theory, it is possible that some low-performing BPO workers may use co-worker relationships to cover for their performance deficiencies, and/or that they may be so distracted by co-worker relationships that socializing impacts their work performance. For example, a low-performing employee with co-worker social support could explicitly ask co-workers to take on some of their assignments or provide reports to supervisors in a manner that would shield the low-performing employee, and/or co-workers could implicitly be willing to take on additional work or provide favorable reports because of their friendship with the low-performing employee. Notwithstanding this main effect, co-worker social support proved to be beneficial under high levels of time stress and supervisor stress, providing further evidence for the buffering hypothesis.

Our additional analysis by gender uncovers the somewhat troubling result that supervisor social support has a weaker relationship with compensation for female BPO professionals, suggesting that the additional stressors and challenges faced by female employees may be so

overwhelming that this resource is insufficient to overcome these barriers and generate career success. Given the increasing participation of females in technical occupations, and the need to give females the same professional opportunities as males, it is important to understand the factors beyond human capital that lead to improved performance for female professionals, and that help females to feel valued, secure and productive in the workplace.

Another contribution of this paper is our study of compensation practices in Indian BPO firms, which constitute a major player in a relatively new industry. The Indian BPO industry faces challenges of high employee turnover and labor shortages (Joseph, Ng, Koh and Ang, 2007), and firms in this industry need effective employee selection and retention strategies to sustain their growth. Because prior research suggests that it may take time for firms in emerging economies to develop fully functioning HR policies and procedures, the most effective near-term response to the challenge of high employee turnover and labor shortages may be through the individual actions of senior-level managers in Indian BPO firms. As an added benefit, the improved performance of subordinates will reflect positively on the supervisor, which will in turn enhance the supervisor's career prospects.

From a research perspective, our findings demonstrate that competencies such as 'practical intelligence' (Joseph, Ang, Chang and Slaughter, 2010) and 'social skills' (Deming, 2015) have important implications for the performance and compensation of technical professionals. Practical intelligence, defined as the managerial, intrapersonal, and interpersonal skills and resources that individuals possess to resolve work problems, are instrumental to help workers manage others and themselves, their tasks and their careers. The social support studied in this paper constitutes one resource that can help BPO professionals manage their tasks, by enabling them to obtain technical help, advice and/or emotional support from their co-workers to

deal with work challenges, and ultimately achieve higher performance and higher compensation. Psychological energy is also useful for BPO professionals to manage themselves, and those with higher levels of energy and excitement can ignite this resource to stimulate and sustain work efforts in the face of demanding and stressful job conditions. While it may be more challenging for IS researchers to define and document these 'soft' skills, it is important to consider these competencies in future research, alongside more measurable 'hard' skills indicated by education and experience, and the present study helps to further clarify the context under which 'soft' skills make a difference.

Managerial Implications

From a managerial perspective, this paper contributes to an improved understanding of how firms price competencies and experience of BPO professionals in emerging economies, because compensation practices play an important role in employee acquisition and retention (Ferratt, Agarwal, Brown and Moore, 2005). Our findings suggest that BPO firms must focus on personal characteristics in addition to professional characteristics as they hire and develop their employees. While BPO firms can evaluate education and work experience from applications for potential employees and internal records for current employees, firms must also use their interview and performance evaluation processes to evaluate the social and psychological capabilities of potential and current employees. For example, Accenture has discarded annual performance reviews in favor of more frequent check-ins between managers and employees, to increase the level of communication for employee development (Gellman and Baer, 2016). Once employees are hired and promoted, BPO firms must encourage a collegial organizational culture to maximize employee performance.

While it is helpful for BPO firms to have a collegial atmosphere, BPO firms must also recognize that a social environment does not equate to improved performance for all employees. Instead, our findings indicate that co-worker social support is more useful for those professionals who are under high pressures from constant monitoring by supervisors and/or demanding deadlines and time pressures, whereas such support provides fewer financial benefits at lower levels of stress. Additionally, BPO firms should bear in mind that some professionals may try to use their relationships with co-workers to cover for their own performance deficiencies, and some professionals may actually be distracted from their work by their relationships with co-workers.

Another key implication from this study is that supervisor social support may not be as desirable as conventionally expected, and BPO firms that encourage supervisors to develop positive relationships with subordinates, while also enforcing demanding performance metrics and closely monitoring subordinates' actions, may be doing more harm than good. Instead, our study suggests that BPO firms should focus more efforts toward building a collegial environment among co-workers, while at the same time ensuring that co-workers provide instrumental and emotional support to those under high levels of stress, rather than to conceal others' performance deficiencies or to distract others from carrying out their work duties.

This study also offers implications for scholars and practitioners seeking to understand the drivers of BPO employee compensation in countries other than India. While cross-national differences in political, legal and HR systems exist and contribute to the uniqueness of compensation drivers in each country, similarities and differences in key cultural values can also determine whether the present findings are generalizable to other countries. For instance, the level of collectivism in India is comparable to that in several other countries in which BPO

organizations commonly operate, including Mexico, China, and the Philippines (House, Hanges, Javidan, Dorfman and Gupta, 2004). Consequently, the influence of co-worker social support is likely to be comparable in these countries where social interdependence is similarly emphasized and where individuals are integrated into strong, cohesive groups (Hofstede, 2001). The similarity of India with these countries' high power-distance orientation suggests that our findings on the influence of supervisor social support may also extend to BPO professionals in these countries. In contrast, countries such as Northern Ireland, which also has a sizable BPO industry but is comparatively less collectivistic, may find a weaker role of co-worker social support in influencing BPO employee compensation.

Limitations and Suggestions for Future Research

There are two important limitations in this study, both of which can be addressed by future research. One limitation is that this paper tests theory using data from professionals in one emerging economy. Firms and professionals in India may have unique cultural considerations and business practices compared with other countries (Black and Morrison, 2010), and therefore the findings in our study may not be fully generalizable to firms in other countries. This limitation can be addressed in future research by studying the role of social support in compensation across countries, as has been done for other factors in prior research.

A second limitation of this paper is the use of cross-sectional data. In future research, it would be useful to collect longitudinal data on each professional over time, so researchers can study changes in compensation based on changes in human capital and social support. In a related point, while this paper studies supervisor and co-worker social support from the perspective of the individual professional, it would also be useful for future research to study the interventions firms can make to increase supervisor and co-worker social support. For example,

what types of management practices can firms implement for supervisors to help professionals feel supported rather than exacerbating their work stress?

Exciting developments in the IT profession also present other opportunities for future research related to this work. The roles of IT professionals are shifting, and the boundaries between IT and non-IT positions are becoming less clearly defined. The career paths of IT professionals are also shifting, and IT professionals are beginning to manage their careers by moving back and forth between IT and non-IT positions (Joseph, Boh, Ang and Slaughter, 2012). As researchers continue to study the roles of social support and psychological energy for performance, it will be necessary to understand the extent to which these resources may help IT professionals navigate their careers more effectively. In addition to social support and psychological energy, there are other resources such as cultural intelligence that will also impact the careers and performance of IT professionals (Ang, Van Dyne, Koh, Ng, Templer, Tay and Chandrasekar, 2007).

To conclude, this study investigates the conditions under which supervisor and co-worker social support make a difference in the compensation of BPO professionals. We find that co-worker social support has a stronger effect at higher levels of time stress and supervisor stress, and supervisor support has a weaker effect at higher levels of supervisor stress. We find that supervisor social support has a stronger effect for senior-level positions than for junior-level positions. Our findings suggest that BPO firms should focus on both professional and personal competencies as they hire and develop their employees. Because the BPO industry is a critical business partner for many MNCs, these findings have important implications for the broader global economy.

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