High performance work system, HRD climate and organisational performance: an empirical study

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Abstract

Purpose – This paper aims to study the relationship between high-performance work system (HPWS) and organizational performance and to examine the role of human resource development (HRD) Climate in mediating the relationship between HPWS and the organizational performance in the context of the power sector of India.

Design/methodology/approach – The empirical research paper has been conceptualized on the basis of extensive literature survey and examined through a case-based approach. Data and information collected to examine strength of the proposed hypothesis in the context of a power-based company in India.

Findings – Agreeing with most of the research, HPWS is found to be positively related with organizational performance. The result does not agree with the HPWS research conducted in Asian countries. Taking clues from "Black Box" approach, the role of HRD Climate as a mediating factor has been studied. The result proved that HPWS influences organizational performance through a supportive development environment (HRD climate) based on openness, confrontation, trust, authenticity, proaction, autonomy, collaboration and experimentation (OCTAPAC).

Research limitations/implications – Designing and implementing HPWS requires the organization to nurture and develop a suitable HRD climate through development of organizational culture based on OCTAPAC.

Practical implications – Implications for HRD–HPWS practices such as group-based pay, decentralized participative decisions, self-managed work teams, social and family events, and appraisal based on team goals along with OCTAPAC culture can significantly contribute to the transfer climate by influencing both peer and supervisor. It can significantly contribute to training motivation by influencing both career and job attitudes, and organizational commitment of trainees.

Originality/value – The research is unique in its attempt to understand the role HRD climate as intermediating variables to enhance the effectiveness of HPWS. This may add a lot of value in encouraging organizations to establish HRD Climate.

Keywords Organisational performance, India, High-performance work system, HRD climate, OCTAPAC, Power sector

Paper type Research paper

The significant role that human resource management (HRM) can play in allowing a firm to remain competitive has been increasingly recognised by scholars and practitioners alike in recent years (Ubeda-García *et al.*, 2013). The preoccupation with high performance, often referred to as the "high-performance paradigm", has developed into a dominant theme within the HRM discipline (Ramdani *et al.*, 2014; Gilman and Raby, 2013). With the advent of strategic HRM (SHRM) paradigm, a substantial body of HRM research has examined the potential for bundles or systems of human resource

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policies and practices, otherwise called as high-performance work systems (HPWS) to influence firm performance (Mihail *et al.*, 2013; Becker and Gerhart, 1996; Pfeffer, 1995).

Further, despite the documented relationship between HPWS and organizational performance (OP), the mechanism underlying this relationship remains a "black box" (Sun *et al.*, 2007). The past decade has witnessed a number of research addressing the "black box" through several mechanism including job satisfaction, affective commitment (Gong *et al.*, 2009), service-oriented citizenship behaviours (Sun *et al.*, 2007) and social exchange (Takeuchi *et al.*, 2009), psychological contract (Raeder *et al.*, 2012), competitive strategies (Shin, 2014) and contingent labour (Luigi *et al.*, 2014). However, the assumption that HPWS impact the OP, through various social processes including culture and climate, more specifically through human resource development (HRD) Climate has remained largely untested.

Again, the researcher observed that most of the studies relating to HPWS have been conducted in Anglo-American, Confucian and European countries (Ramdani *et al.*, 2014; Posthuma *et al.*, 2013; Muduli *et al.*, 2012). In the Indian context, HRM research is pre-dominantly concentrated on traditional HRM rather than on the interaction between HRM and strategy (Amba-Rao, 1994; Mathur *et al.*, 1996; Budhwar *et al.*, 2006; Azmi, 2011). In recent years, research in SHRM in India are reported on various theme including SHRM and outcome (Muduli, 2012), HR strategy and innovation (Cooke and Saini, 2010), HR flexibility and firm-level outcomes (Ketkar and Sett, 2009), Innovative HRM (Som, 2008), or individual HRM practice such as employee commitment (Bhatnagar, 2007), performance management system (Shrivastava and Purang, 2011), career management practices (Budhwar and Baruch, 2003), recruitment and selection, pay and benefits, training and development and employee relations (Budhwar and Boyne, 2004). The review indicates little empirical evidence examining on the relationship of "HR practices as bundle of practices having systematic interaction effects (otherwise known as HPWS)" and "OP" in the Indian context.

Recently, research in HPWS also recognizes that the relationship between HPWS and OP may be contingent on an organization's contextual or environmental conditions (Sun *et al.*, 2007). Little consensus exists among researchers regarding the specific practices to be included in the context specific to industry operating in a specific business environment (Muduli, 2012; Collins and Smith, 2006; Datta *et al.*, 2005). Further, in the Indian context, SHRM research spread across different industries such as health care (Srinivasan and Chandwani, 2014); hotel industry (Chand and Katou, 2007); oil and gas (Dhiman, and Mohanty, 2010), Business process outsourcing and call centres (Budhwar *et al.*, 2006), information technology sector (Thite, 2012), etc. We have very little empirical evidence of research conducted on SHRM in general and HPWS in special in the power sector context of India. Further, the researcher preferred to choose power sector because of the inherent strength of the industry to contribute to the economic advancement of the nation. Being the sixth largest energy consumer accounting for 3.4 per cent of global energy consumption, the Indian power sector has been playing an important role in the economic advancement of the nation India. Due to India's economic rise, the demand for energy has grown at an average of 4 per cent per annum over the past 30 years. To meet the demand, the Indian government has set an ambitious target to add approximately 88,000 MW of installed generation capacity in 12th five-year plan by 2017. By the end of April, 2013 the installed power generation capacity of India stood at 225 GW, while the per capita energy consumption stood at 498 KWH (Central

Electricity Authority Report, 2013). The total demand for electricity is expected to cross 950,000 MW by 2030. Achievement of such kind of ambitious target requires the power sector of the country to adopt the high-performance-based management practices for enhancing performance. Further, some commentators have been critical to the methods used for studying HRM as being biased and, therefore, limiting the scope of generalization of findings (Guest, 2001; Wright and Boswell, 2002). Due to these limitations, there has been constant call for the use of alternative methodologies, such as case studies (Paauwe, and Boselie, 2005; Guest, 2001; Muduli, 2012).

On the basis of the above context, the current study has been planned to study the relationship between HPWS and OP. For this purpose, a high-performance-oriented company related to power sector operating in India has been selected. Further, the research also aimed at examining the role of HRD climate in mediating the relationship between HPWS and the OP in the context of the power sector of India.

Conceptualisation

Organizations' achieve a wide variety of outcomes from high-performance work practices (Ramdani *et al.*, 2014; Posthuma *et al.*, 2013; Jang and Khan, 2013; Camps and Luna-Arocas, 2009; Wienclaw, 2008; Godard and Delaney, 2000). The success of managerial practices is dependent on an appropriate fit between the assumptions, values and beliefs inherent in any given managerial practice and the culturally based assumptions, values and beliefs held by those who are being managed (Hofstede, 1993; Gerhart and Fang, 2005; Chan *et al.*, 2004). Studies linking climate and performance claim that when employees perceive greater involvement in decision-making, information sharing and management support as favourable, it results in greater corporate effectiveness (Denison, 1996; Burke and Litwin, 1992). HRD Climate is an integral part of the organizational climate. It contributes to the overall health and self-renewing capabilities of the individuals, dyads and team of the entire organization (Khana and Tarab, 2012). With this background in mind, attempt is made here under to describe the concept of HPWS, HRD climate and OP.

High-performing work system

The HR systems that enhance employee competencies, commitment and productivity are often called "high-performance work systems" (HPWSs) (Appelbaum *et al.*, 2000; Datta *et al.*, 2005). Human resource practices that SHRM theorists consider performance enhancing are known as high-performance work practices (HPWPs) (Huselid, 1995) or HPWS. HPWS refer to a set of employee management practices that positively affect employee attitudes, motivation and performance (Sels *et al.*, 2006). HPWS denote a system or bundle of HR practices designed to enhance employees' skills, commitment and involvement such that employees become a source of sustainable competitive advantage (Combs *et al.*, 2006). HPWS are a set of HR practices whose aim is to optimize utilization of workers' knowledge, skills and abilities for the benefit of the organization (Sels *et al.*, 2006). Although scholars do not agree on a specific set of practices comprising an HPWS configuration (Becker and Gerhart, 1996; Datta *et al.*, 2005), practices can be summarized into six broad categories:

(1) staffing;

(2) compensation;

(3) flexible job assignments;

(4) teamwork;
(5) training; and
(6) communication.

The goal of each practice is either to select, develop and retain employees, or to motivate them to produce employee output that enhances competitive advantage (Way). More specifically, HPWS increase organizational effectiveness by creating conditions where employees become highly involved in the organization and work hard to accomplish its goals, in other words, by increasing their employees' commitment to the organization and job satisfaction (Appelbaum *et al.*, 2000).

HRD Climate

HRD in the organizational context is a process by which the employees of an organization are helped in a continuous, planned way to develop an organizational culture in which supervisor-subordinate relationships, team work and collaboration among sub units are strong and contribute to the professional well-being, motivation and pride of employees (Rao and Abraham, 1985). The basic assumption of HRD is that people are most important and valuable resources and they need to be developed in terms of their knowledge, skill and attitude for achieving their personal as well as organizational goals. It further assumes that only dynamic people can build dynamic organizations, only competent and motivated people can make an organization achieve its goals. Hence, HRD is defined as "the development of people by providing them the required environment where, they may grow to realize fullest potential".

Climate can be defined as the perceived attributes of an organization and its subsystems, as reflected in the way an organization deals with its members, groups and issues (Pareek, 1997). Organizational climate has been defined as a set of shared perceptions regarding the policies, practices and procedures that an organization rewards, supports and expects (James *et al.*, 1988). Likert (1967) proposed six dimensions of organizational climate: leadership, motivation, communication, decisions, goals and control. Litwin and Stringer (1968) identified conformity, responsibility, standards, rewards, organizational clarity, warmth and support and leadership as seven dimensions of organizational climate. Climate, thus captures the meaning employees ascribed to the overall pattern of organizational activities (Muduli, 2008).

As Schneider (1975) observed, climate study should not assess overall organizational climate. Researchers should focus on climate for something. Researchers have identified climates for specific domains of organizational functioning, such as team climate (Maruping and Magni, 2012), learning climate (Maruping and Magni, 2012), empowerment climate (Muduli, 2008), organizational justice climate (Mahajan and Benson, 2013), safety climate (Hofmann and Stetzer, 1996), etc. In view of the important role of HRD in enhancing the effectiveness of HPWS, we propose a climate for HRD. We define HRD climate as assumptions, values and beliefs carried by the organizational participants about a work environment conducive for development of human resources. This definition agrees with Rao and Abraham (1986), who defined HRD climate as the environment provided by organizations for the learning and development of its employees. It is the perception the employee can have on the development environment of an organization (Rao and Abraham, 1986). Pareek (1997) explained that the development environment of the organization are supposed to have

openness, confrontation, trust, authenticity, proaction, autonomy, collaboration and experimentation (OCTAPAC) as important values that can help in fostering a climate of continuous development of employees in the organization. Openness refers to freedom to communicate, share and interact without hesitation. It is an environment where employees feel free to express their ideas and the organization is willing to take risks and experiment with new ideas and new ways of doing things. Confrontation is an environment where employees work jointly with others to find solution whenever employees face the problems. Trust refers to higher empathy, timely support, reduced stress and reduction and simplification of forms and procedures. Authenticity is the congruence between what one feels and says. Proaction is taking initiative, preplanning and taking preventive action. Autonomy is using and giving freedom to plan and act in one's own sphere. Collaboration is an environment where employees are ready for giving help to and accepting help from others in team. Experimentation is using and encouraging innovative approaches to solve a problem. The positive HRD climate renders the existing systems more effective and makes the organizations more receptive to the introduction of relevant additional system (Athreya, 1988).

Organisational performance

In SHRM models, generally OP is measured by some profit or market value-related measures. So far, researchers have been more eager to use market-based measures of financial performance because accounting-based profitability indicators seem to be subject to numerous biases (Huselid, 1995; Huselid *et al.*, 1997). To test the impact of human resource practices on a company's performance, Kalleberg and Moody (1994) suggested 11 variables (investment payback, larger dividends, company capitalization, financial return, economic return, product quality, increase in market share, innovation, strategy success, customer loyally, capacity to attract/retain talented personnel) as a subjective performance measure.

Hypothesis

HPWS and OP

Organisations achieve a wide variety of outcomes from HPWS. The impact of HPWS on OP has received considerable attention in recent years (Jang and Khan, 2013; Zhang and Li, 2009; Luna-Arocas and Camps, 2007; Wienclaw, 2008; Godard and Delaney, 2000). While studying the relationship of HPWPs and firm performance in a sample of pharmaceutical companies in China, Zhang and Li (2009) observed that the HRM index composed of HPWPs was significantly related to firm's market performance. Luna-Arocas and Camps (2007) proved the relationship between HPWP and labour turnover and observed that satisfaction and commitment acts as intermediating variables between HPWP and labour turnover. While studying the mediating effect of job satisfaction in the relationship between HPWS and firm performance in Korea firm, Jang and Khan (2013) found a positive association between HPWSs and firm performance. High-performing organizations tend to have lower turnover (20.87 per cent) than low-performing organizations (34.09 per cent) (Wienclaw, 2008).

Since the past decade, several scholars and practitioners has commented on the significance of human resource practice in enhancing performance of corporate India. Muduli *et al.* (2012) observed that in Indian telecommunication sector employee perceive

that clear job description can have the greatest influence on the company's performance, followed by incentive reward, internal mobility, team work and employment security. Khandekar and Sharma (2005) studied 300 line or human resource managers from nine Indian and foreign global organizations from New Delhi (the national capital region of India) and concluded that human resource capabilities are positively correlated to OP. The authors also mentioned that human resource capability was found to be a significant predictor of sustainable competitive advantage. Chand and Katou (2007) observed that hotel performance in India is positively related to the HRM systems of recruitment and selection, manpower planning, job design, training and development, quality circle and pay systems. While studying 82 Indian firms, Singh (2004) indicated that there is a significant relationship between the two human resources practices, namely, training and compensation and perceived organizational and market performance of the firm.

On the basis of the above review, we propose the following hypothesis:

H1. HPWS is positively related with OP.

HPWS, HRD climate and OP

The success of managerial practices and implementation procedures is dependent on an appropriate fit between the assumptions, values and beliefs inherent in any given managerial practice and the culturally based assumptions, values and beliefs held by those who are being managed (Hofstede, 1993; Gerhart and Fang, 2005; Chan *et al.*, 2004). Consequently, considerable theory and empirical research suggest that variations in culture may moderate the relationship between managerial practices and organizational effectiveness (Hofstede, 1991; Peng *et al.*, 2001).

Recently, research in HPWS has proved that HPWS influences OP through various social mechanisms including culture, structure, etc. (Camps and Luna-Arocas, 2009; Evans and Davis, 2005; Martin-Tapia *et al.*, 2009). Ordiz-Fuertez and Fernadez-Sanchez (2003) concluded that one contextual factor that may facilitate HPWS implementation is organizational culture. HPWS such as provision of job security, extensive skills training, promotion from within, results-oriented appraisal and broad career paths, signal an organization's intention to establish a long-term exchange relationship with its employees. Taking a symbolic interaction perspective on the development of climate, Schneider and Reichers (1983) noted that interactions among organization members lead to shared perceptions of an organizational environment.

HRD climate is an integral part of the organizational climate. It contributes to the overall health and self-renewing capabilities of the individuals, dyads and team of the entire organization (Khana and Tarab, 2012). HPWS foster employees' shared perceptions of a supportive organizational environment, including a supportive development environment (HRD climate). HPWS helps in creating a suitable HRD climate through development of organizational culture based on OCTAPAC (Pareek, 1997). Boxall and Macky (2009) observed that HPWS leads to increased trust to the extent that such actions are seen by employees as demonstrating managerial competence, reduce their perceptions of vulnerability or threat, and are otherwise seen to be in the worker's interests. The work of Appelbaum *et al.* (2000) suggest that trust in management may have an important mediating role between the employee experience HPWSs and other attitudinal responses to these practices. Appelbaum *et al.* (2000) in their study suggested that HPWSs are associated with practices which empower

employees to participate in decision-making, which in turn enhances company performance. Conti and Kleiner (2003) reported that teams offer greater participation, challenges and feelings of accomplishment thereby creating a high-performance organization that is flexible, efficient and, most importantly, profitable. HPWS drive innovation (Oladapo and Onyeaso, 2013). Batt (2002) found that "high involvement" practices such as autonomy, team collaboration, etc. are related to the reduced employee turnover and increased sales growth in telecommunication service centres.

The Indian power sector is largely dominated by state utilities. Most of the state utilities were established in the fifties and sixties of the past century. The Gujarat state utility was established in the 1960s of the past century. Commissioned as Gujarat Electricity Board, the organization was restructured in 2005 and divided into seven independent companies with GUVNL as the holding company. The long history of existence along with employees who spend their entire career must have created a unique culture in the organization. Although, the Indian culture and the sub-culture of the region (Gujarati culture) might have played an important role in the firm's culture, the role of various HR practices in shaping the firm culture cannot be ruled out. For example, according to Prof Geert Hoftstede India operates in a high-power distance, low individualism, feminine, weak uncertainty avoidance and high long-term orientation culture. Research on Indian work culture indicates that high power distance, collectivism and affective reciprocity are major cultural values of Indian managers. Further, when it comes to HRD culture, i.e. treating employees as the most important resources, perceiving that developing employees is the job of every manager, believing in the capability of employees, communicating openly, encouraging risk-taking and experimentation, making efforts to help employees recognize their strengths and weaknesses, creating a general climate of trust, collaboration and autonomy, the human resources (HR) system of the organization can play a very important role.

Further, in the context of sample organization, it is quite interesting to note that despite of its state utility background and operating with very old technology added with the high fuel cost due the distance of the plant and colliery, the organizations performance is quite note worthy. On the other hand, being a very old organization the company's HR policy are also found to be quite old and may not match with the HPWS related factors. Despite this, the company has been performing quite well. Probably, the credit goes to the HRD culture as being perceived by the employees of the organisation. This has encouraged us to adopt the following hypothesis.

On the basis of the above review, we propose the following hypothesis:

H2. HRD climate moderates the effect of HPWS and OP.

Methodology

Research methodology

Sampling. Researcher found that industry, organizational structure, and technology, among other factors, will shape the desired mode of human resource practices (Collins and Smith, 2006; Datta *et al.*, 2005). Consistent with earlier studies the current study sampled within the power industry of India. The decision of industry choice is based on the following.

First, being the sixth largest energy consumer accounting for 3.4 per cent of global energy consumption, the Indian power sector has been playing an important role in India. To enhance the efficiency and competitiveness, the government of India has

introduced several macro-level changes including deregulation of the sector. The new economic environment has threatened the existence of hitherto dominated state utilities and forced them either to perform or perish.

Secondly, due to India's economic rise, the demand for energy has grown at an average of 4 per cent per annum over the past 30 years. By the end of April, 2013, the installed power generation capacity of India stood at 225 GW, while the per capita energy consumption stood at 498 KWH. The Indian government has set an ambitious target to add approximately 88,000 MW of installed generation capacity in 12th five-year plan by 2017. The total demand for electricity is expected to cross 950,000 MW by 2030. Achievement of such kind of ambitious target requires the power sector of the country to adopt the best management practices for enhancing performance.

The sample comprised employees working in Gujarat Urja Vikas Nigam Ltd., Gujarat, India. The number of sample respondents selected for the study was 150. The respondents were selected from various units of the company.

Measures

The survey instrument consists of *HPWS* (29 items), *HRD climate* (20 items) and *OP* (3 items).

High-performance work system. Of the multiple measurements used in the literature for measuring HPWSs, Pfeffer's model is the best-known one (Pfeffer, 1995). The Pfeffer model originally included 16 practices but was reduced to 7 (Pfeffer, 1998): job security, selective hiring of new personnel, autonomous teams and the decentralization of decision-making as the core to organizational design, a comparatively high salary depending on results, extensive training, a lessening of distinctions, and a substantial participation from the different departments in the company in financial information and results. In 2007, Sun *et al.*, devised a revised instrument titled high-performance human resource practices to measure HPWS. The instrument consists of 29 items which are grouped under 10 sub headings such as selective staffing, extensive training, internal mobility, employment security, clear job description, result-oriented appraisal, incentive reward, participation, teamwork and flexibility. We measured HPWS through an adapted scale derived by Sun *et al.*, 2007. All 29 items were measured on a Likert-type scale ranging from (5) highly satisfied to (1) very dissatisfied. Responses were reversely coded, so higher values indicate higher perceived effectiveness.

HRD Climate. HRD Climate is a concept proposed by Rao and Abraham (1986) to explain the environment provided by organizations for the learning and development of its employees. This includes both the policies and practices for HRD in an organization. Rao and Abraham (1986) developed an instrument to measure the HRD climate consisting of 38 items by dividing them into three categories, i.e. the first category is general climate, second one is OCTAPAC Culture comprising seven factors namely, OCTAPAC and the third category is HRD mechanism. The researcher has considered the OCTAPAC culture category to measure the HRD culture of the sample organization. The OCTAPAC items deal with the extent to which OCTAPAC are valued and promoted in the organization. All the items are measured through a Likert-type scale ranging from 1 (highly dissatisfied) to 5 (highly satisfied).

Organizations performance. Chand and Katou (2007) used multiple OP variables such as sales growth, productivity, profitability, goal achievement and good services to measure OP. The researcher measured organizations performance under the philosophy

of a perceived rating of the organisation's performance on a Likert-type scale ranging from 1 (very bad) to 5 (very good). Following this work, executives were asked to provide perceptual performance data via five-point Likert scales, where 5 represents the highest score in the item. We have adopted the following three variables for measurement of OP:

(1) Profit maximization.

(2) Market leadership.

(3) Improved productivity.

Validity and reliability

The content validity of the questionnaire has been ensured through expert comments from industry and academia. Experts in the relevant field were identified and the questionnaire was submitted requesting them to provide comments related to HPWS, HRDC and OP. A pilot study was conducted to test for any construct weaknesses, and for weaknesses in the research design (Collis and Hussey, 2003). Pilot study was conducted on a sample size of 20.

The researcher applied Cronbach's alpha test to the research variable HPWS, HRDC and OP to judge the reliability. The test result shows that Cronbach's alpha for HPWS, HRDC and OP are 0.803, 0.925 and 0.818, respectively (Table I). This indicates data reliability as they meet the minimum acceptable level ranging from 0.80 to 0.90 (Schaufeli, 2006).

Statistical analysis and discussion

For the purpose of analysis of data, descriptive analysis, correlation analysis and multiple regression analysis were used on a standardized data set using the SPSS version 18.0.

In connection with *H1*, correlation analysis was conducted with HPWS and OP (Table II). Results of the correlation analysis shows that correlation coefficient between HPWS and OP is 0.394 and is significant at the 0.01 level. The result of regression analysis shows that coefficient of determination (R^2) is 0.32, indicating that 32 per cent of the variation in OP can be explained by the HPWP. With this the *HI*, that is HPWS is strongly related with OP, is accepted. This result supports the findings of many

Table I. Reliability of HPWS, HRD climate and FOP

Constructs	Cronbach's Alpha
HPWPs	0.803
HRD climate	0.925
OP	0.818

Table II. Mean, standard deviations and correlations among variables

No.	Variables	Mean	SD	*N*	1	2
1	HPWPs	3.54	0.37	148		
2	HRD climate	3.72	0.73	150	0.455**	
3	OP	3.88	0.53	150	0.325*	0.394**

Notes: **Correlation is significant at the 0.01 level; *Correlation is significant at the 0.05 level

previous studies conducted to understand the relationship of HPWS and OP (Jang and Khan, 2013; Zhang and Li, 2009; Luna-Arocas and Camps, 2007; Katou and Budhwar, 2006). Further, the study also does not agree with the findings of Chow's (2012), where the researcher could not find significant relationship between HPWS and OP in the context of three Asian countries. Hofstede (1993), Gerhart and Fang (2005), Chan *et al.* (2004) suggested that the success of managerial practices and implementation procedures is dependent on an appropriate fit between the assumptions, values, and beliefs inherent in any given managerial practice and the culturally based assumptions, values and beliefs held by those who are being managed. Speculation naturally arises that the lack of positive association between HPWS and OP in Asian context is probably because of lack of an appropriate fit between HPWS and the Culture of the region. For example, Muduli (2011) found that performance based pay designed on the basis of Individual employees performance may not suitable for firms operating in India because of the negative relationship between Individual based performance pay system and high collectivism Indian culture. Although the current study has been conducted in Asian region and therefore there is every possibility that the result of the study may match with the result of other studies in the same region, surprisingly it has not happened. The result of the study is probably because of the uniqueness of Indian culture, which despite of being a part of Asian culture has its uniqueness and differs on several counts from a typical other Asian countries. Further, the context of industry might have influenced the respondent to consider the value of HPWS with reference to the industry performance (Muduli, 2012; Collins and Smith, 2006; Datta *et al.*, 2005). The power sector of India has become more aggressive and proactive to meet the enhanced energy consumption of the fast growing economy. As mentioned, the demand for energy has grown at an average of 4 per cent per annum over the past 30 years. By the end of April, 2013 the installed power generation capacity of India stood at 225 GW, while the per capita energy consumption stood at 498 KWH. The Indian government has set an ambitious target to add approximately 88,000 MW of installed generation capacity in 12th five-year plan by 2017. The total demand for electricity is expected to cross 950,000 MW by 2030. Achievement of such kind of ambitious target requires the power sector of the country to adopt the best management practices for enhancing performance. In other words, the Indian power sector-based companies are in tremendous pressure to enhance their OP. The companies have a tough challenge to enhance their performance in an uncertain and volatile external environment. This has led to a situation where companies have realized that the external factors including government regulation, international fuel price etc. are not under their control and, therefore, a high need to optimize the internal system to ensure high performance.

Realising the importance of enhancement of OP and, therefore, aiming at leveraging on HPWS, we further attempted to identify the probable role of HRD climate as a mediating variable to enhance further the effect of HPWS on OP. However, before we proceed to examine the hypothesis, the finding of Baron and Kenny (1986) has influenced us. According to Baron and Kenny (1986), three conditions must be met to establish mediation. First, the independent variable(s) (HPWS) must be related to the mediator (HRD climate). Second, the mediator (HRD climate) must be related to the dependent variable (OP). Third, a significant relationship between the independent variable (HPWS) and a dependent variable (OP) will be reduced (partial mediation) or no longer be significant (full mediation) when controlling for the mediator (HRD climate).

Thus, an attempt is made hereunder to identify the correlation of HPWS and HRD climate, and HRD climate and OP.

The results of the correlation analysis show that correlation coefficient between HPWS and HRD climate is 0.455, and is significant at the 0.01 level. And the correlation coefficient between HRD climate and OP is 0.325, and is significant at the 0.05 level. With this, the first two conditions, that is HPWS must be related to the mediator (HRD climate). Second, the mediator (HRD climate) must be related to the dependent variable (OP) is taken care.

Table III shows the summary of the results of HRD climate as mediating variable in the relationship between HPWS and OP. In Model 3, the inclusion of HRD climate as mediating variable revealed significant relationship between HPWS and OP. The results show that the inclusion of HRD climate has significantly improved the relationship between HPWS and OP. The regression coefficient is 0.37 and significant at the 0.05 level. With this the *H2* is accepted.

The findings suggest that HRD climate acts as a significant mediating variable between HPWS and OP. Agreeing with the previous research (Takeuchi *et al.*, 2009; Liao *et al.*, 2009), the study proves that OCTAPAC culture as HRD climate facilitate HPWS implementation. More specifically, an organization climate that values and supports the mechanism and goals of HPWS such as HRD climate could enhance structural fit, thus improving practices as well as outcomes of implementation. Because of its emphasis on OCTAPAC, the HRD climate enhances employee's satisfaction which could amplify the outcome of HPWS in the form of OP. Further, with the introduction of HRD climate as a new mediator in the HPWS-OP chain, this study extend previous research, which has earlier focused on job satisfaction, affective commitment, service oriented citizenship behaviours and social exchange, psychological contract, competitive strategies and contingent labour (Gong *et al.*, 2009; Sun *et al.*, 2007; Takeuchi *et al.*, 2009; Raeder *et al.*, 2012; Shin, 2014; Luigi *et al.*, 2014).

The result also suggests that HRD climate acts as a significant mediating variable between HPWS and OP. The survey result also encourages the organization to establish a positive HRD culture to reap maximum benefit from the investment made in designing and implementing HPWS. For example, Ordiz-Fuertez and Fernadez-Sanchez (2003) concluded that one contextual factor that may facilitate HPWS implementation is organizational culture. In fact, practically the company has already attempted to do this in a proactive way. For example, despite of the concern of the top management to

Variables	Baseline β	Model 1 β	Model 2 β	Model 3 β	VIF
Constant	4.18**	4.07**	4.28**	4.34**	
HPWS		0.32**	0.18	0.13	1.24
HRD climate			0.54**	0.51**	1.13
HPWS × HRD climate				0.37*	1.07
R^2	0.13	0.24	0.46	0.49	
F	0.41	2.17*	6.22**	6.32**	
ΔR^2	0.13	0.07	0.32	0.37	
ΔF	0.41	11.2**	37.35**	5.06*	

Notes: $p < 0.10$, $*p < 0.05$, $**p < 0.01$

Table III.
HPWS, HRD climate and OP

improve the productivity of the employees in the organization, the management was not hesitant to share about the helping attitude among the employees. Many often it has also been observed that the people of the organization undertake several self development initiatives. For example, since two years the organization has developed a tie up with a premier university to organize management development programme in the field of power sector management. People of the organization were informed about the MDP and were not forced to attend the programme. It was organized purely on self nominated basis. The author, being the organizer of the MDP was surprised to see the response. In fact it has led to a scenario where the organisation has to introduce a method for identifying the first batch and since then the MDP has been a continuous show. In this context, it is important to note that the average age of the employee of the organization is 52 to 53. This shows a presence of a strong positive HRD culture in the organization.

Implications for HRD

HPWS along with suitable HRD climate foster OP. In other word, HRD climate based on OCTAPAC culture facilitates implementation of managerial practices which can contribute to achievement of business objectives. Research agrees that HRD professional largely engaged in training activity (Nordhaug, 1989), and the training process is one of the most pervasive methods for enhancing the productivity of individuals through enhancing individual competency by increasing employees' skills (Gritz, 1993). Thus, the result of the study can have several implications for HRD from training perspective.

The implication of the study for HRD can be explained in terms of training transfer. In other word, a HPWS aligned with a suitable HRD culture can facilitates training transfer. Literature on training transfer believes that even when learning occurs in training, the transfer climate may either support or inhibit the application of learning to the job or the extent to which a person can use learned skills on the job (Mathieu *et al.*, 1992). The transfer climate can be seen in terms of organizational referents such as supervisors or peers (Holton *et al.*, 1997). For example, Klink *et al.* (2001) discussed the importance of peer support due to the increased use of self-directed teams and therefore suggest that because of this increase it is possible that team members in the workplace might influence trainees' behaviour more than supervisors. Regarding supervisors support, studies proved that supervisors who support training can positively influence a person's confidence to learn new skills and also their ability to transfer the new skills to the job. Thus, HPWS practices such as group-based pay, decentralized participative decisions, self-managed work teams, social and family events, and appraisal based on team goals along with OCTAPAC culture can significantly contribute to the transfer climate by influencing both peer and supervisor.

HPWS aligned with suitable HRD climate may foster training motivation. Training motivation is a goal directed inspiration derived from trainees' personal needs and the decision processes they use to satisfy those needs (Blanchard and Thacker, 2004). Recent research has shown that trainees who enter training with higher levels of motivation learn more, perform better and are more likely to complete training than their less motivated counterparts (Blanchard and Thacker, 2004). A number of external and individual variables have been identified that affect the motivation towards a training programme. Literature has focused on career and job attitudes; organizational commitment as important variables that affect training motivation (Cheng, and Ho,

1999). Trainees who had both good career planning and a high level of job involvement were more likely to be motivated to learn (Mathieu *et al.*, 1992; Williams *et al.*, 1991). HPWS practices such as decentralized participative decisions, self-managed work teams, greater discretion and autonomy, training for career development, career planning, career paths and job ladders, promotion opportunities (e.g. frequency), along with OCTAPAC culture can significantly contribute to training motivation by influencing both career and job attitudes, and organizational commitment of trainees.

Limitation and points for future research

Limitations are part and parcel of any kind of research work. So, the present study is assumed to be not free from limitations. Although adequate precautionary measures have been taken, the study suffers from some limitations. First, obtaining data from a single industry in a single geographic area limits the generalizability of the findings to other industries and geographic areas. The study has been confined to power sector based company and the sample organization has been chosen from a state of India, that is, Gujarat only. As such, the findings may not generalise to all Indian organizations. To enhance external validity, future research should obtain data from different industries and geographic regions. However, the limitation of single-industry research is mitigated by the influence of industry context on relationships of interest.

Secondly, in the current research HPWS is measured through a set of questionnaire where executives were asked to provide perceptual performance data. However, HPWP can be measured through operational performance measures also. As observed by Combs *et al.* (2006) Because HPWPs increase employee KSAs, empower employees to leverage their KSAs, and motivate them to do so (Delery and Shaw, 2001), they influence employee discretionary effort, creativity, and productivity (Becker and Gerhart, 1996) which in turn increase operating performance measures such as employee turnover and job satisfaction further leading to increased accounting returns and market value (Becker and Gerhart, 1996; Dyer and Reeves, 1995; Huselid, 1995).Therefore, future research may measure HPWPs through operational performance measures such as retention and productivity than financial measures such as profit, productivity, or market returns. Thirdly, Measuring HRD climate through HRD Culture dimensions through survey methods can have methodical errors. For example, Denison (1996) commented that "authors have applied survey methods to study comparative "dimensions" of culture in a way that appears to contradict the epistemological foundations of culture research within organizational studies". However, as the researcher has also collected several qualitative data the said limitation can be compensated.

Conclusion

While the study aims at examining the relationship between HPWS and OP in the context of Indian power sector, the focus of the study has been on the role of HRD, more specifically HRD climate. In the current study, HRD climate has been proposed as mediating the relationship between HPWS and OP and, therefore, acts either as a facilitator or a barrier for the effective implementation of HPWS. The study proves that effective implementation of HPWS requires a suitable HRD culture. HPWS stand alone may not able to significantly contribute to enhancement of OP. Therefore, organizations in Indian context need to devote substantial resource for the development of HRD

culture before adopting HPWS. As proved in the study, HRD culture variables such as helping attitude among the employees, self-development initiatives of the people, lack of biasness, initiative for taking more responsibility, team spirit, trust, etc. should be kept in mind while selecting people. This is more valid in the pretext of the fact that designing and implementing HPWS has a huge cost implication and probably one of the reason for which most of the Indian organizations are shying away to implement HPWS. Unless organizations are careful about the facilitators and barriers, the whole investment may prove as waste. Thus, creation of a suitable HRD culture is *sine qua non* for the successful implementation of HPWS in India.

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