



The Influence of Employee Human Resource Satisfaction on Employee Innovative Work Behavior

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Authors' contributions

This work was carried out in collaboration between all authors. They all designed the study, wrote the protocol, and wrote the first draft of the manuscript. They managed the literature searches, analyses of the study and performed the data analysis. All authors read and approved the final manuscript.

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ABSTRACT

Aims: This study examines the influence of employee HR satisfaction on employee innovative work behavior. It also examines whether employee perceptions about the demanding aspects of their jobs mediate the relationship between HR satisfaction and innovative work behavior.

Study Design: Employee attitude surveys were administered to employees across five firms.

Place and Duration of Study: The study was carried out in Ireland, in firms where high performance work systems were in use between 2007 and 2009.

Sample: A sample of 220 employees who represented production, maintenance, service and clerical areas, and employees from administrative and executive areas.

Methodology: Five companies participated, all of which were represented in the upper quartile of high performance work system utilization of the larger study. These five firms represented an upper, medium and lower range within this quartile. Based on the profile and utilization of high performance work systems in these companies, on average, the companies' utilization of HPWS was about 48.81

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per cent. The companies came from the manufacturing, financial services, transport and communication industries.

Results: Of the sample, 67% were male. In terms of education level, 33 per cent had completed their secondary level education. With regard to occupational type, the technician category was the smallest with a 7 per cent of the total sample; the professional group was the largest accounting for 30 per cent of the respondents. The majority of the respondents (85%) were of Irish origin. Employee HR satisfaction with communication and feedback practices was positively related to employee innovative work behavior ($\beta = .59, p < .001$). The HR satisfaction measures accounted for 18 per cent of the variance explained in innovative work behavior ($\Delta F = 5.581, p < .001$). Employee HR satisfaction had an indirect effect on employee innovative work behavior via perceptions of job demands as computed through the Sobel test, (Sobel $z = -1.76, P = .078$).

Conclusion: Employees' perceptions matter in determining behavioral outcomes, because they are determinant in eliciting discretionary efforts such as innovative work behavior, which in turn affect company performance.

Keywords: HR satisfaction; employee performance outcomes; innovative work behaviour; high performance work systems; job demands.

1. INTRODUCTION

One of the main objectives of innovation is to encourage and empower employees to contribute and implement their ideas to enhance effectiveness [1]. This includes the creation of an innovative culture whereby management discovers new ways of organizing, leading, coordinating and motivating employees to be innovative by contributing and pursuing their ideas [2]. In this regard, in order to successfully manage innovation and achieve firm goals, management has to support employee innovation [3]. This is possible if management utilizes employees' skills and expertise effectively, while employees in turn must be willing and able to innovate and develop the required competencies [4]. This study explores how HRM practices and job designs can shape employee perceptions and influence their innovative work behavior.

High performance work system (HPWS) theory suggests that there are different ways through which HRM practices can impact on performance such as through improving employee attitudes [5] and eliciting positive employee responses [6]. In particular, there is a suggestion that employee attitudes of commitment and involvement can influence employee and company performance outcomes [7]. In this regard, an examination of the presence and utilization of HRM practices, sometimes called high involvement HRM [8] in a firm should go hand in hand with an assessment of employee reactions to the presence of these HRM practices [9]. The rationale for this argument is what Kinnie et al. [10,11] highlight when noting that, 'the fulcrum of the HRM-performance causal chain is the employees'

reactions to HR practices as experienced by them'. On the same line, strategic HRM scholars have held the view that firm level practices are not in and of themselves the source of competitive advantage; rather, it is the people who are selected, developed, through these practices that represent the true resource and enable a sustainable advantage over industry rivals [11]. Such an assessment can also be made effectively by looking at the extent to which employees are satisfied with the job and workplace aspects. The job and workplace aspects, however, should be linked with HRM practices, that is, they are job-related HRM practices. The focus of this paper, therefore, is on employee reactions to these job-related HRM practices on their innovative work behavior.

2. THEORY: SOCIAL EXCHANGE THEORY

Theoretically, this study uses the norm of reciprocity and the social exchange theory [12] to explain and integrate employee behaviors with the company's provision of policies, practices and opportunities which are important in facilitating generalized norms of reciprocity [13]. These norms of reciprocity can be described in terms of 'the extent to which the parties are concerned with equivalence of exchange, immediacy of reciprocation and focus of interest (self vs. mutual)' [14]. According to social exchange theory, when firms invest in their employees, their employees tend to reciprocate in positive ways [15]. In other words, it is assumed that employees balance their working efforts with the degree they perceive the organization to reciprocate with desired returns [16]. Thus, company inducements (through the

positive management of HRM practices) motivate employees to be pro-social and desire to expend effort to benefit the company. These inducements also create obligations on the part of employees to reciprocate in positive ways [17].

Further to the norm of reciprocity, literature shows that employee and employer agreement in the form of I-deals, that is, 'voluntary, personalized agreements of a nonstandard nature negotiated between the employee and the employer regarding terms that benefit each party' Rousseau and Greenberg [18,9,7,8] suggests a tendency among employees to continue working with the employer something which can motivate employees to exert effort and thus benefit the company in positive ways. One of the ways through which employees can benefit the company is being pro-social and innovative. In the same way, psychological contract like I-deals determines the extent to which employees are increasingly attached to the organization [19] and thus more likely exert effort in accomplishing their jobs. In this regard, employee HR satisfaction is an important aspect in this study because, when an agreement between an employee and the employer becomes a standard norm to all employees in the organization, it is regarded as a HR practice rather than a mere individual agreement [20]. Any dissatisfaction with job-related HRM practices may therefore lead into withdrawal and lack of involvement in issues related to workplace performance and even turnover [21].

The study also examines whether perceptions of job demands will mediate the relationship between employee HR satisfaction and IWB. Fig. 1 provides a model which summarizes the relationships that will be examined.

3. MANAGEMENT INNOVATION AND INNOVATIVE WORK BEHAVIOR

In many firms, innovation is regarded as a long-term survival strategy and a source of sustained competitive advantage [22]. Therefore, the ways in which innovative work behavior among employees can be fostered represents an important issue which needs to be sustained [23,24]. Innovative work behavior (IWB) is defined as 'the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group or organization' [25:288]. It is also related to 'the voluntary willingness by

the individual employees to constitute on-the-job innovations – for example, through the upgrading of ways of working, communication with direct colleagues, the use of computers, or the development of new services or products' [26]. Similarly, employee perceptions of their firm's expectations about employee behavior can influence their level of innovativeness [27]. For example, Boswell et al. [28] found that employee perceptions of the climate for innovation influenced their IWB, in particular, when they were dealing with individual problem solving, when they were dealing with work group relations, and also when they had to deal with the relationship between employees and leadership in the company. In this respect, one might expect that there will be an association between employee IWB and the extent to which a firm fosters the climate for innovation.

It should be noted that IWB may consist of engaging in extra role job demands which may not be mandated by the firm [29]. These are acts that depend very much on how employees decide to take charge, cooperate and thus initiate constructive change and behave innovatively [30]. Employee perceptions of management practices and policies have, therefore, an important role in determining IWB. Employees may decide to cooperate and act innovatively, or they may restrict their innovativeness since they have personal control in relation to extra-role activities or pro-active behaviours [31].

The literature exploring the linkages between HRM practices and innovation suggests that motivational practices are important in promoting employees' willingness to display IWBs [32]. This includes the identification of practices to motivate employees to have a sense of production ownership (autonomy), through which they can engage in effective problem solving and cope with high job demands [33]. Thus, employees are more likely to engage in IWB when they feel that they have ownership of the problems concerning them in the workplace [34]. A study by Parker, Wall & Jackson [35] suggests that employee perceptions of commitment-oriented HRM practices shape desired employee behaviors and attitudes such as trust. Thus, HR practices can be one of the means through which firms can elicit employee involvement and IWB [36]. Similarly, a study by Guest [37] highlights that employee perceptions of individual, group and organizational factors have an impact on innovative behaviors.

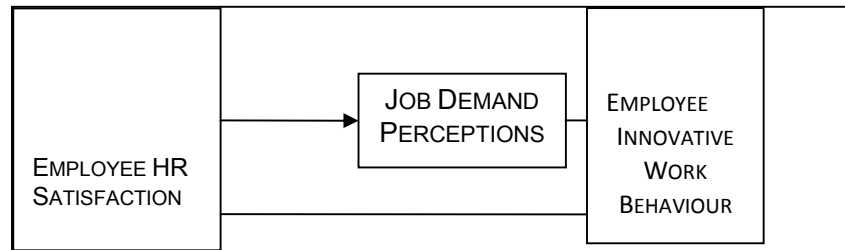


Fig. 1. Model of Employee HR Satisfaction, Job Demand Perceptions and Employee Innovative Work Behavior

This perspective relates to the conventional role of social capital in the firm since the strength of relationships inside the firm and the ability to foster knowledge sharing and employee interaction leads to quality social relationships in the organization [38]. Accordingly, Youndt and Snell [39] found a positive relationship between the presence of social capital and measures of both incremental and radical innovation capabilities. In this regard, employee reactions to HRM practices, which are job-related practices, can be related to their innovativeness. Similarly, it should be noted that the HRM theory on the role of climate for innovation [40] suggests that utilization of HPWS is likely associated with organizations which foster extra role behaviors, which in turn lead to greater knowledge sharing, communication and innovative ideas [41].

On the basis of this evidence from the literature, and through the lens of social exchange theory and the norm of reciprocity, the present study proposes that there will be an association between employee HR satisfaction and the extent to which they engage in extra role behaviors. In this regard, the following hypothesis is proposed:

Hypothesis 1: HR Satisfaction will be positively related to employee innovative work behavior.

4. EMPLOYEE HR SATISFACTION AND JOB DEMAND PERCEPTIONS

Based on the job demands-resources (JD-R) model [42], studies have classified working conditions into two main categories: job demands and job resources. While job resources foster and enhance personal growth, learning and development, job demands require effort and are related to physiological and psychological costs [43]. Job resources (also referred to as job control) include practices that foster employee autonomy such as freedom in how to carry out given tasks, performance feedback, learning and

development, and social support [44]. Job demands can be defined as psychological stressors, which include having to work fast and hard, having too much work to do within too little time, and having a heavy workload [45]. The job demands construct is normally used to assess employees' feelings and thinking about demanding aspects of their job or role obligations [46]. This is in line with what Sharp, Erani and Desai [47] suggest that due to international competition, companies are forced to implement work practices and systems which place increasing demands on employees to work smarter, better and faster.

When job stressors occur, an employee has to look for ways to adapt to the demanding aspects of the job because job demands imposed on employees may affect their behavioral and affective responses [48]. Some studies suggest that higher job demands provide an elevated state of arousal in a worker, which in turn will make them either cope with the situation by modifying their work context or by upgrading their skills and abilities in order to match the high job demands [49]. Likewise, Adler and Kwon [50] suggest that solidarity among employees may help employees redesign their work processes which may allow an increase in decision latitude among many workers and reduce mental strain and so lead to an increased ability to cope with job demands without affecting firm performance. This line of thinking has been supported by researchers exploring the positive effects of work demands on defining work roles and performance [51], as well as job-related attitudes and transformation of work [52]. Overall, the evidence suggests that certain job demands have a positive influence on employees' experiences at work [53].

Other studies suggest that employees' perceptions of work demands may not be beneficial to employees [54]. Such studies have included an examination of employee attitudes

towards heavy workloads, conflicting or ambiguous job roles and job satisfaction [55]. Most of these studies reported to evidence of a negative relationship between stressful jobs and job performance [56]. Furthermore, a study exploring the links between job demands (workload) and various indicators of performance among employees found mixed relationships [57]. Thus, the evidence is mixed and is still unclear whether job demands are regarded as challenging and thus positive in enhancing performance [58], or as a hindrance at work which may limit performance [59].

Based on such mixed evidence, there is a need to examine the role of job demands in the relationship between employee HR satisfaction and employee performance outcomes i.e., innovative work behavior. There is research evidence to suggest that work-related demands, although potentially stressful or challenging, have potential gains for individuals and may mediate the relationship between work characteristics and favorable work attitudes [60]. A recent study by Gobeski and Beehr [61] suggests that job demands may explain the relationship between HRM practices and employee attitudinal outcomes. They suggest that 'several stressors in the work environment increase the likelihood of the individual employee experiencing high levels of strain, a negative and deterring response to engaging in that work' [62]. Thus, perceptions of job demands can explain how and why a relationship exists between perceptions of HRM practices and employee behavioral outcomes such as IWB. This paper proposes that employee perceptions of job demands can explain the relationship between HR satisfaction and IWB. In other words, it tests the extent to which perceptions of job demands will mediate the relationship between hr satisfaction and innovative work behavior. This study therefore proposes the following hypothesis:

Hypothesis 2: Job demand perceptions will mediate the relationship between HR satisfaction and innovative work behavior.

5. METHODOLOGY

5.1 Sample and Sampling Procedures

This paper is based on data gathered through a survey of employees working in firms where high performance work systems (HPWSs) were in use, as identified in a larger firm level study [63]. All of the 132 firms included in the original study

were invited to participate in the research. Five companies agreed to participate, all of which were represented in the upper quartile of high performance work system utilization of the larger study. However, these five firms represented an upper, medium and lower range within this quartile. Based on the profile and utilization of HPWS in these companies, on average, the companies' utilization of HPWS was about 48.81 per cent. In other words, a score above 48.81% implied a more extensive use of HPWS. In this regard, though not on similar level, all the five companies had an extensive utilization of HPWS compared to other companies that were included in the intermediate or lower quartiles. The companies came from the manufacturing, financial services, transport and communication industries.

A random sample of employees from these companies was selected, which represented production, maintenance, service and clerical areas, as well as employees from administrative and executive areas. The survey was distributed to approximately 40 to 100 employees across each of the companies. A total of 220 responses were received and the overall response rate (weighted) was 53 per cent. Table 1 provides the survey response rates across the five companies. This response rate is favourable when it is compared to survey-based HPWS related studies as reviewed by [64]. Similar studies had response rates ranging from 6 per cent to 28 percent and had an average of 17.4 per cent [65]. It should be pointed likewise that more recent studies have shown an increase in response rate in HPWS-related studies. Jenssen & Vinding [66], for example, had a response rate of 28.7 per cent, [67] had a response rate of 30.7 per cent and [68] had a response rate of 34.2 per cent. Since there was no available data for the non-responding employees, it was difficult to compute any measures of a non-response bias.

Table 1. Employee response rate

Company	Surveys distributed	Surveys returned	Response rate (%)
Company 1	100	91	91
Company 2	40	15	37.5
Company 3	40	16	40
Company 4	100	58	58
Company 5	100	40	40
Weighted average	380	220	53.3

Of the sample, 67 per cent were male. In terms of education level, 33 per cent of the sample had completed their secondary level education. With

regard to occupational type, while the technician category was the smallest with a 7 per cent of the total sample, the professional group was the largest accounting for 30 per cent of the respondents. The majority of the respondents (85%) were of Irish origin.

5.2 Data Analysis Strategy

In order to carry out Factor Analysis (FA) in this study, data analysis included the examining and testing if the data was suitable for Factor Analysis. This was tested through the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. This test indicates the extent of common variance among the variables, that is, indication of underlying or latent common factors. The test also assesses the extent of multicollinearity problems. Kaiser (1974) recommendations include: accepting values greater than 0.5 as barely acceptable, any values below 0.5 are unacceptable. Values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good and values between 0.8 and 0.9 are excellent. Values above 0.9 are superb (cited in Hutchinson and Solfroniou 1999; see also Dziuban and Shirkey 1974: 359). Table 2 presents KMO statistic for the scales analyzed in this study. Each of the scales was identified as suitable for Factor Analysis. The main analytical procedures that were employed in this study include correlation and multiple regression analysis (Ordinary Least Squares, OLS).

Table 2. KMO statistic for multiple scales used in this study

S/N	Measure	KMO Statistic	Significance
1	Innovative Work Behavior	.907	.000
2	Job Demands Perceptions	.784	.000
3	Employee HR Satisfaction	.863	.000

5.3 Research Paradigm

This study uses a positivist approach since it is appropriate in the area of business and management studies and works legitimately in quantification, i.e., quantitative approach in data collection, analysis and interpretation of findings. The researcher is aware that no methodology is without flaws or critics who will challenge its validity and reliability in social science. However, it is also clear that most of the research designs and studies of HR-performance relationship have

not succeeded in establishing unequivocally a causal relationship between HR and performance outcomes [69].

Similarly, most of these studies suggest correlational relationships (which do not mean causal relations), and agree in many cases that HR practices contribute to positive employee outcomes [70]. In this regard, this study is consequently cognisant of potential threats to valid interpretations of results from field research and accordingly has tried to minimize any flaws that may invalidate data collection, analysis and presentation of findings. Care has also been taken in utilizing all the advantages and benefits that survey research gives in the area of business studies. Since surveys have dominated most of the research in business studies, this research is aligned with the mainstream research methods in business studies.

5.4 Ethical Considerations

This study was carried out with assurance of respondents' confidentiality and no individual names were identified at any stage of the study. Likewise, the results of this study are reported in aggregate form only and individual companies are not be identifiable from the report. While the code number on the last page of the survey helped us to track responses, it also prevented anyone other than the researchers from associating questionnaires with their companies. The study also received approval from the University of Limerick Research Ethics Committee at its meeting on 8 June 2006.

6. MEASURES

6.1 Innovative Work Behavior

Innovative work behavior (IWB) was measured by adapting Janssen's [71] nine item measure for innovative work behavior in the workplace. This measure asked respondents to indicate how often they perform innovative work behaviors including, for example, creating new ideas for difficult issues, generating original solutions for problems, and mobilizing support for innovative ideas. The response was in the format of a five-point scale ranging from (1) never to (5) always. When an exploratory principal components factor analysis with varimax rotation was conducted, it yielded three factor loadings with initial eigenvalues greater than 1. The three factor loadings extracted correspond to the nature of the original measure. The original measure

assesses three areas of IWB. Thus in this study, idea generation (alpha .90), idea mobilization (alpha .87) and idea realization (alpha .90) were established. Consistent with the original scale, the three factors/dimensions were combined to form the measure of individual IWB. The Cronbach's alpha coefficient for the measure was .95. Table 3 provides details for factor loadings on IWB measure.

6.2 Job Demands

Job demands was measured using Van Veldhoven and Meijman's (1994) eight item scale which assesses employees' views about demanding aspects of their job. Examples of items included (a) 'Do you have to work fast?' (b) 'Do you have too much work to do?' (c) 'Do you have to work extra hard to finish a task' and (d) 'Do you work under time pressure?' Response options ranged from (1) Never to (5) Always. When an exploratory principal components factor analysis with varimax rotation was conducted, it yielded two factor loadings with initial eigenvalues greater than 1. The two factor loadings extracted correspond to the nature of the original measure. The first dimension consisted of four items reflecting job demands in terms of workload of the tasks to be performed. The Cronbach's alpha for the measure was .81. The second dimension consisted of four items relating demanding aspects of the job to the pace of the tasks. The Cronbach's alpha for the measure was .75. Table 4 provides details for factor loadings on Job Demands measure.

6.3 HR Satisfaction

Employee HR satisfaction was captured by assessing various HRM-related aspects of job satisfaction. This measure was adapted from [72] CORUS survey instrument and used a Likert scale response format, where scores ranged from (1) very satisfied to (5) very dissatisfied. All the items were reverse coded in such a way that higher scores depicted higher satisfaction. The main question asked of respondents was 'how satisfied are you with the following aspects of your job?' Responses included 22 items which comprised items such as: (a) 'your rate of pay' (b) 'payment according to your performance' (c) 'the amount of training you receive' (d) 'communication between organization and employees' (e) 'the work conditions.' Literature on HR satisfaction suggests that satisfaction is not one-dimensional. In this regard, an exploratory principal components factor analysis with varimax rotation was conducted which yielded five factor loadings with initial eigenvalues greater than 1. The generated five factors had a cumulative percentage of total variance explained 59%. Since one of the items was below .45, the cut off point for factor loadings as recommended by [73], only 21 items which had acceptable factor loadings were used in creating the scales for various dimensions in the measure of employee HR satisfaction. The measure as aforementioned assesses employees' experiences of HRM practices as have been implemented in their firm or organization [74,11,73].

Table 3. Factor loadings: Innovative work behavior

Items	IR	IM	IG
Transforming innovative ideas into useful applications	.841		
Evaluating the utility of innovative ideas	.785		
Acquiring approval for innovative ideas	.617		
Searching out new working methods, techniques or instruments		.827	
Introducing innovative ideas into the work in a systematic way		.659	
Making organisational members enthusiastic for innovative ideas		.607	
Generating original solutions for problems			.875
Creating new ideas for difficult issues			.776
Mobilizing support for innovative ideas			.608

Table 4. Factor loadings: Job demands perceptions

Items	Workload	Task Pace
Do you have to work fast?	.849	
Do you have too much work to do?'	.796	
Do you have to work extra hard to finish a task'	.766	
Do you work under time pressure?	.701	
Can you do your work in comfort?		.863
Do you have to deal with a backlog at work?		.855
Do you have problems with the pace of work?		.634
Do you have problems with the workload?		.508

The five factors extracted and rotated were related to communication and feedback (alpha .84), training and development (alpha .78), remuneration and appraisals (alpha .77), job security (alpha .70), and public relations (alpha .62). The items which loaded on each factor were averaged to get factor scores for each dimension. In order to conduct a mediation test appropriately, a composite measure of employee HR satisfaction was computed. The Cronbach's alpha for the measure was .90. Table 5 provides details on factor loadings on HR satisfaction measure.

6.4 Control Variables

A number of variables were also controlled for in the model. These were: company, age, education, and gender. We controlled for education using two dummy variables: one for those with a primary degree or higher, and one for those who had completed second level (excluding from the analysis those educated above second level but below degree level). Gender was coded as 1 for male and 0 for female.

7. RESULTS AND DISCUSSION

The means, standard deviations and inter-correlations for all study variables are reported in Table 6.

The multiple regression analysis examined the extent to which employee HR satisfaction (as a

multi-dimensional measure, i.e., the five dimensions of the satisfaction measure were all used in the regression analysis) explain employee innovative work behavior. Table 3 provides details of the results of the analysis.

Hypothesis 1 predicted that HR satisfaction would be positively related to employee innovative work behavior. As shown in Table 7, after controlling for company, age, education, and gender, employee HR satisfaction with communication and feedback practices (model 2) was positively related to employee innovative work behavior ($\beta = .59, p < .001$), thus supporting hypothesis 1. In this regard, models 1 and 2 present results relating to the extent to which control variables (model 1) and the HR satisfaction dimensions (model 2) explain employee innovative work behavior. Model 3 presents the results when the job demands variable (i.e. the mediator) was added. Model 1 accounted for 11 per cent of the variance explained in employee innovative work behavior [$F(9,203) = 2.624, p < .05$]. The addition of the HR satisfaction measures accounted for a further 18 per cent of the variance ($\Delta F = 5.581, p < .001$). The addition of the mediator variable accounted for a further 4.5 per cent of the variance in the model ($\Delta F = 5.86, < .001$). Overall, the models accounted for 33 per cent of the variance (Model R2) in employee innovative work behavior [$F(16,203) = 5.868, p < .001$].

Table 5. Factor Loadings: HR Satisfaction

Items	C&F	T&D	P&A	JS	PR
The attention paid to suggestions you make	.797				
The recognition you get for good work	.724				
The number of times you receive performance feedback	.703				
Communication between organisation and Employees	.579				
Your chance of promotion	.494				
Your opportunity to use your abilities	.480				
Industrial relations between management and workers	.400				
The amount of training you receive		.879			
The intensity of the training you receive		.871			
The ability to perform more than one job		.580			
Payment according to your performance			.826		
Your rate of pay			.768		
The way appraisal is related to payment			.615		
Your job security				.694	
The physical work conditions				.653	
Pension provisions				.502	
The level of healthy and safety				.469	
Your involvement in programmes on grievance or complaint procedures				.464	
Relationship with your immediate boss					.744
Relationship with fellow workers					.544
The overall hours of work					.501

Table 6. Means, standard deviations and pearson correlations¹

Measures	Mean	SD	N	1.00	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	0.68	0.47	215														
2. Education level	3.69	1.20	215	-.22**													
3. Age	3.00	1.10	216	.12*	-.16**												
4. Occupation type	3.88	1.66	219	-.23**	.34**	0.05											
5. Country of Origin	2.88	0.63	218	-0.05	-.12*	0.08	0.10										
6. Communication & feedback	3.18	0.76	219	-0.06	.13*	-0.07	0.10	-.14*	(.84)								
7. Training & development	3.42	0.94	219	-0.06	0.08	-0.02	0.01	0.02	.45**	(.78)							
8. Payment and Appraisals	3.04	0.87	218	-0.07	0.05	0.05	-0.03	-0.03	.53**	.25**	(.77)						
9. Job security	3.62	0.69	218	-0.11	.13*	0.06	.19**	-0.07	.62**	.35**	.50**	(.70)					
10. Public relations	4.12	0.69	219	-.21**	0.09	0.02	0.11	0.00	.47**	.30**	.40**	.52**	(0.62)				
11. Jod dd-pace	3.34	0.74	219	-0.03	0.09	-.15*	0.10	-.15*	-0.01	0.03	-.16**	-.16**	-.21**	(.81)			
12. Job dd-workload	2.57	0.72	219	0.02	0.04	0.10	.13*	-0.05	-.17**	-0.02	-.22**	-.20**	-.20**	.45**	(.62)		
13. lwb	2.70	0.91	217	0.03	0.12*	-0.01	.23**	.19*	.42**	.13*	.15*	.19*	0.10	.27**	.13*	(.94)	
14. Hr satisfaction comp measure	3.47	0.57	220	-.117*	.119*	.01	.11	-.08	.88**	.59**	.71**	.82**	.67**	-.10	-.22**	.30**	(90)

Notes: significant at the 0.01 level (one Tailed) *Correlations significant at the 0.05 level (One tailed); ¹Scale reliabilities for relevant measures appear in parentheses in the upper diagonal for each variable

In order to assess the mediation effects of employee perceptions of job demands on the relationship between HR satisfaction and innovative work behavior, Baron and Kenny [75] conditions for mediation were followed. We also used a Sobel test [76], which provides a more direct test of indirect effects (i.e., Sobel Z). The test assesses whether a mediator carries the influence of an independent variable to a dependent variable. Specifically, it focuses on the product term based on the logic that the product is equal to the difference between the total effect and direct effect, rather than on individual paths in the mediation model [77].

Since it was very cumbersome to test mediation using five dimensions of the HR satisfaction measure, a composite measure of HR satisfaction was used rather than the individual aspects. The first step in the mediation test was significant and HR satisfaction was positively related to innovative work behavior ($\beta = .29, p < .001$). The second and third steps were also significant; HR satisfaction variable significantly predicted job demand perceptions ($\beta = -.14, p < 0.1$). On the other hand job demand perceptions significantly predicted IWB when controlling for the measure of HR satisfaction ($\beta = .27, p < .001$). The last condition as highlighted by (9) states that in order to claim for a partial or full mediation, the effect of the predictor (in this case HR satisfaction) on the dependent variable (in

this case innovative work behavior) should be reduced to zero (full mediation) or merely reduced (partial mediation) when controlling for the mediator (job demand perceptions) was not met. Thus, a Sobel test was carried out. Above Table 8 provides the results for the mediating effects of job demands on the relationship between HR satisfaction and employee innovative work behavior. The mediation regression results showed that employee perceptions of job demands (the mediator variable) did not have a complete mediation effect on the relationship between HR satisfaction and employee IWB. In this regard, hypothesis 2 was not supported. However, the model showed that employee HR satisfaction had an indirect effect on employee innovative work behavior via perceptions of job demands as computed through the Sobel test, (Sobel $z = -1.76, P = .078$).

8. DISCUSSION AND CONCLUSION

8.1 Discussion

The research demonstrates the importance of certain HRM practices in influencing innovative work behaviors among employees. Hypothesis 1 proposed that HR satisfaction (represented by various dimensions of satisfaction with HRM practices) would be positively associated with innovative work behavior.

Table 7. Multiple regression analysis for employee HR satisfaction and employee innovative work behaviour^a

	Innovative work behavior		
	Model 1	Model 2	Model 3
Controls			
Company 1	-.07	-.07	-.07
Company 2	.01	-.04	.01
Company 3	.13	.01	.07
Company 4	-.07	-.05	-.04
Age (<30)	-.16	-.17	-.16
Age (41+)	.05	.01	.00
Education (degree or higher)	-.03	-.01	-.06
Education (second level)	-.04	-.05	-.06
Gender (male)	.08	.10	.11
Communication and feedback		.56	.59
Training and development		-.07	-.11
Remuneration and appraisals		-.04	-.02
Job security		-.11	-.08
Public relation		-.10	-.27
Job demands	-	-	.21
Change in F	2.62	9.58	6.38
Change in R ²	.109	.18	.045
F	2.62	5.48	5.87
Adjusted R ²	0.67	.236	.277

Notes: ^aCompany 5 is omitted in this regression since it is a reference group variable; ^bMissing data and listwise deletion reduced sample size from 220 to sizes ranging from 187 to 205 in different variables in the multiple regression analysis. *** $p < 0.001$; ** $p < .01$, * $p < 0.05$, † $p < .10$; all tests are one-tailed

Table 8. Regression results predicting the mediation effects of job demands on the relationship between HR satisfaction and IWB^a

Predictors	Innovative work behavior						
	B (S.E)	T	F	DF	R ² change	Total R ²	Sobel Z
Model 1							
HR satisfaction	.46 ^{***} (.108)	4.2 ^{***}	4.35 ^{***}	(10,204)	.075 ^{***}	.18 ^{***}	
Model 2							
Job demands	.32 ^{***} (.08)	4.05 ^{***}			.064 ^{***}	.24 ^{***}	
HR satisfaction	.52 ^{***} (.105)	4.89 ^{***}	5.76 ^{**}	(11,204)	.094 ^{***}	.25 ^{**}	-1.76 [†]

Note: ^aSobel test results are two tailed; N = 205; *** p < 0.001; ** p < .01, * p < 0.05, † p < .10

The study found a significant relationship between innovative work behavior and one dimension of employees' HR satisfaction namely communication and feedback. The regression model showed that HR satisfaction which is related to communication and feedback accounted for about 4 per cent of the unique variance in innovative work behavior (reflected in the partial correlations coefficients), above what was explained by the control variables model. These findings are consistent with studies which have generally associated employee perceptions of HRM practices with innovation, and innovative work behavior [78]. The findings are also consistent with studies that suggest that HRM practices can be used as ways of encouraging employees to work innovatively [79]. What is new in this finding is the aspect that only the communication and feedback dimension of the measure of HR satisfaction was significant. Other variables which were significant included occupation type and type of the firm the employee was as control variables. The practical implication of this trend is that each HRM practice may have its own effect in influencing employee perceptions and their resultant effect in performance outcomes.

In this regard, these findings suggest that employees are more likely to engage in innovative work behavior depending on the extent to which they are satisfied with how the management effectively communicates their objectives and goals to the employees. It should be noted that innovative work behavior consists of practices which suggest discretion among the employees. In this respect, if there is lack of proper communication and feedback between the management and the employees regarding the extent to which they can engage in innovative work behavior, employees may withdraw their propensity to innovate. Literature shows that innovative work behavior is also related to employees' efforts and decision to 'take charge' and initiate change in a respective work role [80]. The study findings showed that only

communication and feedback practices explained the variance in innovative work behavior. Furthermore, Model 2 in total has only 33 per cent of variance explained. The variance explained is in line with various HR related studies of similar nature, which gives researchers room for further studies on the other hypothesized variables. On the other hand, there was no alternative hypothesis which could explain the reasons behind the remaining 67% variance unexplained. Nevertheless, the level of variance explained is acceptable. Related to communication and feedback as the main significant independent variable in the study, this study suggests that empowerment among employees is a potential outcome of good communication and feedback which leads to innovative work behavior. Caution must be taken in this respect, however, that due to our small sample size, conclusions made should be made with view of a possibility of other factors being significant should the sample size be a little big in size. Thus, in order to get more benefits from employees' extra-role behaviors, management should extensively utilize HRM practices that foster effective communication and feedback since these practices have the potential for influencing employees' innovative work behavior. In this respect, the company management should encourage employee participation in such areas like decision making. They should also encourage practices which enhance the communication of important or relevant company information to employees. These may include relevant financial or operating performance information. They should also encourage employee-employer communication in particular with regard to matters related to grievance or complaint resolution procedures. The findings are beneficial to both the employer and the employees because understanding employees' HR satisfaction can assist in channeling employee voice and in ensuring that people management aligns with company goals. Employee voice can be used as a means through which employees suggest improvements

in working conditions, training methods, and safety procedures [81]. Similarly, these findings suggest to practitioners that employees can be motivated and developed in knowledge, skills and abilities, to work innovatively for the benefit of the company.

With regard to hypothesis 2, the results for the mediation analysis between employee HR satisfaction and innovative work behavior showed that employee perceptions of job demands did not fully or partially mediate the relationship between HR satisfaction and IWB as hypothesized. There were, however, findings related to the indirect effects of employee HR satisfaction on employee IWB via perceptions of job demands. These indirect effects were assessed using the Sobel test. In this regard Osborne [82] highlights that, an understanding of how people behave at work, and how they interact with their working environment, can assist a company in the creation of an environment that does not require more than the worker can give. These findings have practical implications to the employer because understanding employees' perceptions of the demanding aspects of the job can aid a company in designing work roles that are not detrimental to both the company and employees. It is also important to the employers to understand the role of perceptions of job demands especially when these perceptions are related to employee-behavioral outcomes. These findings should aid employers in understanding that, although perceptions of job demands do not completely mediate the relationship between HR satisfaction and behavioral outcomes, they do play a role in carrying over the influence of these HRM perceptions on behavioral outcomes. Thus, employee perceptions of demanding aspects of the job indirectly influence the relationship between HR satisfaction and IWB. In simple terms, too much workload may mitigate employees' HR satisfaction which in turn may reduce employees' willingness to take charge and engage in extra-role behaviours.

Based on social exchange theory [83] and the norm of reciprocity [84], this study has demonstrated that employees will reciprocate in beneficial ways when they perceive that their company treats them well. This theoretical perspective was supported by the findings regarding employee HR satisfaction, the independent variable in regressing employee innovative work behavior. In particular, this study suggests that employers should adopt practices

that address the manner in which employees get performance feedback and the way the company communicates with its employees. The study has also shown that there is a positive relationship between employee HR satisfaction and employee innovative work behavior. This association indicates that employees' perceptions matter in determining behavioral outcomes, in particular, innovative work behavior. These employee performance outcomes are important in eliciting discretionary efforts, which in turn affect company performance.

8.2 Limitations

A number of limitations to the study should be noted. There was a relatively small response rate in this study. The greatest challenge relating to securing companies to participate in employee surveys involved claims by the management that they have had numerous employee surveys submitted to the company for completion. Therefore, additional surveys were considered unnecessary, inconvenient, and costly in terms of finance and time that employees usually spend out of the job completing questionnaires. Despite the investigator's efforts to convince the companies that the surveys would be beneficial for the companies and the researchers, very few companies accepted the invitation. Accordingly, these research constraints necessitated that any generalizations of this work should be made in the knowledge that the response rate for the employee sample was relatively small. Similarly, due to lack of information about employees who did not complete the surveys, it was difficult for this study to assess a non-response bias between responding and non-responding employees. This weakness may limit generalizations that can be made in this study. In the same manner, lack of adequate sample made it impossible to use Structural Equation Modeling which would be an alternative in simultaneously testing the relationships among variables in the model.

8.3 Conclusion

This study has attempted to examine the association between employee HR satisfaction and employee performance outcomes, namely innovative work behavior. The study also assessed the influence of employee job demand perceptions on the relationship between HR satisfaction and innovative work behavior. Overall, the study has demonstrated that

employee HR satisfaction influence innovative work behavior. Similarly, job demand perceptions have an indirect effect on employee propensity to engage in innovative work behavior. Thus, in order to improve innovation, management has to adopt and encourage HRM practices which are more likely to motivate employees to engage in extra role behaviors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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