Thriving in the Hybrid Era: Investigating the Relationships between Leadership, High-Performance Work Systems, Employee Resilience, and Engagement in the IT Industry

Medha Gupta
Research Scholar,
University School of Business,
Chandigarh University, Mohali
medhagupta1997@gmail.com

Dr. Rupali Arora
Professor,
University School of Business,
Chandigarh University, Mohali
rupali.arora@cumail.in

Abstract

Purpose- The objective of this article is to investigate the relationship among leadership, high-performance work systems (HPWS), employee resilience (ER)& employee engagement (EE) in the information technology industry.

Design/methodology- The data were collected from 100 IT professionals in tri-city. All the missing data were eliminated to ensure accurate results. For analyses, partial least squares structural equation modelling (PLS-SEM) was applied.

Findings- It indicated a positive connection among the factors and ER partially mediates the relation among HPWS, Leadership, and EE.

Practical Implications- Employee resilience act as an important factor to cope up in a volatile environment. Resilience in the organizations is required in order to achieve better results and to ensure more involvement of employees in the organization

Originality- This research is conducted for the IT sector professionals from the tri-city. The result of the research is in alignment with previous studies by establishing a positive relationship between HPWS and ER, leadership and ER, and ER and EE.

Keywords-Leadership, Employee Resilience (ER), High - Performance Work System (HPWS), Employee Engagement (EE)

Introduction

An unceasing advancement of technology, in conjunction with the rapid transformation of the working environment, presents contemporary businesses with several issues. Moreover, these obstacles present possibilities to engage in new ventures that have the potential to bring change in the market and capitalize on unexpected developments (Caniëls & Hatak, 2019). Modern businesses need their employees to be capable of both adapting to change and generating new ideas; as a result, they require a workforce that is both resilient and engaged(Lee et al., 2013). Employee attitude and actions, such as being open to

organizational change, are crucial to an organization's capacity to be flexible and adaptive (Griffith & West, 2013). Nevertheless, not every employee has acquired the skills necessary to prosper in the presence of circumstances that are unexpected, ambiguous, frequently unfavourable, and typically unpredictable(Caniëls & Hatak, 2019). Aperson's capability to handle adversity, setbacks, and challenges in the workplace while maintaining their performance is known as employee resilience(Kuntz, Connell, et al., 2017). Employees that are resilient are not only able to persevere through difficult situations, but also demonstrate confidence in their own talents, which eventually leads in increased levels of work engagement(F.L Cooke et al., 2016). Thus, the resilience of staffmay be considered an essential strategic resource for firms in the process of ensuring engagement(Malik & Garg, 2017).

The Covid outbreak posed challenges to many sectors and the world economy, but India's technology sector experienced a high growth in FY2022.This was mainly due to the fact that technology served as the pivot that enabled companies toexpedite the process of becoming flexible, resilientand future-ready(NASSCOM, 2022). Since IT employees work in a challenging workplace with psychologically difficult and demanding work responsibilities, lengthy assignments and rigorous deadlines, the idea of employee resilience is especially important for IT companies(Bagga, 2013; Messersmith, 2007).

Previous studies have suggestednumerous mannersfor howeffective human resource management (HRM) guidelines & procedures can influence resilience(Lengnick-Hall et al., 2011; Bardoel et al., 2014).Very few businesses recognise the value in building a resilient workforce as a strategy to increase employee engagement and competitiveness, and even fewer provide training in resilience as a skill or ability that can be honed(Wang et al., 2014). Yet, the vast bulk of research concerning resilience lacks to give an explanation and provides limited data on its growth and workplace implementation (Malik & Garg, 2017; Rutter, 2012; Winwood et al., 2013).

Previous researches have indicated the ways by which resilience is affected by different policies of strategic HRM(Robertson et al., 2015; Bardoel et al., 2014). Moreover, very less research is done about how (HPWS) i.e. high-performance work system may improve ability to bounce back and results in employee engagement (Wang et al., 2014). Furthermore, studies indicates that those with high levels of resilience are more equipped to handle the hardship & change(Rossi et al., 2013). Therefore, previous research lacked to elucidate the association among how HPWS and leadership will improve employee resilience and will result in employee engagement.

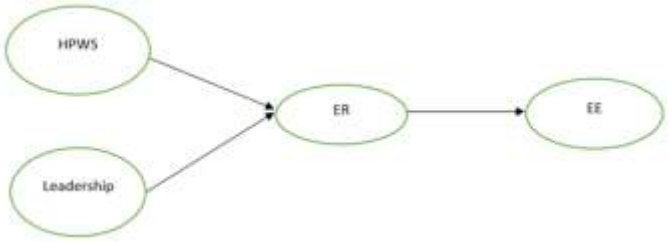
This research is based on theoretical perspectives drawn from (JD-R) job demand sources model (Demerouti et al., 2001) and conservation of resources (COR) theory (Hobfoll, 1989). The theory stated that individuals are inspired to get, hold, and preserve resources, and stress originates from the fear of loss of resources (Hobfoll, 1989). Theoretically, those who work in resourceful environments will become more resilient themselves. (Meneghel et al., 2016). The job demand source model is helpful in analysing how resilience and high performance work system practices affect employee engagement (Schaufeli & Bakker, 2010). The HRM-performance chain in specifically from the HPWS theory sheds light on the potential effects of HPWS policies on worker views and behaviour patterns (P Boxall & Purcell, 2011). The current research will examine the influence of high-performance work system and leadership on employee engagement, where employee resilience act as a mediator.

Literature Review and Hypotheses Development

Liang & Cao, (2021) stated how problem focused coping and emotion focused coping helps in regulating the emotions of the worker and thus increasing the employee resilience and organizational resilience in the organizations. Singh et al., (2023) highlighted psychological capital and resilient leadership are critical factors in maintaining employee engagement in the information technology (IT) sector. According to Santoso et al.,(2022) transformational leaders are important because

they inspire their teams to be innovative and unique, take initiative, and increase employee engagement. However, a little research is done on the association among leadership, high performance work system, employee resilience and employee engagement despite the need for an extremely robust & involved staff in the current complex operational environment of service organisations. Figure 1illustrates the projected model for this research.

Figure 1- Projected Model



High performance work system (HPWS)

HPWS is method of human resource procedure planned to improve employee ability, dedication, and efficiency (Datta et al., 2005; Peter Boxall & Macky, 2007). It offers flexible work schedules, a rigorous hiring procedure, in-depth training and career development, competitive compensation, and an array of benefits (Peter Boxall & Macky, 2007; Takeuchi et al., 2007).

Previous researches indicate that HPWS enhances both individual and group effectiveness (Combs et al., 2006; Fang Lee Cooke et al., 2019; Guthrie, 2001). Staff act as the epicentre of creativity, rapidity, and flexibility (Datta et al., 2005) and an organizations achievement depends on how well its staff handles the transition (Shin et al., 2012). It is crucial for an organization's survival and long-term performance to have a resilient people who can respond positively and successfully in this difficult environment (Wang et al., 2014).

According to study, those with a high level of resilience are capable of handling traumatic events and adjusting to challenging conditions well (Tugade & Fredrickson, 2004; Waugh et al., 2008). De Clercq & Pereira, (2019) studied the positive relation between workers' ability to bounce back from setbacks and their propensity to come up with completely original ideas for organisational development. According to Braun et al., (2017) emphasising personal mobility and resilience can help workers be more resilient to uncertainty by helping them adjust to change more quickly and better manage stress.

Relation between High performance work system and Employee Resilience

High-performing companies foster quality improvement, innovation, and fast adaptability by giving their workers the required training, skills, incentives, and involvement opportunities (Fang Lee Cooke et al., 2019). By fostering the growth of a varied range of skills and appropriate behavioural patterns, collection of HR practises contained into HPWS may encourage organisational flexibility, permitting companies to adapt successfully in competitive context (Datta et al., 2005). The focus of HPWS should be on enhancing staff members capacity to handle unforeseen difficulties (Lengnick-Hall et al., 2011). Wang et al., (2014) in his study indicated HR initiatives like education, mentoring, and advancement can be used to develop and optimise the fundamental competences pertinent to a person's degree of resilience. Moreover, Bardoel et al., (2014) stated that both in times of turbulence and relative calm, a comprehensive set of resilience-enhancing HR practises may improve workers' job satisfaction, beliefs, and behaviours as well as organisational success. Aeknarajindawat et al., (2020) findings indicated a substantial beneficial impact of wellbeing-focused HRM practises on employee performance. In alignment with the literature stated above, Employee resilience is anticipated to be favourably correlated with high performance work systems.

H1: HPWS is positively related with employee resilience.

Relation among Leadership and Employee Resilience

People who are resilient would be capable of dealing with difficulties and losses more effectively than those who are not resilient (Shin et al., 2012). When given the right direction and guidance, workers can improve their ability to recover from setbacks (Kuntz, J.R.C, et al., 2017). Employee resilience is greatly influenced by a leader's reaction to external difficulties or adversity(Bullough et al.,

2014). Leadership stimulates the mind by transforming disasters into learning opportunities to support staff members adaptable coping responses(Owens et al., 2013). Leadership encourages a helpful work environment and promotes employee engagement(Ou et al., 2014). Leadership creates channels for communication, boosts psychological safety for workers(Walters & Diab, 2016) and fosters confidence within the workplace, all of which are crucial preconditions for employee resilience(Cooper et al., 2019). As per the literature reviewed above, it is anticipated that strong leadership will increase employee resiliency.

H2: Leadership is positively related with employee resilience

Relation among Employee Resilience and Employee Engagement

Employee involvement is viewed as a crucial component of organisational success(Truss et al., 2011; Martel, 2003; Harter et al., 2002). Engaged workers help organisations maintain a competitive edge(Joo & Mclean, 2006). Workers who are more engaged than their less engaged colleagues are more likely to feel happy, be in good well-being, grow their own talents, and extend their participation to others(Bakker & Demerouti, 2008).Furthermore, they are less likely to leave the company willingly and are more reliable(Macey & Schneider, 2008). Amir & Mangundjaya, (2021) in his research examined that resilience is influenced employee engagement. Positive job results, such as job happiness and personal psychological health, were linked to employee engagement(Burke et al., 2009).F.L Cooke et al., (2016) emphasised how resilient workers promote job involvement in China's banking sector.Karatepe & Olugbade, (2009)discovered that workers who have a strong sense of self-worth are more invested in their jobs and enthusiastic employees exhibit intense involvement and are totally immersed in their job duties. In alignment with the literature stated above, Employee engagement is anticipated to be favourably correlated with employee resilience.

H3: Employee resilience is positively related with employee engagement.

Employee Resilience as a Mediator

According to previous research, resilient people are well equipped to handle with unplanned changes and successfully adjust to challenging occupations, responsibilities, and circumstances. (Shin et al., 2012). The job demand source model supports our claim that high-performance work practises can promote the accumulation of positive personal psychological characteristics, which impacts employee engagement(Schaufeli et al., 2006; Bakker & Demerouti, 2008). Bardoel et al., (2014)contend that employee resilience will be improved by HR practises like social support at workplaces. Resilience enables workers to withstand stress and adjust to challenging and changing situations(Rutter, 2006). Various researches have demonstrated that when given access to corporate resources like leadership support and liberty, job freedom, acknowledgment and incentives, and a culture of trust and devotion, workers are more likely to be involved(Menguc et al., 2013; Kuvaas & Dysvik, 2010;Aguinis et al., 2012;). Schaufeli & Bakker, (2010)emphasised that businesses that give their staff members growth and development opportunities help them become more resilient. In alignment with the literature stated above, Employee resiliency is anticipated to serve as mediator among HPWS, leadership, and employee engagement.

H4: Employee resilience serves as the bridge among HPWS, leadership, and employee engagement.

Research Methodology

Sample and Data Collection

Information for the current research were gathered from 100 IT companies personnel located in tri-city. The cover letter focused on the significance of this research and emphasised participants confidentiality and privacy.

Measures

High Performance Work System

A multivariate scale derived from earlier accepted measurements by Takeuchi et al., (2007),Sun et al., (2007)and Prieto & Santana, (2012)was used to assess HPWS. This indicator encompasses the core practises identified in our literature study as illustrative of HPWS in

the IT sector. The sample items included were 'Performance is based on objective and quantifiable results, duties in the job are clearly defined' etc. All the statements were rated on 5-point scale by the employees (1-strongly disagree, 5-strongly agree).

Leadership

Leadership statements were evaluated on a 5-point scale varying from 1strongly disagree to 5strongly agree. For this study, Bradley P. Owens et al., (2013) scale was adopted. The statements included were 'My leader is open to the advice of others,' 'My leader treats all the group members as equal' etc.

Employee Resilience

Employee resilience statements were evaluated on a 5-point scale varying from 1- strongly disagree to 5- strongly agree. For this study Hodliffe, (2014)scale was used. The statements included were 'I effectively collaborate with others to handle challenges at work,' 'I approach the manager when I need their support' etc.

Employee Engagement

Employee engagement statements were evaluated on a 5-point scale from 1-strongly disagree to 5- strongly agree. For this study , the scale was adopted from Schaufeli et al., (2006). The statements included were 'My job inspires me,' 'At my job I feel strong and vigorous' etc.

Control Variables

Since we are particularly interested in investigating the link amongHPWS, leadership, employee resilience, and employee engagement, we adapted a few demographic factors to rule out other reasons for the findings. In the present research, we involved job experience, gender and age as control variables.

Analysis

Validity and Reliability Test

The uniformity of scale tools is referred to as reliability. Individual item dependability and internal consistency are two measuring indicators (Huang, 2021). Factor loading is assessed via individual item dependability. Internal consistency is measured using latent variable Cronbach's alpha and(CR) composition reliability. The suggested number should be bigger than 0.7(Huang, 2021). The accuracy of the scale instrument is referred to as validity, and measuring indications include discriminant and convergent validity. The purpose of convergent validity is to find average variance extraction (AVE) and to quantify the relationship between elements with the same dimension. The suggested value must be bigger than 0.5(Bagozzi & Yi, 1988). To examine the relationship among items with distinct aspects by utilising the square root value of average variance extraction, discriminant validity is being used(Fornell & F.Larcker, 1981). Table 1 showcases that factor loading values are bigger than 0.7 which meets the standards. Moreover, CR and Cronbach's alpha values are also higher than 0.7 thus representing good internal consistency and reliability. A good convergent reliability indicates value to be bigger than 0.5 and hence the AVE of our factors is bigger than 0.5. Table 2 showcases discriminant validity using Fornell-Larcker criterion. This criteria states that the square root of the average variance retrieved by a construct must be larger than the correlation among the construct and any other construct and since this condition is met, it indicates a good discriminant validity.

Table 1: Measurement Model

Variables	Particulars	Factor Loading	Cronbach's Alpha	CR (RHO_C)	Average variance extraction
High Performance Work System	HPWS1	0.863	0.794	0.879	0.709
	HPWS2	0.899			
	HPWS3	0.757			
Leadership	L1	0.872	0.879	0.912	0.676
	L2	0.810			
	L3	0.880			
	L4	0.824			
	L5	0.717			

Variables	Particulars	Factor Loading	Cronbach's Alpha	CR (RHO_C)	Average variance extraction
Employee Resilience	ER1	0.836	0.896	0.923	0.706
	ER2	0.828			
	ER3	0.813			
	ER4	0.870			
	ER5	0.855			
Employee Engagement	EE1	0.877	0.884	0.920	0.743
	EE2	0.884			
	EE3	0.902			
	EE4	0.780			

Source- Author's Compilation

Table 2: Discriminant Validity Test

	Employee Engagement	Employee Resilience	High Performance Work System	Leadership
Employee Engagement	0.862			
Employee Resilience	0.725	0.840		
High Performance Work System	0.811	0.742	0.842	
Leadership	0.808	0.729	0.760	0.822

Source- Author's Compilation

Structural Equation Modelling Analysis

When analysing structural equation modelling, be certain that collinearity has been avoided. If the value of (VIF) variance inflation factoris more than 5 it indicates collinearity issue among the variables (Hair et al., 2011). The variance inflation factor values are represented by Table 3; all the values are smaller than five indicating no collinearity between the variables. For the purpose of assessing the adequacy of the entire model SRMR and NFI are often used metrics for PLS-SEM. Range of SRMR is between zero to one but when the value is smaller than 0.08 is it considered to be a good fit for the framework(Hu & Bentler, 1998). Range of NFI is also varies between zero to one but greater the value, better the performance (Bentler & Bonett, 1980). Table 4 indicates that SRMR value is less than 0.08 and NFI value is 0.790 which is also within the range thus indicating model is well- fitted.

Table 3: Collinearity Analysis

	VIF
Employee Resilience -> Employee Engagement	1.000
High Performance Work System-> Employee Resilience	2.365
Leadership -> Employee Resilience	2.365

Source- Author's Compilation

Table 4: Model Fit

SRMR	0.070	NFI	0.790

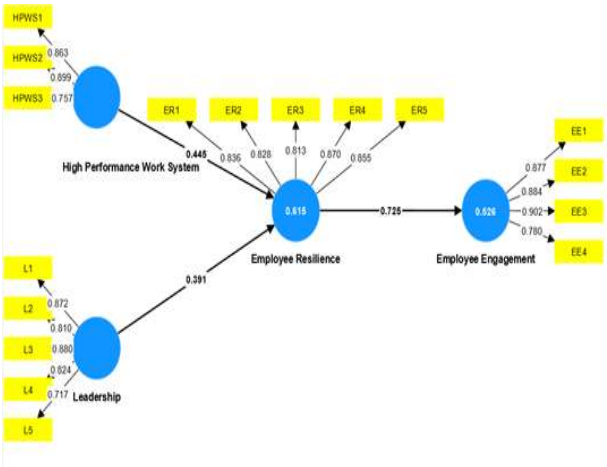
Source- Author's Compilation

Path analysis and R square technique is being used to verify the model. Path analysis method says that, t-value will be used in order to check the authenticity of Hypotheses. If the value of t is more than 1.96, it indicates significant level at 0.05. Table 5 indicates path analysis where H1, H2 and H3 are at a significant level as value of p is less than 0.001. The hypothesis in this research is valid. Figure 2 indicates the PLS- SEM path model.

Table 5: Path Analysis

Path Analysis	Path Coefficient	T Value	P Value	Hypothesis
ER → EE	0.725	7.141	0.000	H3 true
HPWS → ER	0.445	5.102	0.000	H1 true
L → ER	0.391	4.358	0.000	H2 true

Figure 2: PLS-SEM model



R-square testing indicates how well a model fits. The value of the R2 lies between 0-1, so more the value, better is the explanatory power. If the value of R2 is near 0.50 it means framework has moderate explanatory power and if the value is near is 0.75 it means framework has high explanatory power. Table 6 indicates the R2 and R2 adjusted values. It means explanatory power of employee engagement is 0.526 indicating moderate explanatory power and for employee resilience its 0.615 indicating high explanatory power. F-Square is the change in R-Square caused by the removal of an exogenous variable from the model. When the value of F2 is more than 0.02 but less than 0.15 it indicates small effect, if the value is more than 0.15 but less than 0.35 it represents medium effect and if the value is more than 0.35 it represents large effect. Table 7 showcases F2 values. The F2 value of employee resilience to employee engagement is 1.108 indicating high explanatory effect whereas the value of F2 of HPWS to ER is 0.218 and L to ER is 0.168 bothindicating medium effect.

Table 6: R square values

	R-Square	R-Square Adjusted
Employee Engagement	0.526	0.521
Employee Resilience	0.615	0.607

Table 7: F square values

	Employee Engagement	Employee Resilience	High Performance Work System	Leadership
Employee Engagement				
Employee Resilience	1.108			
High Performance Work System		0.218		
Leadership		0.168		

The indirect effect value of t can be used to understand the intermediary effect. If the t value is larger than 1.96 it indicates the presence of intermediate impact (Zhao et al., 2010). The value of t is greater than 1.96 as shown in table 8, this means employee resilience performs as a mediator among HPWS, leadership, and employee resilience. Thus hypothesis 4 is true.

Table 8: Intermediary Effect

Intermediary effect	T value
HPWS → ER→ EE	4.012
L → ER→ EE	3.190

Discussion

The research findings indicated a substantial relationship among HPWS, leadership, employee resilience and employee engagement in IT sector. Due to increasingly dynamic climate, it's vital for businesses to foster employees' skills to improve personal and organisational outcomes (Malik & Garg, 2017).Employee resilience is required to perform in "chaotic practice environment."(Winwood et al., 2013). Organisations are now required to create specialised methods to boost involvement in the workplace and employee resilience(F.L Cooke et al., 2016; Hodliffe, 2014). Thus, the current study helps in broadening the understanding of researchers in IT sector as discussed above, there is a positive connection among HPWS and employee resilience as supported by hypothesis 1 and the results of F.L Cooke et al., (2016). Secondly hypothesis 2 stated the positive association between leadership and employee resilience, thus supported the arguments of (Walters & Diab, 2016). Hypothesis 3 showcased the positive association between employee resilience and employee engagement. The results resonate the findings of Malik & Garg, (2017). Finally hypothesis 4 was valid as employee resilience represented as a mediator amongleadership, HPWS and employee engagement.

Limitations & Future Scope

Firstly, the area of the study comprised of people employed in IT sector in tri-city only. Future research can be done in different parts of the country and can comprise of different sectors as well. Secondly, in this research only age, gender and work experience were taken into consideration, so for future research different demographical factors can be taken into consideration like educational qualification, managerial hierarchy. Thirdly, the paper included cross-sectional method and for future avenues different factors can be studied which will have an impact on employee resilience. Furthermore, in future comparative research can be done wherein we can study the impact of resilience in different sectors.

Conclusion

In summary, our research has aimed to investigate the connection between HPWS, employee resilience, and employee engagement. Through the application of the JD-R model, we have determined that employee resilience serves as an intermediary factor in the link between HPWS, leadership and employee engagement within the IT sector. Our research illuminates fresh insights into the significant function of HPWS and leadership in boosting employee resilience, specifically by serving as a job asset to foster increased employee engagement. The results additionally reinforce our assertion that employee resilience can be defined as a collection of abilities and qualities that can be cultivated and amplified by proficiently leveraging HPWS and leadership.

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