Performance Implications of Employee Engagement in India's IT Sector: A Contextual Analysis from Central India

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Abstract

The purpose of this research is to determine the major determinants of the level of employee engagement in India's Information Technology industry amid the pandemic. It also seeks to establish the correlation that exists between employee engagement and performance. Google Forms were used to obtain during the pandemic, the comments from employees working in the Information Technology industries in the Central India in particular Maharashtra for this study. Non-probability purposive sampling technique from 311 people was done to collect the information. Regression analysis and structural equation modelling were used for predicting and estimation of the associations. All variables, communication, leadership and the organization's purpose and direction were those that made the greatest impact on the staff engagement with a coefficient of determination 0.734, which presents a strong connection between the indicators of the employee engagements and a range of the employee engagements. There exists a positive strong correlation ratio between employee engagement and employee performances as indicated by a coefficient of determination of 0.707. Organizations should focus on the engines of employee engagement i.e. communication, leadership, organization's purpose and direction. Every level of the management should be encouraged to make transparent communication, horizontally and vertically up. Employees' perception and evaluation of positive working relationship is affected by symmetrical communication whose implication is the focus on the necessity of open symmetrical communication, that is, communication that is two-way and transparent. Moreover, knowledge of factors to employee engagement will create a healthy working environment in the firm and there will be a lot of attention on the individuals which may translate to a better performance by the employees. The importance and the necessity of crystallizing the concept of employee engagement based on the growing popularity of this concept are accentuated in the research paper. The study is peculiar in the sense of the whole model that is constructed and evaluated.

Keywords: *Employee engagement, employee performance, communication, leadership, purpose & direction of organization.*

1. Introduction:

Employee engagement is described as an employee's level of dedication and involvement in their organization and its principles in general. Whenever any employee is engaged, they understands their role in the company's goals and inspires their colleagues to help the company achieve its objectives. The favourable emotional attachment of an employee to his work is well-defined as the employee's good attitude toward his or her workplace and its value system. Engaged employees go above and beyond the call of duty to excel in their jobs. (Hasan, 2023) used the term "work engagement" to define the "harnessing of organizational members' selves to their work duties." He added that during role plays, "people use and express themselves physically, intellectually, and emotionally." Several criteria determine whether or not an employee is engaged. The idea of employee engagement has evolved to consider the many behaviours patterns displayed by an employee which are positive and productive. In terms of loyalty and productivity, most firms now recognize that a "satisfied" employee is not necessarily the "best"

employee. Only an "engaged employee" is one who is intellectually and emotionally connected to the organization, is passionate about its aims, and is dedicated to its ideals. Its importance is enhanced by the fact that it has a substantial influence on the earnings of the company. Engagement of personnel is about motivating employees to do their best work. Employee quality determines the quality of a company's production and its competitive advantage.

(Arifin, Tjahjono, Hartono, & Muafi, 2023) used the phrase "employee engagement" to describe the "harnessing of executive members' identities to their work responsibilities." Engagement of personnel is a motivating and connecting factor that motivates and connects employees with their organizations on an emotional, cognitive, and physical level. Employee involvement is critical to a company's growth and performance. According to previous studies, individuals want more purpose in their daily employment than in their personal lives. As a result, managers should make an effort to make work meaningful, such as by identifying and attempting to remedy any issues that employees have (Khan & Singh, 2023).

This study uses a comprehensive literature review to identify the important variables that characterize employee engagement and the intensity of the effect of Engagement of personnel on employee performance. Engagement of personnel is defined as the results and achievements obtained at work. The term "performance" refers to sticking to a plan while striving towards a certain outcome. Although performance assessment is at the centre of performance management(Al Zeer, Ajouz, & Salahat, 2023), an individual's or an organization's performance is highly influenced by all the organization's rules, procedures, and design elements. This integrative perspective represents a configurational perspective to the strategic human resource management, whereby it is argued to maintain patterns of HR activities, as opposed to individual operations in meeting firm objectives . The worker engagement is one of the most important components of high productivity levels. As research

has determined, employee engagement is among the most important factors pointing towards high performance of employees (Abdullahi, Raman, Solarin, & Adeiza, 2023). The researcher employs an in-depth literature survey to define the crucial parts of describing employee engagement and the level of its influence on the employee performance. This instrument was used to find out those variables that give an explanation to the employee engagement and to evaluate the performance of the employees, and we collected the data of 311 employees in the central India at the management executive and senior levels in the IT sector.

1.1 Gap Analysis:

Review of literature suggest that personnel engagement is a significant concept that merits more investigation. The predictors of engagement are one area that need more exploration. While (Hasni & Sarlan, 2023)discovered predictors linked to three psychological states of engagement, data shows that these predictors can only impact one of these conditions at a time, necessitating the search for predictors that affect engagement. There are several additional factors that may have a role in employee engagement. Human Resource policies like flexible working conditions, training programmes, incentive awards, Leadership, Communication for instance may be employed as employee engagement. Thus, this research has attempted to find out the factors that are the most important for engagement in different roles, jobs, organisations and groups(Singh et al., 2023).

1.2 Theoretical Background of Employee Engagement:

In contemporary research on employee engagement, the social exchange theory (SET) is widely recognised and extensively utilised theory. People make social choices built on perceived costs and shared benefits, which is the central idea of social exchange theory. It suggests that when jobs are based on fair balance system of exchange, then employees would want to perform their jobs. (Maryati & Astuti, 2022). Over time, this trade relationship develops into one of trust, loyalty, and mutual commitment. In conclusion, the

social exchange theory's theoretical framework is the reason why workers will choose to engage in the workplace more or less depending on whether it is positive or negative based on the economic and socio-emotional resources that they will gain from their employer or even keep with their employer.(Wolor, Dania, Rofaida, & Eranza, 2022) .

1.3 Objectives:

1. To determine the factors that affect employee engagement in India's information technology sector.
2. To investigate the association between employee engagement and performance in India's information technology sector.
3. To examine the influence of employee engagement on employee performance in India's information sector.

2. Literature Review:

Employee engagement is a useful tool for any company looking to acquire a competitive edge over the competition. People are one component that rivals cannot reproduce or mimic, and they are regarded as the greatest valued asset if properly managed and engaged. (Mohammad, Menhat, Zaideen, Saadon, & Hussein, 2022)emphasizes this issue, stating that employee involvement is the most significant element in determining a company's viability. In their work on organizational success, (Abdullahi, Raman, & Solarin, 2022) introduced the notion of involvement. Though, it was noted as one of the several requirements that must be met for creating an inventive and collaborative work atmosphere that provides increased output and effectiveness. Authors (Nguyen & Nguyen, 2022) presented the idea of employee engagement, defining it as "the harnessing of organisation members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances," as mentioned in the introduction. Meaningfulness (job aspects), safety (social factors, such as management style, procedure, and organizational norms), and accessibility (individual

distractions) are all essential psychological engagement requirements.

The studied work engagement is defined by (Siswanto, Maulidiyah, & Masyhuri, 2021) as "the psychological condition that accompanies the behavioural investment of personal energy". According to the definitions given above, an actively engaged employee is wisely and passionately connected to the organisation, cares deeply about its aims, and is devoted to upholding its values.

Personnel engagement is "the ability to capture the heads, hearts, and souls of your employees to instil an intrinsic desire and passion for excellence," therefore adding a mystical dimension to established Thought-based and feeling-driven components of engagement. There are three types of people. dedicated workers, nondedicated employees, actively disengaged employees. Employees that are engaged are builders who continually strive for excellence in their positions. Employees that are disengaged are more concerned with the duties assigned to them than with the organization's objectives. They carry out the orders given to them. Actively disengaged employees are dangerous because they do not only not produce well but also discourage the performers of the organization. Employee engagement was a hot issue in business during the years 1999-2005, the subject of discussion among the managers, consultants, and policymakers. Scholarats first began to be interested in the idea to a great extent when several studies extended the idea of employee engagement to incorporate job engagement, work engagement and organisational engagement. Authors (Kamaruddin et al., 2021) extended concept by adding work and organisational involvement. According to Saks, job qualities, perceived organisational support, perceived supervisor support, incentives and recognition, procedural fairness and distributive justice were all antecedents of employee engagement. Job satisfaction, organisational commitment and desire to resign as well as organisational citizenship behaviour were, on the other hand, the effects of engagement(Singh & Shahare, 2021).

The rules, procedures, arrangement and system in place will determine the level of commitment that an organization's personnel have. Some previous studies have shown how important it is that the organizational rules and procedures are pleasant for the purpose of fostering employee engagement and realizing corporate goals(Dhale & Singh, 2022). It's vital to have rules and processes in place to ensure that employees are treated fairly when it comes to hiring and promotion (Sarangi & Srivastava, 2012). A company's recruiting strategy has an effect on future workers' levels of commitment and involvement, according to research. Employee engagement is positively influenced by an organization's flexible work-life policies. Research by several scholars indicates that organizations that allow flexible work arrangements whereby the employees can harmonize their work and home settings are likely to expand and retain engaged workers. (Abdullahi, Raman, & Solarin, 2021).

Employees' degree of commitment to their jobs was discovered to be strongly influenced by their workplace environment. Employee engagement is the outcome of several workplace issues such as the worth of the work environment, the availability of resources, and the excellence of leadership. When managers show care for their workers' needs and emotions, give them good feedback, and encourage them to express their concerns, acquire new skill sets, and find solutions to work-related issues, they are creating a supportive working environment (Shukla, 2020). As a result, one of the most significant factors in determining whether or not workers are engaged at work is the presence of a supportive work environment that promotes mutual respect and cooperation(Riyanto, Endri, & Herlisha, 2021).

Employee engagement requires a combination of recognition and rewards. Employees that work on a global scale should be praised and rewarded for their accomplishments. Employees are directly motivated to achieve their best, high performers are motivated to align with the organization's broader goal, and completely engaged staffs are more probable to stay. Employee engagement and the entire corporate strategy are aided by a recognition and reward program (Bodla & Danish, 2009).

2.1 Employee Engagement and Employee Performance:

The financial or non-financial success or failure of an organisation is closely tied to the success of its employees. Numerous studies have shown the importance of cultivating a positive work environment for employees. Moreover, the right levels of personnel engagement also causes positive level of job performance, task performance, and organizational citizenship behaviour; productivity and discretionary effort, affective commitment, continuance commitment, and levels of psychological climate and customer service. (Diwanti, Elmi, & Rimawan, 2021). It was previously established that employee engagement has a positive effect on employee performance, thus this research was designed to examine the magnitude of this effect. Involvement may lead to increased performance due to a variety of variables. Individual performance is positively correlated with levels of involvement. It is the aim of this research to find and measure the impact of the determinants of employee engagement which has been revealed in this study on employees' performance. (Ngwenya & Pelser, 2020).

2.2 Hypothesis:

Despite the number of elements that have been cited to be determining factors of employee engagement, this study has taken all these elements into consideration and will provide a clear illustration regarding the factors driving employee engagement. Therefore, the elements obtained after a rigorous literature analysis are examined on how well they can predict employee engagement. Developed from the model presented in the research paper we have the following hypothesis:

2.2.1 To identify various drivers that determine employee engagement:

H_{01}: *There is a significant relation between organization goals, Communication, Leadership, purpose &direction of the organization, reward, compensation & growth, tasks assigned to employees,*

personnel/employee engagement and employee performance.

H_{A1}: *There is a statistically significant impact of the above drivers on employee engagement.*

Even though, each of the drivers can be listed as seven different hypotheses, above is stated for the sake of clarity and the influences of all the factors are discussed in detail. Since each of these criteria's is a antecedent or driver of employee engagement it is evident that it will show a clear obvious direct effect. The hypothesis was developed to ensure their association with employee engagement, notwithstanding the distinctiveness of these factors, which are separate entities in themselves.

2.2.2 *To determine the extent to which employee engagement affects employee performance:*

H_{02}: Employee involvements have no statistically meaningful impact on employee productivity/performance.

H_{A2}: Employee involvement has a statistically meaningful impact on employee productivity/performance.

3. Conceptual Model:

In a nutshell, how can one get actively involved in the workplace? Employee/personnel engagement is a perilous component in achieving optimal results. In today's world, every company tries to keep its staff alive. Employee engagement models describe the theoretical framework and implementation method for employee engagement in a company.

Authors (Shaheen, Zulfiqar, Saleem, & Shehazadi, 2020) suggested an engagement model in which employee involvement is based on a sense of value. It is completely dependent on a person's personal values, which might range from high to medium to neutral.

Managers might be able to create such value elements by offering appropriate training and communication techniques developed inside the organization. This strategy is particularly useful in industries and related businesses with significant numbers of personnel. The management must maintain a clear channel for communication and expression of human values using various approaches.

This approach was proposed by a study (Murali & Aggarwal, 2020) which attempts to strike a balance between many inputs such as leadership, individual, and organizational. This may result in a complete stabilization of the engagement factor. He claimed that a company's foundation is its leaders. The organization's contribution could foster organizational culture and values, inquire of employees about their issues and impediments, assist employees in getting the most out of their employee engagement for self and others, and educate and raise awareness about importance of employee engagement among managers and executives.

The study (Diwanti et al., 2021) used a hierarchical model to explain how highly talented employees in an organization are engaged and retained. Researcher claims that not only does the key responsibility area of work matter, but it also leads to high levels of employee engagement in their respective jobs. If it is recognized that an employee discovered meaning in their work, it will motivate and urge everyone to work and become interested in a certain task without restriction. If the company succeeds in achieving these engagement characteristics, it will be a significant achievement in terms of having engaged personnel. In light of above research, the following conceptual model has developed. Figure 1 presents the conceptual model regarding role of employee engagement on employee performance and antecedents of employee engagements.
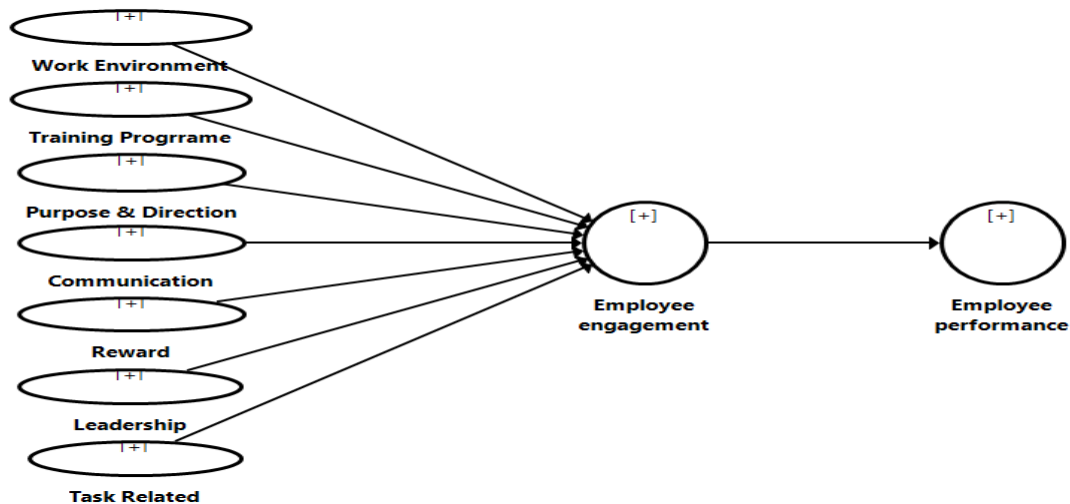
Figure 1: Conceptual Model

4. Research Methodology

4.1 Instrument for data collection:

An employee engagement survey was created to examine the effects of the above-mentioned factors. We used an instrument that examined the workplace environment, training program, purpose & direction, communication, Reward, Leadership and task related aspects on employee engagement. The effect of personnel/employee engagement on employee performance was also examined in this study. This study is based on information technology sector of India. Due to the lockdown-imposed data was acquired from information technology industries in Central India to understand the association between employee engagement and employee performance.

4.2 Data Collection:

A survey was conducted by applying a non-probability purposive sampling method to gather data using a questionnaire. The questionnaire was adapted as a second-order construct to be assessed by reflective modelling.

Further, a model was developed in SmartPLS software which consists of reflective and formative modelling. PLS-SEM in SmartPLS offers higher flexibility in such complex models and thus is a widely accepted multivariate analytical .We have applied the PLS-SEM approach to study the impacts of personnel/employee engagement on employee performance(Wang et al., 2023).

4.3 Determination of Sample Size:

Figure 2. shows how the sample size was determined by applying G*Power software 3.1.9.7 version in order to investigate the minimum sample size required for this study.
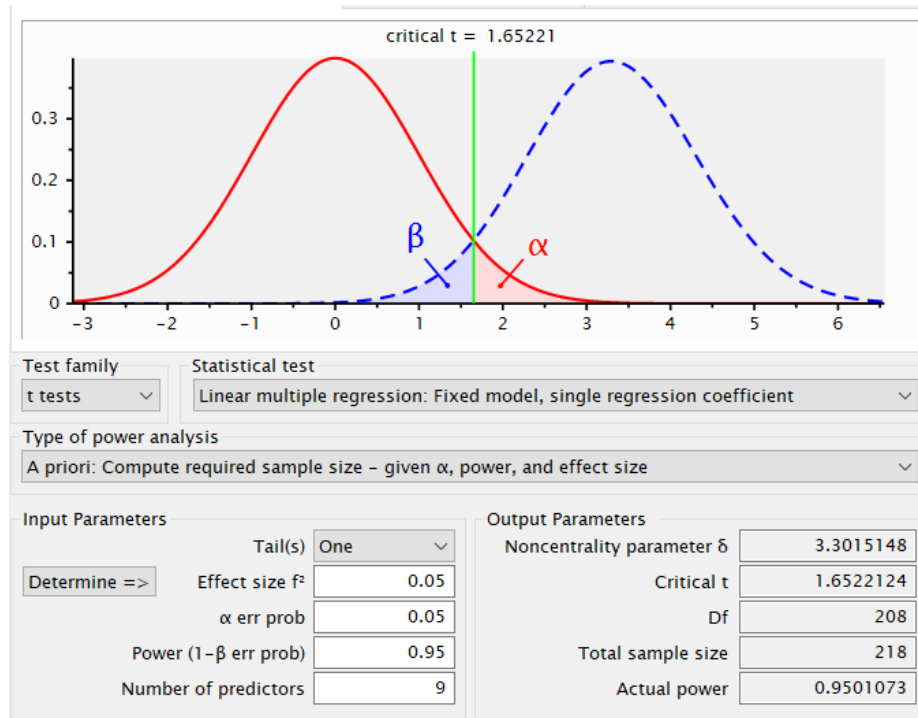
Figure 2: Sample Size Determination

The actual power of 0.95 was duly obtained by a minimum sample size of 218 respondents, whereas the study used a sample size of 311which satisfies the appropriate sample size requirements.

5. Results:

5.1 Influences of varied factors on employee engagement:

For the purposes of this research, the independent variables identified from the literature above were employed.

5.2 Demographic characteristics of respondents:

Table 1. Presents the demographic characteristics of the respondents of the survey presented below:

TABLE - 1 Sample Demographic (N=311)

Age	Frequency	Percentage	Designation	Frequency	Percentage
less than 30	83	26.69	Executive level	151	48.55
31-40	201	64.63	Manager level	144	46.30
41-50	27	8.68	Senior Level	16	5.14
51-60	0				
Above 60	0				
	311	**100.00**		**311**	**100.00**
Gender	**Frequency**	**Percentage**	**Experience (yrs.)**	**Frequency**	**Percentage**
Male	118	37.94	0-1	48	15.43
Female	193	62.06	01-4 yrs.	129	41.48
			4-8 yrs.	82	26.37

			8-12 yrs.	36	11.58
			Above 12 yrs.	16	5.14
	311	**100.00**		**311**	**100.00**
Qualification	**Frequency**	**Percentage**	**Annual income ₹**	**Frequency**	**Percentage**
Under-Graduate	0	0	Less than 3 lacs	48	15.43
Graduate	236	75.88	3-6 lacs	85	27.33
Post-Graduate	75	24.12	6-9 lacs	70	22.51
Doctorate	0	0	9-12 lacs	34	10.93
Professional	0	0	12-15 lacs	44	14.15
Others	0	0	15-20 lacs	17	5.47
			Above 20 lacs	13	4.18
	311	**100**		**311**	**100.00**
Marital Status	**Frequency**	**Percentage**			
Single	157	50.48			
Married	134	43.09			
Others	20	6.43			
	311	**100.00**			

The demographic figures show (37.94%) were males and (62.06%) were female employees employed in the IT sector. (26.69%) of respondents were in the age group less than 30 years whereas (64.63% were in the age group of 31-40 years. The remaining (8.63%) respondents were in the age group of 41-50 years.

As far as qualifications are concerned, the majority (62.06%) were females whereas the male was (37.94%). (48.55%) of respondents were working at the executive level, (46.30%) were working at the Manager level and the remaining (5.14%) were working at the senior level.

5.3 Partial least square structural equation modelling (PLS-SEM):

The research analyses the effects of two different sets of relationships on variables. Consequently, the overall impact of the identified determinants on employee performance is assessed by the PLS method. Multiple regression and factor analysis techniques are used in SEM to estimate a set of interconnected dependent relationships concurrently. To begin modelling, PLS is the approach of choice. It is possible to evaluate the impacts of dependent and independent variables even if they are connected in the route diagram (Chuang, Ou, & Wang, 2023). The bootstrapping approach is used to estimate the route diagram and fit indices are used to assess it.

5.4 Measurement Model Assessment:

The first step that should be taken while checking the PLS-SEM results is to analyze the measurement models. The corresponding criteria are not the same for those reflective and formative constructs. If the measurement models fit all the necessary requirements then researchers will have to evaluate the structural model. Like any other Statistical method, PLS-SEM also has rules of thumb which are guidelines used to determine the results of a model. (Nordin, Nordin, Nordin, & Nordin, 2023).

Examining indicator loadings is the primary step in assessing a reflective measurement model. Loadings greater than 0.708 are suggested, as they specify that the construct describes more than 50% of the variance in the indicator, implying acceptable item dependability. External model specifications were evaluated using internal reliability and convergent validity. Table – 2 given below shows the results.

Table 2: Quality Criterion for Reflective Model Assessments and Composite Mode

Construct	Items	Type	Loadings/Weights	Cronbach's Alpha	Rho A	CR	AVE
Training Programs	Training Prog.1	Reflective	0.892	0.846	0.847	0.907	0.765
	Training Prog.2		0.864				
	Training Prog.4		0.867				
Understanding of purpose & direction of organization goal	PAD1	Reflective	0.922	0.813	0.814	0.904	0.842
	PAD1		0.913				
Communication	Commun1	Reflective	0.904	0.663	0.702	0.853	0.745
	Commun2		0.819				
Reward, Recognition & Compensation	Reward1	Reflective	0.744	0.626	0.635	0.799	0.569
	Reward2		0.729				
	Reward3		0.789				
Leadership	Leadership1	Reflective	0.832	0.776	0.777	0.870	0.691
	Leadership2		0.837				
	Leadership3		0.825				
Work Environment	Work Env.1	Reflective	0.783	0.876	0.882	0.910	0.669
	Work Env.2		0.829				
	Work Env.3		0.842				
	Work Env.4		0.776				
	Work Env.5		0.858				
Task Related	Task Realted1	Reflective	0.910	0.782	0.783	0.902	0.821
	Task Realted2		0.902				
Employee Engagement	Emp. Eng.1	Reflective	0.879	0.827	0.829	0.897	0.743
	Emp. Eng.2		0.875				
	Emp. Eng.3		0.831				
Employee Performance	Emp. Perfor.1	Reflective	0.759	0.710	0.729	0.836	0.629
	Emp. Perfor.2		0.794				
	Emp. Perfor.3		0.826				

As shown in the Table no 2 all the factors were discovered as strong predictors of employee engagement with an adjusted r^2 value of 73.4 percent, which is highly statistically significant. Here we have lot of significance in variances of more than 25%. As shown by the high r^2 value, the detected variables account for up to 73% of the variation in employee engagement levels.

The study further investigated to assess discriminant validity. The square root of the Average variance extracted of the constructs on the diagonal were greater/higher than their inter-item correlation values. Table 3 indicates that each construct is distinct with other and hence the study is fit conducting final analysis.

Table 3: Discriminant Validity assessments

Construct	Communication	Employee Engagement	Employee Performance	Leadership	Purpose & Direction	Reward & Comp.	Task related	Training Program	Work Environment
Communication	**0.863**								
Employee Engagement	0.677	**0.862**							
Employee Performance	0.544	0.707	**0.793**						
Leadership	0.636	0.664	0.573	**0.831**					
Purpose & Direction	0.638	0.667	0.578	0.589	**0.918**				
Reward & Compensation	0.604	0.621	0.511	0.598	0.578	**0.755**			
Task Related	0.625	0.689	0.553	0.578	0.641	0.581	**0.906**		
Training Program	0.534	0.737	0.635	0.657	0.589	0.55	0.612	**0.875**	
Work Environment	0.602	0.732	0.638	0.526	0.554	0.494	0.586	0.677	**0.818**

In this work, other than the standard means of exploring the discriminant validity of the constructs, a novel criterion of the Heterotrait-Monotrait ratio of correlations (HTMT) is employed. to the standard way of examining the discriminant validity of the constructs. By the latest criteria, all the HTMT values should be less than 0.1, according to the HTMT inference technique. however, being on the stricter note, all HTMT values have to be below 1. The Heterotrait-Monotrait (HTMT) correlation ratio takes maximum permissible value of 0.85 and 0.9 value.

HTMT value had gone beyond the boundary of 0.90 for the constructs of communication & employee engagement and communication & reward, where HTMT inference was conducted to assert discriminant validity on the liberal side for this study. The same treatment is given to the construct employee engagement and employee performance where HTMT value was 0.924, but the confidence intervals for HTMT inferences were well within the limits hence establishing the distinctiveness of all the constructs under empirical standards as represented in Table 4.

Table 4: HTMT Criterion

HTMT Criterion	Communication	Employee engagement	Employee performance	Leadership	Purpose & Direction	Reward	Task Related	Training Program
Employee engagement	0.901 CI.900 [0.768;1.005]							

Employee performance	0.767 CI.900 [0.611;0.902]	0.901 CI.900 [0.813;0.982]	■				
Leadership	0.869 CI.900 [0.765;0.956]	0.828 CI.900 [0.709;0.912]	0.752 CI.900 [0.612;0.862]	■			
Purpose & Direction	0.852 CI.900 [0.711;0.975]	0.814 CI.900 [0.681;0.917]	0.747 CI.900 [0.614;0.878]	0.742 CI.900 [0.593;0.855]	■		
Reward	0.924 CI.900 [0.824;1.031]	0.851 CI.900 [0.705;0.979]	0.747 CI.900 [0.580;0.894]	0.846 CI.900 [0.722;0.957]	0.815 CI.900 [0.731;0.941]	■	
Task Related	0.843 CI.900 [0.731;0.941]	0.857 CI.900 [0.734;0.956]	0.723 CI.900 [0.571;0.851]	0.740 CI.900 [0.588;0.858]	0.803 CI.900 [0.658;0.921]	0.822 CI.900 [0.646;0.972]	■
Training Program	0.690 CI.900 [0.515;0.816]	0.879 CI.900 [0.798;0.933]	0.792 CI.900 [0.679;0.885]	0.810 CI.900 [0.690;0.898]	0.710 CI.900 [0.538;0.837]	0.736 CI.900 [0.574;0.863]	0.751 CI.900 [0.602;0.865]	■
Work Environment	0.758 CI.900 [0.598;0.883]	0.853 CI.900 [0.752;0.931]	0.782 CI.900 [0.662;0.884]	0.629 CI.900 [0.466;0.759]	0.648 CI.900 [0.497;0.789]	0.649 CI.900 [0.486;0.796]	0.702 CI.900 [0.541;0.840]	0.780 CI.900 [0.663;0.857]

5.5 Structural Model Assessments:

In the case of evaluations of the structural models, a connection between the constructs and their predictive value was studied. To ascertain the requisite p-values for the hypotheses formulated in the study the process was carried out through bootstrapping process with the recommended 5000 bootstraps without sign change. First, in the structural inner model, the sets of the predictor construct are assigned to be measured individually as a formative measurement model (Talib, Ariff, Hasim, & Hanafiah, 2022). It serves this reason, the tolerance and Variance Inflation Factor (VIF) values were calculated and they turned out to be less than 3.33. The variance inflation factor (VIF) is one of the most common ways to measure collinearity of the formative indicators. A value of the VIF of 5 or more implies the existence of severe collinearity problems with the indicators for formatively measured constructs. Similarly, collinearity problems may also arise at very low VIF values of 3. Preferably, the VIF values should be near to 3 and less. Following are the VIF values given in table-5 below:

TABLE 5: Constructs Value Details

Construct	Employee engagement
Communication	2.465
Leadership	2.356
Purpose & Direction	2.241

Reward	1.983
Task Related	2.284
Training Program	2.610
Work Environment	2.233

Inner VIF values represented by the table 5. above are below the threshold limits that would mean there were no collinearity issues in the study (Jumani & Muhamad, 2022). After bootstrapping procedure on 5000 subsamples in the PLS Algorithm to exclude all collinearity concerns of the inner model, the next step was to ensure the path coefficients were significant and relevant and hence might lie between -1 to +1.

Coefficient of determination (R2) of endogenous construct employee performance was observed to be significantly moderate to high at 49.9 percent. Research in behavioural sciences reveals high values of R2=20.20 and above, and in this study employee performance have a strong association to that of employee engagement of the employees. Moreover, the goodness of fit criterion was investigated and received attention through the global fit indices – Standardized root mean square residual (SRMR)(Agarwal, Arya, & Bhasin, 2022).
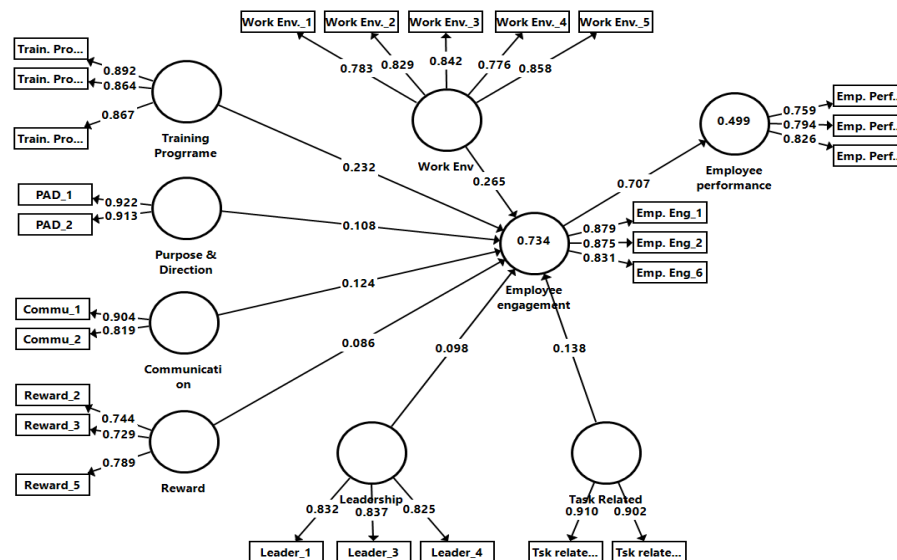

Figure 3: Proposed Model

A global model fit index such as SRMR is also crucial in the modern research based on PLS-SEM models in testing the quality of the model. The study model has an SRMR value 0.068, which is much below the threshold value of 0.08 hence the model has high explanatory power.

Table - 6 Structural Model Assessment

Hypothesis	Path Relationship	Std. Beta	t-values	CI 2.5%	CI 97.5%	Decision
H1	Communication -> Employee engagement	0.124	2.21*	0.012	0.231	Supported

H2	Employee engagement -> Employee performance	0.707	17.359***	0.611	0.772	Supported
H3	Leadership -> Employee engagement	0.098	2.009*	0.004	0.193	Supported
H4	Purpose & Direction -> Employee engagement	0.108	2.476*	0.021	0.195	Supported
H5	Reward -> Employee engagement	0.086	1.814	-0.005	0.185	Not Supported
H6	Task Related -> Employee engagement	0.138	2.719**	0.044	0.243	Supported
H7	Training Program -> Employee engagement	0.232	4.324***	0.129	0.34	Supported
H8	Work Env -> Employee engagement	0.265	3.583***	0.125	0.42	Supported

Source: Author's calculations; Path Co-efficient (*p<0.01, **p < 0.05, *** p < 0.001)

Results shown in Table 6 indicate that all the factors communication, leadership, purpose & direction, reward & recognition, task-related factors, training program and work environment respectively significantly affect employee engagement.

Work environment and Training program are the most significant factors that affect employee engagement (β=0.232 and 0.265 respectively, p<0.05) which supports the hypothesis H7 and H8 respectively.

The second most significant impact was found to be from task-related (β1=0.13.8), Communication (β1=0.12.4) and purpose & direction (β1=0.108) at (P<0.01) thereby supporting hypothesis H1, H6 and H4 respectively.

Lastly leadership also affect employee engagement (β1=0.098) and purpose & direction (β1=0.108) but they have moderate effect which supports the hypothesis H4 and H3 respectively.

The efficacy of an organization's performance may be significantly impacted by good performance management, thus managers must make it a top priority (Lawler, 2008). A study (Nagarajan, Swamy, Reio, Elangovan, & Parayitam, 2022)has demonstrated that organisations are now facing a number of issues that need attention to performance management. It is critical to cultivate employee engagement as a means of improving staff performance. As a result of these research, the relevance of measuring employee engagement in the performance management process has been highlighted in the literature on performance management. Finally, the employee engagement positively affects the employee performance (β=0.707, 0.265 respectively, p<0.001), thus supports hypothesis H2 hence accepted.

The effect size (f2) and (Q2) of the suggested model were used to test the predictive value and relevance. The proposed limits of investigating the change in R^2 due to the impact of exogenous constructs on endogenous constructs are 0.02 (small effects), 0.15 (moderate effects) and 0.35 (large effects) (Cohen, 1988). The following shows the values of (f2).

Table - 7 Values of f²

Construct	Employee engagement	Employee performance
Employee engagement	---	0.997
Leadership	0.015	
Purpose & Direction	0.020	

Reward	0.014	
Task Related	0.031	
Training Program	0.078	
Work Environment	0.119	

From the above table, it is clearly understood that leadership, purpose and direction, reward, task-related, and training programs disclosed a weak effect size on employee engagement whereas work environment discloses a moderate effect size on employee engagement(Kataria, Rastogi, & Garg, 2012). Lastly, the predictive relevance of the structural model with a first-order composite of leadership, purpose & direction, reward, task-related, training program and work environment was investigated by Stone-Geisser's Q^2 as was found to be 0.530 for employee engagement representing with a high predictive relevance of the model .Whereas Stone-Geisser's Q^2 as was found to be 0.297 for second employee performance with moderate predictive relevance of the model.

Any value greater than 0.02 can be utilized to generalize the results in the future and has enough predictive ability. The Stone-Geisser Q2 for employee performance was also found to be 0.297, implying that an independent construct is also relevant in the conceptual model of the study and that the findings can be generalized in the future in new circumstances(Mansoor, Wahab, Jahan, & Islam, 2022).

6. Discussion:

The result of the regression indicates that there is a good correlation between employee engagement as measured by the regression analysis and the independent factors that were shown to have an effect on it. The t values in Table 5 indicate that the work environment (t= 3.583) and training program (t=4.324) had the greatest impact on employee engagement. According to the t-values in Table 5, they are statistically significant at the level of significance of 0.001. Training programs affect employee engagement by up to 23% and work environment by 26% according to the beta values. For someone to be involved positively at work, a healthy work environment and training programs are essential.

A positive working environment includes a physical as well as a psychologically secure setting that encourages employees to put forth their best effort each day (Krishnan & Singh, 2011). It has been shown that people's perceptions of their workplaces and their contributions to their roles at work have a significant influence on how engaged they are and how well they perform. Employees actively seek meaning in their job, according to the report, and organizations that fail to deliver it risk losing their best workers. In order to attain high levels of employee engagement, work environments are required to foster a feeling of shared destiny amongst workers and to foster emotional connections between them. Because of this, it is clear that an employee's impression of their work environment influences and guides their level of engagement. As a result, having a good working atmosphere is essential (Bhatt, Mjayswd, & Patei, 2008)

High-quality physical working conditions have been shown in studies to improve customer service and boost productivity. Furthermore, these studies show that the workplace should have a good culture, working with a good team, having a decent boss, nice physical surroundings, job security, a long-term remuneration plan, and the availability of food and drink. Workers' well-being and output in the manufacturing sector may both benefit from the inclusion of these elements in the work environment. As a result, businesses and employers should focus on finding new methods to enhance the working conditions of their workers. Appreciating the workers' efforts, conveying the organization's success and achievement to employees, providing a work-life balance, providing the necessary knowledge and resources, and providing a secure atmosphere are just

few of the ways in which this may be accomplished. Providing a work environment that meets these criteria falls on management.

Similarly, the connection between staff and their co-workers has a substantial impact on personnel engagement. Fresh workers' interpersonal and professional abilities have a significant impact in their success. The findings show that higher-order demands, such as success and collaborative decision making, that reflect team and co-worker relationships, allow workers to take on increased responsibility for achieving shared objectives and visions.

Results shown in Table 5 for the factor training program contributes to personnel engagement up to 23% with t=4.324. Engaging people becomes much more challenging because of cultural differences, legislative and regulatory challenges, demographic trends, and labour regulations that differ from country to country must all be addressed in training. Organizations must build programmes for expatriates in order to manage the additional complexity brought on by globalisation. People that come from outside the organisation will also require training to have a deeper knowledge of the company and its culture. Succession planning should be expanded beyond the immediate top team to include other high-potential leaders in order to build a long-term approach to leadership development.

Predicting performance based on employee engagement yields high route validity (t=17.359) and a high coefficient of determination (r^2 =70.07%). To emphasise the importance of high levels of employee involvement in achieving high levels of employee satisfaction, the coefficient in Table 5 displays a very significant t value. Table 5 shows the statistically significant results of the validated model.

Engaged employees are linked to a variety of outcomes, including commitment, health, turnover intentions, and performance, according to a meta-analysis. Improved performance management will lead to improved levels of personnel engagement, which will lead to increased efficiency. Employees' ability to perform at their best is clearly enhanced by

the drive and commitment that comes from being actively involved in their work. Thus, the relationship between employee and performance is consistent with engagement models, theories, and studies.

The study therefore identifies the important factors that may be fostered by managers and employers in order to create an agreeable atmosphere in which workers can get involved positively. It is therefore possible to find methods that will improve organisational characteristics such as work-place well-being, working environment, and policies and procedures by doing this research. Building a happy work environment, as well as effective leadership, training and development, and appealing remuneration programmes, must be a part of the company's investment strategy.

From several angles, the study's future potential seems quite broad. To improve the model, this research may be carried out at different levels of the organisation, such as big scale and MNCs of Information Technology industry. It is possible to do an in-depth investigation of the particular aspects highlighted, which might lead to an individual influence on employee engagement and performance. This paradigm of employee engagement may also be compared to prior models of employee engagement.

7. Conclusion:

The study above emphasises the significance of employee engagement and highlights a number of factors that influence employee engagement. It also demonstrates that there is a substantial linkage between employee engagement and employee performance. The regression analysis predicts that, there are two crucial factors that have an overall effect on employee engagement that have considerable path validity or t value. The most significant features that positively promote employee engagement are work environment and training program. The other factors which also contributes to employee engagement are task related factors, communication, leadership, purpose & direction of the firm.

The paper also cites past research and offers recommendations for aspects that can improve the working environment as well as team and co-worker relationships. The task related factors, work environment, training programs show moderate relationship with employee engagement. Lastly, the employee engagement positively affects the employee performance. This demonstrates the potential for the organization's actions to have a positive societal influence. Employees would receive a lot of attention in this situation. In terms of the work environment, healthy collegiality, workplace welfare, and the organization's techniques for increasing employee engagement thereby improving their performance. Organizations can utilise the model to focus on essential features that will benefit both employees and employers.

The managerial implications involve a tremendous influence on organisations in terms of increased productivity, which in turn has a big economic impact for businesses. In addition, a positive work environment is one of the factors that contribute to high levels of employee engagement. This is a reflection of the potential societal influence of the organization's actions. For employees, there would be a lot of attention paid to workplace health and wellness, as well as efforts to improve employee engagement. Organizations may utilise the approach to concentrate on important factors that benefit both employees and employers.

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REFERENCES:

1. Abdullahi, M. S., Raman, K., & Solarin, S. A. (2021). Effect of organizational culture on employee performance: A mediating role of employee engagement in malaysia educational sector. *International Journal of Supply and Operations Management*, *8*(3), 232–246. https://doi.org/10.22034/IJSOM.2021.3.1

2. Abdullahi, M. S., Raman, K., & Solarin, S. A. (2022). Talent management practices on employee performance among academic staff of Malaysian private universities: employee engagement as a mediator. *Journal of Applied Research in Higher Education*, *14*(1), 135–158. https://doi.org/10.1108/JARHE-08-2020-0283

3. Abdullahi, M. S., Raman, K., Solarin, S. A., & Adeiza, A. (2023). Employee engagement as a mediating variable on the relationship between employee relation practice and employee performance in a developing economy. *Journal of Applied Research in Higher Education*, *15*(1), 83–97. https://doi.org/10.1108/JARHE-06-2021-0222

4. Agarwal, T., Arya, S., & Bhasin, K. (2022). Evaluating the Impact of Coronavirus Disease-2019 Pandemic on Employer Branding, Employee Engagement and Employee Performance: A Moderation Study of Indian Information Technology Firms. *Global Business Review*. https://doi.org/10.1177/09721509221119014

5. Al Zeer, I., Ajouz, M., & Salahat, M. (2023). Conceptual model of predicting employee performance through the mediating role of employee engagement and empowerment. *International Journal of Educational Management*. https://doi.org/10.1108/IJEM-03-2023-0095

6. Arifin, N., Tjahjono, H. K., Hartono, A., & Muafi, M. (2023). Employee Engagement on Employee Performance: Islamic Perspective. *Lecture Notes in Networks and Systems*, *487*, 995–1003. https://doi.org/10.1007/978-3-031-08084-5_70

7. Bhatt, N., Mjayswd, R., & Patei, D. (2008). *Impact of Celebrity Endorser ' s Source Credibility on Attitude Towards Advertisements and Brands*. (January).

8. Bodla, M. A., & Danish, R. Q. (2009). Politics and workplace: An empirical examination of the relationship between perceived organizational politics and work performance. South Asian Journal of Management, 16(1), 44-62.

9. Chuang, S.-H., Ou, C.-C., & Wang, Y.-X. (2023). Exploring the Influence of Smart Applications And Website Service Quality by Smart PLS Software on Continuous Online Shopping Intention. *2023 IEEE 3rd International Conference on Electronic Communications, Internet of Things and Big Data, ICEIB 2023*, 36–40. https://doi.org/10.1109/ICEIB57887.2023.10170377

10. Dhale, S., & Singh, D. K. (2022). e-Pharmacy in

India: an exponential growth opportunity. International Journal, 10(11).

11. Diwanti, S. A., Elmi, F., & Rimawan, E. (2021). The Influence of Talent Management and Knowledge Management on Employee Performance with Employee Engagement as Intervening Variable (Case Study on Employees of Banten Regional Tax Office). *Review of International Geographical Education Online*, *11*(7), 1095–1103. https://doi.org/10.48047/rigeo.11.07.103

12. Hasan, H. (2023). Effect of organizational culture on organizational learning, employee engagement, and employee performance: study of banking employees in indonesia. *Problems and Perspectives in Management*, *21*(3), 471–482. https://doi.org/10.21511/ppm.21(3).2023.38

13. Hasni, D. I. M., & Sarlan, A. (2023). Collaborative visualization framework for cross-field working group: analysis through smart pls. *Journal of Theoretical and Applied Information Technology*, *101*(11), 4377–4389. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-85166535266&partnerID=40&md5=990dbad916ec0336b7a306d75386f71d

14. Jumani, Z. A., & Muhamad, N. (2022). Development and validation of key antecedents of religious brand attitude: a cross-cultural quantitative analysis using smart PLS. *Journal of Islamic Marketing*. https://doi.org/10.1108/JIMA-06-2022-0177

15. Kamaruddin, S. N. A. A., Saputra, J., Anuar, M. M., Omar, K., Manaf, N. A., & Md Razali, M. K. A. (2021). An investigation of employees engagement and Malaysian female employees' performance. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, 3118–3124. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-85114253402&partnerID=40&md5=ef8cdef29c698f6480798569e00f8688

16. Kataria, A., Rastogi, R., & Garg, P. (2012). Organizational Effectiveness as a Function of Employee Engagement. *South Asian Journal of Management*, *20*(4), 56–73. Retrieved from http://eds.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=064e5db8-a001-4215-ad75-608ddb16618f%40sessionmgr4005&vid=2&hid

=4211

17. Khan, S., & Singh, D. K. (2023). Robotic Process Automation as an Emerging Technology in Tourism, Hotels, and Food Service. In Handbook of Research on Innovation, Differentiation, and New Technologies in Tourism, Hotels, and Food Service (pp. 51-69). IGI Global.

18. Krishnan, S. K., & Singh, M. (2011). Strategic human resource management: A three-stage process model and its influencing factors. South Asian Journal of Management, 18(1), 60-82.

19. Mansoor, A., Wahab, S. A., Jahan, S., & Islam, A. (2022). Boosting Employees' Performance through the Affective Commitment and Transformational Leadership: The Role of Employee Engagement as a Mediator. *Vision*. https://doi.org/10.1177/09722629221130847

20. Maryati, T., & Astuti, R. J. (2022). The Influence of Spiritual Leadership and Employee Engagement toward Employee Performance: The Role of Organizational Commitment. *Quality - Access to Success*, *23*(189), 322–331. https://doi.org/10.47750/QAS/23.189.37

21. Mohammad, A. M., Menhat, M., Zaideen, I. M. M., Saadon, M. S. I., & Hussein, A. A. (2022). Leadership Styles on Employee Performance Among Supervisors of Petroleum Retailing Sector in Jordan: Employee Engagement as a Mediator. *International Journal of Sustainable Development and Planning*, *17*(4), 1329–1339. https://doi.org/10.18280/ijsdp.170430

22. Murali, S. R., & Aggarwal, M. (2020). A study on the impact of transformational leadership style on employee engagement and employee performance in ict industry - (a study with reference to the ict industry in United Arab Emirates). *International Journal of Management*, *11*(5), 210–221. https://doi.org/10.34218/IJM.11.5.2020.021

23. Nagarajan, R., Swamy, R. A., Reio, T. G., Elangovan, R., & Parayitam, S. (2022). The COVID-19 impact on employee performance and satisfaction: a moderated moderated-mediation conditional model of job crafting and employee engagement. *Human Resource Development International*, *25*(5), 600–630. https://doi.org/10.1080/13678868.2022.2103786

24. Nguyen, H. M., & Nguyen, L. V. (2022). Employer attractiveness, employee engagement and employee performance. *International Journal of Productivity and Performance*

Management. https://doi.org/10.1108/IJPPM-04-2021-0232

25. Ngwenya, B., & Pelser, T. (2020). Impact of psychological capital on employee engagement, job satisfaction and employee performance in the manufacturing sector in Zimbabwe. *SA Journal of Industrial Psychology*, *46*, 1–12. https://doi.org/10.4102/sajip.v46i0.1781

26. Nordin, N., Nordin, N. N., Nordin, N. I. A., & Nordin, N. F. (2023). The Successful Factors of Online Learning for Malaysia Higher Education Students: Smart PLS-SEM Analysis. *Lecture Notes in Networks and Systems*, *488*, 803–815. https://doi.org/10.1007/978-3-031-08090-6_51

27. Prof, A., & Shukla, J. (2020). A Study of Mobile Banking & Its Impact on Consumer Satisfaction with Reference to Nagpur Area. JETIR, 7, 648-652.

28. Riyanto, S., Endri, E., & Herlisha, N. (2021). Effect of work motivation and job satisfaction on employee performance: Mediating role of employee engagement. *Problems and Perspectives in Management*, *19*(3), 162–174. https://doi.org/10.21511/ppm.19(3).2021.14

29. Sarangi, S., & Srivastava, R. K. (2012). Impact of Organizational Culture and Communication on Employee Engagement: An Investigation of Indian Private Banks. South Asian Journal of Management, 19(3).

30. Shaheen, S., Zulfiqar, S., Saleem, S., & Shehazadi, G. (2020). Does Organizational Cronyism Lead to Lower Employee Performance? Examining the Mediating Role of Employee Engagement and Moderating Role of Islamic Work Ethics. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.579560

31. Singh, A. K., Raghuwanshi, S., Sharma, S., Khare, V., Singhal, A., Tripathi, M., & Banerjee, S. (2023). Modeling the nexus between perceived value, risk, negative marketing, and consumer trust with consumers' social cross-platform buying behaviour in india using smart-pls. *Journal of Law and Sustainable Development*, *11*(4). https://doi.org/10.55908/sdgs.v11i4.488

32. Singh, D. K., & Shahare, P. (2021). A Study on Customer Perception Regarding Marketing Strategies Adopted by HDFC Life Insurance. International Journal of Commerce and Management Studies (IJCAMS) Peer Reviewed, Indexed Journal, ISSN, 2456-3684.

33. Siswanto, s., Maulidiyah, z., & Masyhuri, M. (2021). Employee Engagement and Motivation as Mediators between the Linkage of Reward with Employee Performance. *Journal of Asian Finance, Economics and Business*, *8*(2), 625–633. https://doi.org/10.13106/jafeb.2021.vol8.no2.0625

34. Talib, A. A. A., Ariff, N. R. M., Hasim, M. S., & Hanafiah, M. H. (2022). Sustainable Facilities Management (SFM) initiatives in Malaysia hotel industry: reliability and validity analysis using Smart-PLS. *IOP Conference Series: Earth and Environmental Science*, *1067*(1). https://doi.org/10.1088/1755-1315/1067/1/012079

35. Wang, W., Tie, F. H., Omar, I. M. B., Chen, W., Li, P., & Shi, C. (2023). An Empirical Study on the Creative Learning Environment Fostering Student Creativity: A Multiple Mediation Analysis Using Smart PLS 4. *Journal of Educational and Social Research*, *13*(4), 10–21. https://doi.org/10.36941/jesr-2023-0085

36. Wolor, C. W., Dania, R. F. R., Rofaida, R., & Eranza, D. R. D. (2022). Employee Performance Attributes in Post-Pandemic Era: Redefining Compassion, Employee Communication, Employee Engagement, and Job Satisfaction. *Pakistan Journal of Life and Social Sciences*, *20*(1), 108–127. https://doi.org/10.57239/PJLSS-2022-20.1.0012