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RESEARCH

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The Role of Ergonomic Interventions in Enhancing Employee Well-being: A Case Study from the Hospitality Industry

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Abstract

The impact of ergonomic interventions and multitasking on employee well-being, particularly in high-demand hospitality settings, explores how these factors interact with perceived organizational support, an essential mediator that could influence employee satisfaction, health, and productivity. This study aims to discover the relationships among ergonomic interventions, multitasking, perceived organizational support, and employee well-being, focusing on employees of the Puri Saron Hotel Group in Bali. The study employs a quantitative methodology, utilizing SEM SmartPLS 3 software. Data was collected over questionnaires spread to a sample of 100 employees, following Slovin's formula. The findings contribute to the growing field of workplace ergonomics by demonstrating that both physical ergonomic interventions positively, with the with the highest significant impact, and followed by multitasking for employee well-being, as the study is focused on a single hospitality group, the generalizability of the results may be limited. The enhancing ergonomic conditions and multitasking abilities, coupled with strong organizational support, can significantly improve employee well-being, particularly in industries with high physical and cognitive demands. this offering valuable insights into the role of perceived organizational support in mediating these relationships.

Keywords: Ergonomic Interventions, Employee Well-Being, Multitasking, Hospitality Industry.

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1. INTRODUCTION

Maintaining good health is crucial for overall well-being and quality of life. It encompasses physical, mental, and social dimensions, extending beyond the mere absence of disease (WHO, 1948). Prioritizing a healthy way of life through a healthy diet, consistent exercise, enough sleep, and stress reduction can suggestively reduce the risk of chronic diseases and promote longevity (CDC, 2024). Furthermore, fostering positive mental health through mindfulness, social connections, and seeking support when needed enhances emotional resilience and overall life satisfaction (Keng et al., 2011). Recognizing the interconnectedness of these aspects empowers individuals to make informed choices and take proactive steps towards leading a healthier and more fulfilling life (Ryan & Deci, 2000). Furthermore, ergonomics is particularly relevant in modern workplaces where physical and mental demands are high, such as in healthcare, hospitality, and manufacturing industries (Castaño Cardenas, 2023; Marková & Škurková, 2023). In these high-stress environments, poor ergonomic conditions are often linked to musculoskeletal disorders (MSDs), fatigue, and cognitive overload, which negatively impact employee performance and well-being (Soares et al., 2019; Zhang et al., 2024).

The Occupational Safety and Health Administration (OSHA) states that musculoskeletal problems related to the workplace are responsible for approximately 33% of all work-related injuries (Reddy et al., 2016). Moreover, the rapid increase in sedentary office work and repetitive tasks has exacerbated these issues in sectors that traditionally might not have experienced high levels of physical strain (Chinedu et al., 2020). Additionally, in industries with high multitasking demands, such as hospitality and healthcare, ergonomics can play a critical role in enhancing cognitive well-being by minimizing distractions and optimizing workflows (Koirala & Maharjan, 2022). In the context of modern workplace challenges, where the rise of remote work, longer working hours, and higher multitasking demands are dominant (Countouris et al., 2023). Ergonomic interventions are not just optional but essential (Santos & Skiavan, 2023). Poor ergonomic conditions can lead to long-term health issues like chronic pain, burnout, and decreased job satisfaction (Santos & Reis, 2021).

Consequently, organizations that prioritize ergonomics tend to experience better employee retention rates, lower healthcare costs, and higher overall organizational performance (Huang et al., 2016). Given the increasing awareness of workplace health, exploring the link between ergonomic interventions and employee well-being is crucial for creating safer and more productive workplaces, especially in industries with high job demands and multitasking pressures (Shiri et al., 2023). Most ergonomic intervention studies are short-term and focus on specific industries like office environments or manufacturing. Most existing studies tend to focus on the reduction of musculoskeletal disorders (MSDs) and absenteeism as indicators of successful ergonomic interventions (Yazdani & Wells, 2018). And other research has mainly focused on physical ergonomics, such as workstation adjustments and equipment improvements. However, cognitive ergonomics, which deals with mental workload and multitasking capacity, is underexplored (Wollter Bergman et al., 2021). Though other research has indicated that perceived organizational support mediates the relationship between ergonomic interventions and employee outcomes like job satisfaction (Maan et al., 2020). This mediator has not been rigorously tested in the context of well-being metrics, other empirical research is needed to explore whether employees who perceive higher organizational support experience greater benefits from ergonomic interventions, and how these dynamic impacts their physical and mental health over time (Worley et al., 2009).

Given the physically demanding and multitasking-intensive nature of the hospitality industry, work organization variables have a negative and significant influence on the work stress of hotel front office employees in Bali (Irwanti & Wisnawa, 2023). Puri Saron Hotel Group faces challenges related to employee well-being, including potential musculoskeletal disorders (MSDs), stress, and burnout. A study at Puri Saron Hotel Group revealed significant challenges related to employee well-being, with the analysis of the RULA method in the lifting activity using this trolley, a score of 7 (seven) was obtained which indicates that the room attendants have a high level of risk (Irwanti, 2018). Stress and physical work environment were also key factors, contributing to 87.40% of the variation in employee performance (Mariani & Kartika, 2018). Poor lighting and locker space further worsened work conditions (Prabawa et al., 2023). There is a need to investigate how ergonomic interventions can enhance employee well-being by reducing physical strain and improving cognitive performance, especially in a high-demand environment in Puri Saron Hotel Group Bali. The principal goal of this study is to investigate the impact of ergonomic interventions on the overall well-being of hotel

employees, with a focus on mitigating the negative effects of multitasking, it will explore whether perceived organizational support mediates the connection among these interventions and employee well-being results. This study aims to discover the relationships among ergonomic interventions, multitasking, perceived organizational support, and employee well-being, focusing on employees of the Puri Saron Hotel Group in Bali.

2. RESEARCH METHOD

Explanatory research within the framework of quantitative research aims to describe the relationships among variables and often seeks to establish cause-and-effect connections. It goes beyond simply describing phenomena (descriptive research) by focusing on understanding how and why certain factors influence each other (George & Merkus., 2023). This study is using explanatory research to examine the impact of ergonomic interventions on employee well-being, using a statistical model.

The inhabitants of this study is all employees of the Puri Saron Hotel Group. By using Slovin's formula (Ryan, 2013; Yamane, 1976), this is how the sample size was determined.: Sample size:

$$\begin{aligned} n &= N/(1+N(e)) \\ &= 133/1+(133(0.05)) \\ &= 133/.56 = 99.84 \Rightarrow 100 \text{ margin of error, } E = 0.05, \text{ and response rate, } p = 50\%, \\ &\text{researchers discovered that the estimated sample size was 100.} \end{aligned}$$

The location of the study is Puri Saron Hotel Group Bali, which consists of 4 (four) hotels: Badung, Denpasar, Gianyar, and Singaraja. Puri Saron Hotel Group was chosen as the case study location due to its relevance in the hospitality industry, diverse operations, consistent standards, and potential for generalizing findings. This choice allows for a comprehensive analysis of ergonomic interventions within the hospitality context.

The study's variables consist of exogenous variables (X) and endogenous variables (Y), with Z representing the mediation variable. This study employs two independent variables: X1 Ergonomic Intervention (EI) 3 items and X2 Multitasking (M) 4 items, while the dependent variable is Employee Well-Being (EWB) 4 items as Y. Additionally, Perceived Organizational Support (POS) 5 items are used as a mediator, altering the link between both the dependent and independent variables. In essence, ergonomic interventions and multitasking are assumed to impact employee well-being directly or indirectly through employees' perceptions of organizational support.

Data collection methods include observations, interviews using questionnaires, and literature studies such as books, literature, and scientific publications that aim to enrich and analyze data (Hollweck, 2015). To achieve the objectives validly, the researcher used A Likert scale is a statement to which respondents rate their level of agreement. A five-point scale of agreement like the following is used: 1 = strongly disagree; 2 = disagree. 3. Neutral 4=Agree 5 = strongly agree (Tullis & Albert, 2013).

There are various steps involved in the research data analysis technique, which include the following: a) Frequency tables are used in descriptive analysis to provide an overview of the data results. b) Validity and reliability testing using Average Variance Extracted (AVE), This involves examining how effectively the individual questions in the survey capture the core concept being measured. A higher AVE indicates that all questions accurately measure this concept. Cronbach's alpha measures how closely related the questions are. A higher Cronbach's alpha value means that everyone is measuring the same item, establish whether the questions work together to accurately assess the topic. Composite Reliability measures the internal consistency of a set of items (all survey questions) that are supposed to measure the same underlying concept (latent variable). Basically, Composite Reliability indicates how reliably the items work together to measure the concept. A high Composite Reliability indicates that the items are highly related and consistently measure the same thing. This gives confidence that

the measurement is reliable and not just capturing random variation and outer loading to assess the questionnaire's quality, indicate the strength of the association between each individual item and the latent variable it is designed to assess. Consider it as a correlation. Every indicator is legitimate and suitable for usage with latent variables and reflective indicators. Minimum score of 0.70 (or 0.60 for preliminary study). The factor model is correct and appropriate, with a maximum of 0.95 to prevent indicator redundancy, which would undermine content validity, recommended 0.70-0.9, and convergence validity $AVE > 0.50$ (Hair et al., 2019).

The information used in this study were gathered from employees of the Puri Saron Hotel Group in Bali, employed online questionnaires using Google Forms in coordination with the HRD department to ensure smooth data collection. If there is incomplete data, the optimal approach is to follow up with respondents to retrieve missing information; if unsuccessful, the data should be excluded to maintain the integrity and reliability of the analysis. The sampling of this study is based on the needs of SmartPLS SEM analysis version 3.0 (Hair & Alamer, 2022). Where the requirement for the number of samples is between 30 and 100-200 (Hair et al., 2010). PLS-SEM is suitable for complex models with many indicators and structural paths, as is the case with this study. It also accommodates both common factor and composite-based models, providing flexibility in model specification. Additionally, PLS-SEM prioritizes prediction, which aligns with the study's objective of understanding the predictive relationships between ergonomic interventions, multitasking, perceived organizational support, and employee well-being.

3. RESULTS AND DISCUSSION

Table 1. Demographic Information (N=100)

Variable	Subcategory	Frequency	Percentage (%)
Gender	Males (M)	41	41
	Females (F)	59	59
Age	17-24 years	20	20
	25-34 years	35	35
	35-44 years	25	25
	45 years and above	20	20
Job Tenure	Less than 1 year	15	15
	1-3 years	30	30
	3-5 years	25	25
	More than 5 years	30	30
Departments	Housekeeping	25	25
	Front Office	20	20
	Food & Beverage	35	35
	Management/Administrative	20	20

Table 1 shows that demographic information with the highest percentage of gender variables with subcategory females (59%), from variable age with subcategory 25-34 years (35%), variable job tenure with subcategory 1-3 years and more than 5 years (30%) and variable departments with subcategory food & beverage (35%).

Table 2. Results of Model Constructs

Construct/Indicator	Outer Loading	Alpha	CR	AVE
Ergonomic Intervention (EI)				
Modifications to the workspace to improve posture and reduce strain	0.802			

Construct/Indicator	Outer Loading	Alpha	CR	AVE
Availability and use of tools designed to minimize physical discomfort	0.886	0.799	0.882	0.714
Education and interventions provided to workers on ergonomics	0.845			
Multitasking (M)				
The mental effort required to handle multiple tasks simultaneously	0.767			
Number of times an employee switches between tasks within a certain period	0.847	0.777	0.857	0.600
The relationship between multitasking and increased stress or fatigue	0.765			
Efficiency in handling various tasks without significant postponements	0.715			
Employee Well-Being (EWB)				
Employees' contentment with their work environment and duties	0.776			
Presence or absence of work-related health issues, such as musculoskeletal disorders	0.850	0.829	0.886	0.661
Degree of stress experienced by employees, particularly from multitasking or poor ergonomic conditions	0.789			
The capacity to sustain a sound equilibrium between obligations in one's personal and professional lives	0.836			
Perceived Organizational Support (POS)				
How much the organization supports and implements ergonomic improvements	0.878			
Availability of emotional and logistical support from the organization	0.860			
Provision of resources that facilitate job performance and reduce stress	0.809	0.874	0.909	0.668
The extent to which employees feel recognized and valued for their contributions	0.756			
The extent to which the organization provides ongoing training and development opportunities, particularly regarding ergonomic practices and employee well-being	0.775			

Table 2 presents the validity and reliability of variables measured in the study. For the ergonomic intervention variable, three items had outer loading values ranging from 0.802 to 0.886, indicating a strong correlation. The composite reliability score of 0.882, Cronbach's alpha of 0.799 (>0.7), and AVE of 0.714 (>0.50) confirm the variable's validity. Key indicators included the availability of tools to reduce physical discomfort (0.886) and worker education (0.845). The multitasking variable was assessed using four items with outer loading values between 0.715 and 0.847, showing strong relevance. Its composite reliability of 0.857, Cronbach's alpha of 0.770 (>0.7), and AVE of 0.600 (>0.50) indicate validity. Key contributors were task-switching frequency (0.847) and mental effort for multitasking (0.767). For employee well-being, four items had outer loadings of 0.776–0.850, with composite reliability of 0.886, Cronbach's alpha of 0.829 (>0.7), and AVE of 0.661 (>0.50). Significant indicators included the absence of work-related health issues, like musculoskeletal disorders (0.850), and

the ability to maintain work-life balance (0.836). Perceived organizational support (POS) was measured with five items, having outer loadings of 0.756–0.878. Composite reliability was 0.909, Cronbach's alpha 0.874 (>0.7), and AVE 0.668 (>0.50), confirming validity. The strongest indicators were the organization's execution of ergonomic changes (0.878) and provision of emotional and logistical support. These results demonstrate that all variables are both reliable and valid, meeting required statistical thresholds.

Overall, the two strongest variables, based on their outer loading values, are that ergonomic intervention was seen to be stronger as indicated by the availability and use of tools designed to minimize physical discomfort (outer loading = 0.886) and variable how much the organization supports and implements ergonomic improvements (outer loading = 0.878). Both ergonomic interventions and perceived organizational support are vital factors in understanding the impact of ergonomic interventions. A supportive organizational environment coupled with a focus on employee physical and mental health creates a synergistic effect, leading to greater well-being and overall positive outcomes for both employees and the organization.

Discriminant Validity Evaluation. An assessment of a measurement model's discriminant validity verifies that its variables are theoretically distinct and subjected to empirical or statistical testing. The method utilized is the Fornell and Lacker criterion as well as the HTMT (heterotrait-monotrait ratio). The square root of the AVE variable must have a higher correlation across variables in order to meet the Furnell and Larcker requirements (Hair et al., 2019).

Table 3. Discriminant Validity of Constructs

Variable	EWB	EI	MLT	POS
Discriminant Validity Fornell-Larcker Criterion				
EWB	0.813			
EI	0.642	0.845		
M	0.698	0.520	0.775	
POS	0.705	0.679	0.607	0.817
Heterotrait–Monotrait Criterion				
EWB				
EI	0.785			
MLT	0.866	0.651		
POS	0.828	0.809	0.732	

Table 3 presents that the square root of the variable employee well-being is AVE 0.813, higher than the correlations with ergonomic intervention (0.642), multitasking (0.698), and perceived organizational support (0.705). Additionally, ergonomic intervention has a square root of AVE 0.845, higher than the correlations with multitasking (0.520) and perceived organizational support (0.679). as well as multitasking having a square root of AVE 0.775 bigger than perceived organizational support 0.607. These findings demonstrate that there is validation for discrimination based on employee well-being. Consequently, multitasking where the square root of the AVE is larger than the correlation between variables has been validated as an ergonomic solution. When it comes to identifying discriminant validity, the measure of the discriminant validity result is thought to be more sensitive or accurate. HTMT values less than 0.90 are advised (Hair et al., 2019). The findings demonstrate that discriminant validity is attained when the HTMT value for variable pairings is less than 0.9. Rather than dividing the variants on other variable items, variables divide the variables of the measurement item against the item that measures them more strongly.

Structural Model Evaluation. Testing the hypothesis regarding the influence link between the study's variables is the goal of the structural model evaluation. Hair et al., (2019) state that the following are part of the structural model evaluation examination: a) using the inner VIF

(Variance Inflated Factor) measure to check for multicollinearity and make sure there is not any between the variables. b) The inner VIF number needs to be less than 5. Testing for hypotheses: to test for hypotheses and obtain a 95% confidence interval for the predicted path coefficient parameters. c) Direct influence: The size f^2 is used to examine the direct influence of factors at the structural level. Low influence is indicated by a f^2 value of 0.02.

A moderate influence is indicated by the f^2 value of 0.15. f^2 value of 0.35 suggests a strong influence. The statistical measure of u^2 , which is obtained by squaring the mediation coefficient, is used to examine the mediation effect. According to Lachowicz et al., (2018) and Ogbeibu et al., (2022) is that if $u^2 = 0.02$, the mediation effect is minimal. If $u^2 = 0.075$, the mediation effect is considered moderate. If $u^2 = 0.175$, the mediation effect is high. Using the R Square method, the model's overall assessment was completed (Chin, 1988). Chin, (1988) 0.19 indicates low influence, 0.33 indicates a moderate influence, and 0.66 indicates a high influence. The Q-Square needs to be greater than zero. Significant values are those greater than zero. Higher values than 0 suggest that the PLS path model's small, medium, and large predictive accuracy are represented by values of 0.25 and 0.50. (Hair et al., 2019). By contrasting the PLS model's RMSE (Root Mean Square Error) and MAE (Mean Absolute Error) results with those of the linear regression (LM) model, PLS Predict evaluates the PLS model's capacity for prediction. If the PLS model's RMSE or MAE values are lower than those of the LM model, it is regarded as superior (Hair et al., 2019). A healthy SRMR is less than 0.08 (Hair et al., 2017). According to a different standard, SRMR levels between 0.08 and 0.10 are nevertheless considered acceptable. (Schermelleh-Engel et al., 2003).

Table 4. Hypothesis and Path Coefficients Significance Testing Results

Hypothesis	Path Coefficient (β)	p-value	95% confidence path interval		Sig/ supported	VIF	F Square/ u^2	R^2	Q^2
			Upper Limit	Lower Limit					
Direct Effect									
E I -> EWB	0.224	0.022	0.422	0.036	Yes	1.923	0.072		
E I -> POS	0.499	0.00000	0.634	0.318	Yes	1.371	0.403	0.639	0.405
M -> EWB	0.390	0.00014	0.588	0.189	Yes	1.639	0.257		
M -> POS	0.347	0.00002	0.506	0.187	Yes	1.371	0.195	0.549	0.338
POS->EWB	0.316	0.00611	0.553	0.102	Yes	2.219	0.125		
Indirect Effect									
E I -> POS -> EWB	0.158	0.0017	0.299	0.043	Yes	-	0.025	-	-
M -> POS-> EWB	0.110	0.033	0.229	0.029	Yes	-	0.014	-	-

Table 4 presents the significance of employee well-being in fostering a productive and positive work environment. This study examines how ergonomic interventions and multitasking influence employee well-being, with perceived organizational support (POS) as a mediator. Hypothesis 1 confirms that ergonomic interventions positively impact employee well-being, with Path Coefficient (β) = 0.224, p-value = 0.022 (<0.05), and 95% CI [0.036, 0.422]. Despite a low effect size ($f^2 = 0.072$), the $R^2 = 0.639$ and $Q^2 = 0.405$ indicate medium predictive accuracy. Hypothesis 2 shows ergonomic interventions significantly enhance POS ($\beta = 0.499$, p-value < 0.001), with 95% CI [0.318, 0.634]. The effect size is high ($f^2 = 0.402$), with strong predictive accuracy ($R^2 = 0.639$, $Q^2 = 0.405$). Hypothesis 3 reveals multitasking positively impacts employee well-being ($\beta = 0.390$, p-value < 0.001), 95% CI [0.189, 0.588],

with moderate influence ($f^2 = 0.257$). $R^2 = 0.549$ and $Q^2 = 0.338$ reflect medium predictive accuracy. Hypothesis 4 establishes multitasking also enhances POS ($\beta = 0.347$, $P\text{-value} < 0.001$), 95% CI [0.187, 0.506], with moderate effect size ($f^2 = 0.195$). The model shows moderate predictive accuracy ($R^2 = 0.549$, $Q^2 = 0.338$). Hypothesis 5 confirms POS positively impacts employee well-being ($\beta = 0.316$, $p\text{-value} = 0.006$), 95% CI [0.102, 0.553], with moderate effect size ($f^2 = 0.125$). The model maintains medium predictive accuracy ($R^2 = 0.549$, $Q^2 = 0.338$). Hypothesis 6 indicates that ergonomic interventions have an indirect positive impact on well being through POS ($\beta = 0.158$, $p\text{-value} = 0.0017$), 95% CI [0.043, 0.299]. The mediation effect size is low (Upsilon V = 0.025). Hypothesis 7 finds multitasking indirectly enhances well-being via POS ($\beta = 0.110$, $p\text{-value} = 0.033$), 95% CI [0.029, 0.229]. The mediation effect size is low (Upsilon V = 0.014). The strongest relationship was between ergonomic interventions and POS ($\beta = 0.499$, $p\text{-value} < 0.001$), highlighting the critical role of ergonomic improvements in enhancing perceived support. Multitasking also significantly improved employee well-being ($\beta = 0.390$, $p\text{-value} < 0.001$). Overall, ergonomic measures and POS are vital for promoting employee well-being, with POS acting as a key mediator.

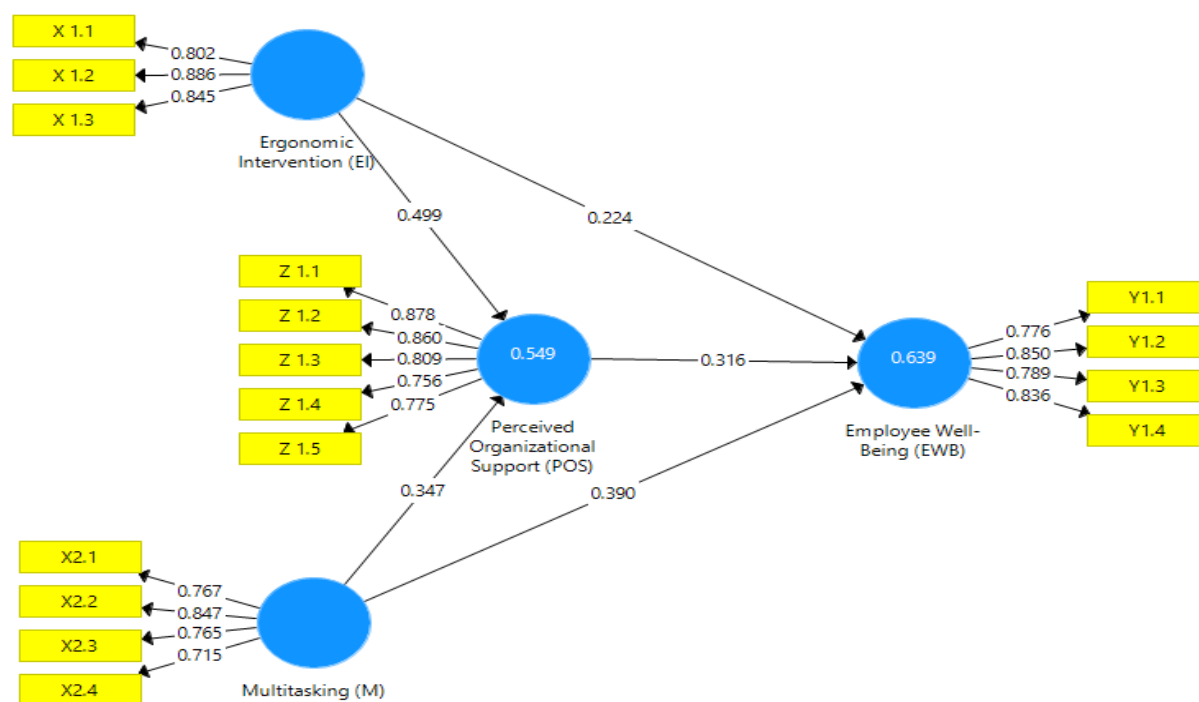


Figure 1. PLS Algorithm Path Coefficient and Outer Weight/Loading (Final Model)

Figure 1 shows that the PLS algorithm path coefficients and outer weights/loadings for a final model assessing the relationships between ergonomic interventions (EI), multitasking (M), perceived organizational support (POS), and employee well-being (EWB). The model shows direct paths from EI and multitasking to EWB, indirect paths with POS mediating the relationship between EI and EWB, and relationship between M and EWB.

Table 5. Out-of-Sample Predictive Power Analysis

Item	PLS Model		LM Model	RMSE _{PLS} —RMSE _{LM}
	Q ² _{predict}	RMSE	RMSE	
EWB.1	0.268	0.617	0.656	-0.039
EWB.2	0.379	0.767	0.816	-0.049
EWB.3	0.416	0.685	0.529	0.156
EWB.4	0.403	0.646	0.675	-0.029

Item	PLS Model		LM Model	RMSE _{PLS} —RMSE _{LM}
	Q ² _{predict}	RMSE	RMSE	
POS.1	0.357	0.496	0.503	-0.007
POS.2	0.285	0.507	0.515	-0.008
POS.3	0.283	0.611	0.618	-0.007
POS.4	0.343	0.833	0.871	-0.038
POS.5	0.316	0.673	0.677	-0.004

Table 5 presents that PLS, a method for modeling structural equations, was developed to bridge the gap between explaining and predicting phenomena. Despite the emphasis on prediction in PLS-SEM, this is a powerful statistical method for understanding complex relationships like those between ergonomics, organizational support, and employee well-being. It's particularly useful when dealing with new or evolving theories and situations with many interconnected factors. While qualitative methods like interviews can provide valuable context and depth, PLS-SEM offers a strong foundation for testing predictions, measuring abstract concepts, and identifying the most influential factors for improving employee well-being. The evaluation of these models has traditionally focused on metrics that assess their explanatory power. Recent work has introduced PLSpredict a method that generates item- or construct-level predictions using a holdout sample, providing a direct means of evaluating the predictive validity of PLS path models. (Hair et al., 2019). while analyzing predictive power outside of a sample. The suggested PLS model has medium predictive potential if its RMSE value is less than that of the LM (linear regression) model. While the PLS model outperforms a simple linear regression model in terms of prediction accuracy, the statement suggests.

Table 6. Model Fit SRMR

Model Fit	Saturated Model	Estimated Model
SRMR	0.086	0.086

Table 6 presents that SRMR is the Standardized Root mean square residual which is a measure of model fit (model fit). The requirement used is that the SRMR value below 0.08 indicates a fit model (suitable), while the SRMR value between 0.08 and 0.10 is still acceptable (Schermelleh-Engel et al., 2003). The model fit estimate result is 0.086 indicating that the empirical data provide an acceptable model fit to explain the relationships of variables between models

4. CONCLUSION

This study highlights the significance of ergonomic interventions and multitasking in enhancing employee well-being within the high-demand hospitality industry of the Puri Saron Hotel Group in Bali. Ergonomic interventions, such as workspace modifications and ergonomic training, were shown to have a statistically significant positive impact on employee well-being, with perceived organizational support acting as a crucial mediator. Multitasking, when managed effectively, also contributed to better well-being, indicating the role of cognitive adaptability in maintaining performance and satisfaction. The findings emphasize that fostering organizational support amplifies the benefits of ergonomic measures and helps mitigate stress and fatigue associated with multitasking. Overall, the results demonstrate that improving ergonomic conditions and providing organizational support are essential strategies for enhancing employee well-being in demanding industries. By addressing physical and psychological stressors, organizations can create a balanced work environment, boosting productivity and employee satisfaction. These insights offer valuable guidance for hospitality businesses aiming to optimize workplace practices and foster a healthier, more supportive organizational culture.

REFERENCES

- Castaño Cardenas, D. (2023). Health and Safety at Work: Importance of the Ergonomic Workplace. *SCT Proceedings in Interdisciplinary Insights and Innovations*, 1, 83. <https://doi.org/10.56294/piii202383>
- CDC. (2024, February 20). *Healthy Weight and Growth*. U.S Centers for Disease Control and Prevention. Retrieved from: <https://www.cdc.gov/healthy-weight-growth/about/index.html>
- Chinedu, O. O., Henry, A. T., Nene, J. J., & Okwudili, J. D. (2020). Work-related musculoskeletal disorders among office workers in higher education institutions: A cross-sectional study. *Ethiopian Journal of Health Sciences*, 30(5), 715-724. <https://doi.org/10.4314/ejhs.v30i5.10>
- Chin, W. W. (1988). *The partial least squares approach to structural equation modeling*. In G. A. Marcoulides (Ed.), *Modern methods for business research*. Lawrence Erlbaum Associates.
- Countouris, N., & De Stefano, V. (2023). The future of remote work. Osgoode Legal Studies Research Paper, (4462532), 93-103.
- George, T., & Merkus., J. (2023, November 20). *Explanatory Research | Definition, Guide, & Examples*. Scribbr. Retrieved from: <https://www.scribbr.com/methodology/explanatory-research/>
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hair, J. F., Babin, B. J., & Krey, N. (2017). Covariance-Based Structural Equation Modeling in the *Journal of Advertising*: Review and Recommendations. *Journal of Advertising*, 46(1), 163–177. <https://doi.org/10.1080/00913367.2017.1281777>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hollweck, T. (2015). Robert K. Yin. (2014). *Case Study Research Design and Methods* (5th ed.). *Canadian Journal of Program Evaluation*, 30(1), 108–110. <https://doi.org/10.3138/cjpe.30.1.108>
- Huang, Y.-H., Lee, J., McFadden, A. C., Murphy, L. A., Robertson, M. M., Cheung, J. H., & Zohar, D. (2016). Beyond safety outcomes: An investigation of the impact of safety climate on job satisfaction, employee engagement and turnover using social exchange theory as the theoretical framework. *Applied Ergonomics*, 55, 248–257. <https://doi.org/10.1016/j.apergo.2015.10.007>
- Irwanti, N. K. D. (2018). Redesain Alat Kerja Berbasis Antropometri Orang Bali Dan Remodeling Sikap Kerja Menurunkan Postural Stres Pramugraha Hotel Puri Saron Seminyak-Kuta Bali. *Jurnal Manajemen Pelayanan Hotel*, 2(2), 106. <https://doi.org/10.37484/jmph.020206>
- Irwanti, N. K. D., & Wisnawa, I. M. B. (2023). Analisis Faktor Ergonomi Terhadap Stres Kerja Dan Dampaknya Terhadap Kinerja Karyawan Front Office Hotel Di Bali. *Journal of Applied Management Studies*, 4(2). Retrieved from: <https://jamms.triatmamulya.ac.id/index.php/JAMMS/article/view/82>
- Keng, S.-L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, 31(6), 1041–1056. <https://doi.org/10.1016/j.cpr.2011.04.006>

- Koirala, R., & Maharjan, K. (2022). Cognitive Ergonomics on Employee Wellbeing: A Literature Review. *The Journal of Economic Concerns*, 13(1), 93–106. <https://doi.org/10.3126/tjec.v13i1.57064>
- Lachowicz, M. J., Preacher, K. J., & Kelley, K. (2018). A novel measure of effect size for mediation analysis. *Psychological Methods*, 23(2), 244–261. <https://doi.org/10.1037/met0000165>
- Maan, A. T., Abid, G., Butt, T. H., Ashfaq, F., & Ahmed, S. (2020). Perceived organizational support and job satisfaction: a moderated mediation model of proactive personality and psychological empowerment. *Future Business Journal*, 6(1), 21. <https://doi.org/10.1186/s43093-020-00027-8>
- Marková, P., & Škurková, K. L. (2023). The Impact of Ergonomics on Quality of Life in the Workplace. *System Safety: Human - Technical Facility - Environment*, 5(1), 121–129. <https://doi.org/10.2478/czoto-2023-0014>
- Mariani, I. L., & Kartika, I. M. (2018). Pengaruh Stres Kerjad Lingkungan Kerja Fisik Terhadap Kinerja Karyawan Pada Puri Saron Madangan Hotel di Kabupaten Gianyar. *Jurnal Manajemen Dan Bisnis Equilibrium*, 4(1), 70–81. https://doi.org/10.47329/jurnal_mbe.v4i1.307
- Ogbeibu, S., Chiappetta Jabbour, C. J., Burgess, J., Gaskin, J., & Renwick, D. W. S. (2022). Green talent management and turnover intention: the roles of leader STARA competence and digital task interdependence. *Journal of Intellectual Capital*, 23(1), 27–55. <https://doi.org/10.1108/JIC-01-2021-0016>
- Okezue Obinna Chinedu, Anamezie Tooohukwu Henry, John Jeneviv Nene, & John Davidson Okwudili. (2020). Work-Related Musculoskeletal Disorders among Office Workers in Higher Education Institutions: A Cross-Sectional Study. *Ethiopian Journal of Health Sciences*, 30(5).
- Prabawa, K. S., Sudjana, I. M., & Koeswiyono, D. P. (2023). The Influence of Work Attention on Employee Performance at Puri Saron Lovina Hotel. *Jurnal Ilmiah Pariwisata Dan Bisnis*, 2(4), 924–940. <https://doi.org/10.22334/paris.v2i4.389>
- Reddy, Gopireddy, M. M., Nisha, B., Prabhushankar, T., & Vishwambhar, V. (2016). Musculoskeletal morbidity among construction workers: A cross-sectional community-based study. *Indian Journal of Occupational and Environmental Medicine*, 20(3), 144. <https://doi.org/10.4103/0019-5278.203134>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Ryan, T. (2013). *Sample Size Determination and Power*. John Wiley and Sons.
- Santos, A. M., & Skiavan, A. da S. (2023). Ergonomics at work – Health and well-being of workers. *Uniting Knowledge Integrated Scientific Research For Global Development*. Seven Editoria. <https://doi.org/10.56238/uniknowindevolp-087>
- Santos, A. A. dos, & Reis, L. P. (2021). The impacts of the lack of ergonomic vision in mining equipment design projects on the health of workers in the maintenance sector. *Research, Society and Development*, 10(14), e158101421933. <https://doi.org/10.33448/rsd-v10i14.21933>
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the Fit of Structural Equation Models: Tests of Significance and Descriptive Goodness-of-Fit Measures. *Methods of Psychological Research*, 8(2), 23–74. Retrieved from: <https://doi.org/10.23668/psycharchives.12784>
- Shiri, R., Nikunlaakso, R., & Laitinen, J. (2023). Effectiveness of Workplace Interventions to Improve Health and Well-Being of Health and Social Service Workers: A Narrative Review of Randomised Controlled Trials. *Healthcare*, 11(12), 1792. <https://doi.org/10.3390/healthcare11121792>

- Soares, C. O., Pereira, B. F., Gomes, M. V. P., Marcondes, L. P., Gomes, F. de C., & Neto, J. S. de M.-. (2019). Fatores de prevenção de distúrbios osteomusculares relacionados ao trabalho: revisão narrativa. *Revista Brasileira de Medicina Do Trabalho*, 17(3), 415–430. <https://doi.org/10.5327/Z1679443520190360>
- Tullis, T., & Albert, B. (2013). *Measuring the User Experience*. Elsevier. <https://doi.org/10.1016/C2011-0-00016-9>
- WHO. (1948). *Constitution of The World Health Organization*. WHO. Retrieved from: <https://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf?ua=1>
- Wollter Bergman, M., Berlin, C., Babapour Chafi, M., Falck, A.-C., & Örtengren, R. (2021). Cognitive Ergonomics of Assembly Work from a Job Demands–Resources Perspective: Three Qualitative Case Studies. *International Journal of Environmental Research and Public Health*, 18(23), 12282. <https://doi.org/10.3390/ijerph182312282>
- Worley, J. A., Fuqua, D. R., & Hellman, C. M. (2009). The survey of perceived organisational support: Which measure should we use?. *SA Journal of Industrial Psychology*, 35(1), 1-5. <https://hdl.handle.net/10520/EJC89181>
- Yamane, Taro. (1976). *Statistics: An Introductory Analysis* (2nd ed.). Harper and Row.
- Yazdani, A., & Wells, R. (2018). Barriers for implementation of successful change to prevent musculoskeletal disorders and how to systematically address them. *Applied Ergonomics*, 73, 122–140. <https://doi.org/10.1016/j.apergo.2018.05.004>
- Zhang, B., Yin, X., Li, J., & Tong, R. (2024). Incorporating ergonomic and psychosocial stressors: A comprehensive model for assessing miners' work-related musculoskeletal disorders. *Safety Science*, 176, 106564. <https://doi.org/10.1016/j.ssci.2024.106564>