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JOB ROTATION, EMPLOYEE ENGAGEMENT, JOB SATISFACTION AND COMPENSATION ON EMPLOYEE PERFORMANCE OF SIALKOT SURGICAL MANUFACTURING INDUSTRY

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Abstract

This paper seeks to learn how job rotation, employee engagement and compensation influence job satisfaction and the ultimate effect of these factors on employee performance. The research concentrated on the manufacturing business of surgical instruments in Sialkot. In order to achieve this, gathered questionnaire answers of 255 employees who were employed in 20 companies. The data analysed through various statistical methods that included reliability test, correlation analysis, multiple regression and regression-based mediation analysis.

The results showed that all three HR practices have a great effect in enhancing the level of job satisfaction among the employees. While compensation has a direct effect on employee performance, rotation and employee engagement do not have direct significant effects. Job satisfaction emerged as the best predictor of employee performance, as it also mediates the paths from all three HR practices to performance. Results underscore the importance of job satisfaction in mediating the relationship between HR practices and improvement in the performance output of employees. Building upon previous research work done in other sectors, the study takes a deep and specific insight into workforce dynamics in export-oriented manufacturing in Pakistan while providing practice-oriented recommendations for companies to adopt better HR practices to uplift their workforce and improve productivity.

INTRODUCTION

The Surgical Instruments industry of Sialkot is among the 5 value-added export sectors of Pakistan that contribute the majority to the country's exports. The surgical instruments sector, in particular, has a century-long history of manufacturing and exporting high-precision medical instrumentation worldwide that is trusted by medics, surgeons, beauticians, and dentists. Globally, medical, surgical, beauty, and dental instruments are produced by highly skilled laborers working in export houses that have to meet nonstop global demands for quality. The success or failure of the export-oriented businesses is determined by the performance of such employees since the manufacturing processes are labor intensive. It is because of this reason that, human-resource practices that define how employees carry out their work are significant to the end product, the sustainability of the organization, and even its competitiveness at the international level. Activities such as job rotation, employee

involvement and compensation are important in defining how employees will perform their daily duties and their performance levels. Job-rotation programs expose employees to new skills, make them more flexible, and consequently more satisfied with their work when employees are provided with a wide scope of roles and responsibilities (Akbari & Maniei, 2019; Prasetyo & Rachmawati, 2019). Employee engagement is seen as the main driver of motivation and performance and is a result of a positive workplace environment that is a precursor to satisfaction and performance (Saks & Gruman, 2014; Bailey et al., 2017; Naz et al., 2019). Whereas Compensation is another key factor that influences employee motivation, their commitment to organizational goals and objectives, fairness & employee output (Milkovich, Newman, & Gerhart, 2014; Idris et al., 2020; Ambarwati et al., 2020).

It is pertinent to mention that job satisfaction operates as one of the most important psychological and enabling factors in enhancing employee attitudes. Studies like Judge et al. (2017) and Idris et al. (2020) show that employees show higher levels of motivation, active participation, and performance in a favorable and enriching work environment. Several studies have also confirmed that job satisfaction mediates the effects of HR practices like compensation, employee engagement, and job rotation on employee performance (Arifin et al., 2019; Idris et. al., 2020). Although much work has been done internationally that supports the relationship between these factors, empirical work specifically on the surgical sector of Pakistan is yet to be done.

To address the same gap, this study is being done to analyze the influence of job rotation, employee engagement, and compensation on job satisfaction and employee performance in the field of the surgical manufacturing industry of Sialkot, based on data collected from 255 respondents from 20 different companies across the city. Regression-based mediation analysis helped study both direct and indirect effects, keeping in mind the operational niceties of labor-intensive industry. This study therefore strives to study how HR practices affect employee performance, and aims to show how job satisfaction plays an important role in a labor-intensive manufacturing setting. Through this, the research provides intriguing new sector-specific information to the existing literature that otherwise is largely lacking in past HR studies.

Surgical instruments business in Sialkot is one of the biggest earners of exports in Pakistan, yet it has a critical issue to deal with: how to retain employees who work regular enough to ensure quality. Due to the tough competition, quality and social compliances involved such as the medical device regulation in EU and the US FDA, the sector now must adopt intelligent human-resource practices that suits the local environment. Although, in the overall course of things, job rotation, employee engagement and compensation are considered good means of improving output, the extent to which they can positively influence performance is highly dependent on the context.

The evidence presented by previous research work has been drawn from service sectors, and that too in developing economies. So far, little focus has been put on the export-oriented manufacturing clusters of small industrial cities like Sialkot. Moreover, the mediating role of Job Satisfaction has often been neglected as previous studies have emphasized more on direct relationships between human resource practices and performance. This leaves ample room to be filled through empirical research. A gap in understanding the influence of HR practices on labor performance in a manufacturing setting remains to be filled to determine whether job satisfaction serves as a mediating link between these practices and the output generated.

Research Objectives

- To examine the impact of job rotation on job satisfaction among labor (employees) in companies producing surgical instruments.
- To analyze the effect of employee engagement on job satisfaction.
- To understand and assess the relationship between compensation and job satisfaction.
- To assess and determine the impact of job satisfaction on employee performance.
- Evaluation of the direct effects of job rotation, employee engagement, and

compensation on overall employee performance.

- To examine and assess the mediating role of job satisfaction between job rotation, employee engagement, compensation, and ultimately employee performance.

LITERATURE REVIEW

Job rotation means giving employees the chance to experience a variety of tasks, roles, and departments within a company on purpose. It is a widely used practice to break the lack of variation of doing the same monotonous job over and over so people can develop new skills and become more flexible at work. Akbari and Maniei (2019) say that rotating job assist workers learn and enhancing their abilities by exposing them to a variety of job demands. Similarly, the Judge et al. (2017) assert that job rotation motivates sharing knowledge and assists employees in growing. The primary goal of job rotation is to enhance skills not only in terms of personal growth and the formation of the attitude of the employees. Akbari and Maniei (2019) state that in cases of good communication and training along with rotation, it even enhances performance. The other benefits are a deeper understanding of an organizational working, a greater feeling of fairness, and a feeling of belonging in employees (Prasetyo Agustian & Rachmawati, 2019). All these outcomes cause increased job Satisfaction that is how job rotation increases performance output measures. Job rotation may be particularly significant in the labor-intensive sector such as surgical-instrument manufacturing since the task may be tedious. It has been found that rotation is not necessarily linked to performance increase unless employees feel that it is invaluable and that it helps them (Al-Yafaei, 2025). This implies that the behavior and attitudinal implications of job rotation must be examined in a close within specific manufacture environments.

According to Saks and Gruman (2014), employee engagement is the primary enabling factor that is derived out of the feelings, thoughts, and physical energy that individuals invest in their jobs. It is an indication of the level of commitment of the staff toward their tasks. The loyal employees will never hesitate or shy away from their tasks, they will own the work instead of evading or giving minimum efforts. According to Bailey et al. (2017), there are three features of engagement: vigor, dedication, and absorption. Both of them are associated with higher rates of job satisfaction, reduced turnover intentions, and improved performance in the long term. Previous research work has also supported the positive effect of employee engagement on organizational effectiveness. As Bailey et al. (2017) found that motivation and involvement at the workplace not only increased employee performance within their assigned roles but also beyond their scope of work. Al-Dalameh et al. (2018) observed that highly engaged employees in the banking sector of Jordan were satisfied and contributed more towards overall organizational performance. On the other hand, Naz et al. (2019) noted that engagement enhanced performance as a result of the mediating effect of job satisfaction. Highly engaged employees in labor-intensive manufacturing setups, therefore, play a key role in achieving quality objectives. They are more likely to solve problems, take ownership of the work, and produce as per the requirements, thereby contributing to the sustainability of business operations and competitiveness in the international markets. Together, salaries, incentives, fringe benefits, and pay policies make up the Compensation, which is a key tool used by HR practitioners to retain and motivate existing employees as well as attract new ones. The employee satisfaction depends on the level of compensation that is being paid based on principles of fairness and equity. Satisfaction with pay has a positive correlation with commitment, turnover, and employee performance (Idris et al., 2020). The significance of compensation is even greater in developing economies like Pakistan due to the scarcity of jobs in the market and variable wage structures. Employees have a higher psychological safety if fairly compensated, which enables them to give their best towards the organizational objectives. People work better for an organization when they feel comfortable that they are doing their best to reach the company's aims. The transparency in pay systems is a key way to develop trust, keep

things stable, and create a culture where performance is enabled, and people are encouraged to do their best. Previous studies depict a profound linkage between job satisfaction and compensation, although the former does not directly impact the performance outcomes. The impact is rather specific to industry type and also indirectly mediated by job satisfaction through employee attitudes (Idris et al., 2020).

Job Satisfaction is the culmination of the overall experience of employees regarding the job based on their emotional and cognitive experience. It is shaped by their personal expectations, perception of work conditions, the support they receive, and the recognition they are awarded. As per Judge et al. (2017), job satisfaction is the result of an employee's intrinsic and extrinsic motivation and has a great impact on organizational factors like absenteeism, performance, and turnover. Such meditation on job satisfaction in HR has been confirmed by the Research. The Judge et al. (2017) further highlight the role of job satisfaction in the levels of motivation and quality of effort put in by the employees. Through satisfaction, performance may be influenced by workplace conditions and employee engagement (Arifin Nirwanto and Manan, 2019). Compensation and work environment impact performance through satisfaction (Idris et al., 2020). In labor-intensive manufacturing setups, satisfaction plays a key role in driving employees to maintain precision, accuracy, and productivity in their outputs. Valued and satisfied employees will often find it more rewarding to put in more effort in line with the demands of their assigned roles.

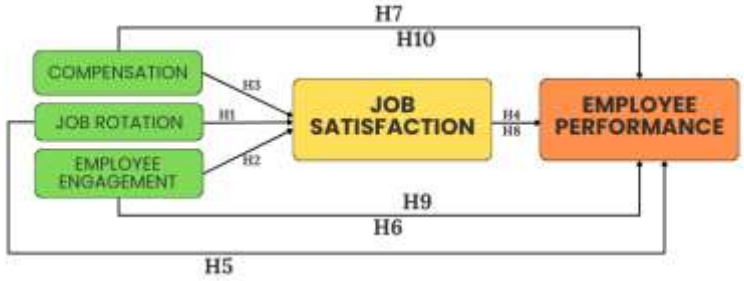
Employee performance refers to the range of behavior and outcomes associated with disposal of job duties by an employee. The Koopmans et al. (2014) draw a distinction between task performance and contextual performance that contribute to the effectiveness of the organization. The Campbell and Wiernik (2015) also shed light that performance depends on knowledge and skill, motivation, and work environment. The setting of employee performance is usually defined by the psychological states, HR practices, and organizational support systems. It is evident from the few studies conducted in developing economies that performance improves among employees experiencing satisfaction, equitable pay, and a supportive HR structure (Naz et al., 2019; Idris et al., 2020). Performance is not merely defined by output; rather, it assumes a broader interpretation, for example, in the surgical sector of Sialkot, where quality and precision are also fundamental. Hence, it is more dependent on highly effective HR practices to maintain performance standards in export-oriented industries.

THEORETICAL FRAMEWORK & HYPOTHESIS DEVELOPMENT

Employee attitudes and behaviors are shaped by human resource practices via various established theoretical foundations. This study employs Social Exchange Theory, Job Characteristics Theory, and Herzberg's Two Factor Theory as lenses through which to view the relationships among job rotation, engagement, compensation, job satisfaction, and employee performance. These theories thus serve as the conceptual basis for the hypotheses tested in this research. In Social Exchange Theory (SET), all the interactions in the workplace are mutualistic and reciprocal because a favorable treatment from the organization encourages positive attitudes and behavior from employees as a result. Developmental opportunities like job rotation, equitable conditions, and open, fair compensation models that create engagement are perceived as positive exchanges. In return, these lead to higher satisfaction, motivation, and improved performance among employees. In this case, the surgical industry in Sialkot employs HR practices like rotation, engagement, and pay systems, which create a positive sense of understanding among employees and employers. Workers who feel valued, appreciated, and taken care of tend to give more than just their job. One can expect that the three HR practices studied here would provide positive effects in terms of job satisfaction and eventually employee performance.

From the theories discussed above and the empirical studies that have been previously done, this model states the following points:

- Job rotation, employee engagement, and compensation are independent variables.
- Job satisfaction is the mediating variable.
- Employee performance is the dependent variable.



Thus, the model advocates that every HR practice impacts job satisfaction positively, with a subsequent improvement in performance levels expected. Job satisfaction is, therefore, positioned within this framework as the hub through which HR practices exert their influence.

Hypothesis Development

In continuation of the aforementioned theoretical foundations, the following hypotheses are proposed:

H1: Job Rotation has a positive effect on Job Satisfaction

H2: Employee engagement has a positive effect on Job Satisfaction

H3: Compensation has a positive effect on Job Satisfaction

H4: Job Satisfaction has a positive effect on employee performance

H5: Job Rotation has a positive effect on employee performance

H6: Employee engagement has a positive effect on employee performance.

H7: Compensation also affects performance among the employees positively.

H8: Job Satisfaction mediates the effects between job rotation and performance of employees.

H9: Job Satisfaction mediates the relationship between employee engagement and employee performance.

H10: Job Satisfaction mediates the relationship between compensation and employee performance.

METHODOLOGY

The adoption of the quantitative research methodology was to investigate how job rotation, employee engagement, compensation, and job satisfaction affect the performance of the employees in the surgical instruments industry of District Sialkot. The questionnaire was designed in a structured questionnaire format comprising of 5 sections that were constructed based on certain constructs and a total of 25 questions which were based on Likert scale. The sample to purposely (purposive sampling) selects 20 companies meeting the requirements and received 255 answers to the questions among employees working in different departments.

The survey was completed online and on paper by the employees as per their convenience. We adhered to all ethical principles and it was a voluntary process and all responses were confidential. Once the data was cleaned and checked, we computed average scores of all constructs to be taken into the statistical analysis. Research conducted a number of analyses reliability tests, correlation analysis and multiple regression to understand how the data behaved. The Alpha of Cronbach indicated that the 5 constructs were all internally consistent. Pearson correlation was used to assess relationship, and multicollinearity was avoided. We also considered the effect of HR practices on employee performance via job satisfaction as a mediator, and we have performed the multiple-regression in two steps. In order to test indirect effects, we applied the Sobel tests to test the a-, b-, and c-paths, and tested the mediation model using regression. This method was useful in viewing both direct and indirect relationships between all the variables.

RESULTS

Cronbach Alpha was used to estimate internal consistency of every construct. The results indicate that all 5 variables scored higher than 0.70 with a comfortable margin, therefore, are good in terms of reliability.

Table 1: Reliability Results

Reliability Analysis (Cronbach's Alpha) **

Construct	Items (n)	Cronbach's α
Job Rotation	5	0.94
Employee Engagement	5	0.863
Compensation	5	0.971
Job Satisfaction	5	0.873
Employee Performance	5	0.944

Depiction of good integral consistency for all scales confirmed.

Pearson correlation coefficients were calculated to investigate the relationships between all study variables.

Table 2: Correlation Matrix

Variable	JR	EE	Comp	JS	EP
Job Rotation	1				
Employee Engagement	0.783**	1			
Compensation	0.512**	0.871**	1		
Job Satisfaction	0.334**	0.575**	0.656**	1	
Employee Performance	0.307**	0.511**	0.574**	0.030**	1

All HR practices positively correlated with job satisfaction and employee performance. The correlation between job satisfaction and performance gives a low value (r = 0.03), but the regression results show that job satisfaction still plays a strong role as a predictor for performance. The strongest and positive correlation was indicated between engagement and compensation (r = 0.871). This proves that there is no serious multicollinearity that would otherwise affect normal regression.

Two Regression models were tested in this study

i. **Model A: Direct Effects (DV = Employee Performance)**

The purpose of the proposed model was to scrutinize whether job rotation, compensation, and engagement directly influence employee performance.

Table 3: Regression Model A (Direct Effects)

Predictor	B	SE	t	p
Intercept	1.352	0.200	6.764	< .001
Job Rotation	-0.010	0.104	-0.092	0.926

Employee Engagement	0.068	0.202	0.335	0.738
Compensation	0.505	0.121	4.163	< .001

The only significant determinant of employee performance is compensation. Job rotation, in combination with employee engagement, does not have any direct significant effect. This supports H7 (Accept) but rejects H5 and H6.

ii. Model B: Regression Model

The model examined the mediating role of job satisfaction for HR practices.

Table 4: Regression Model B (with Job Satisfaction as mediator)

Predictor	B	SE	t	p
Intercept	-0.205	0.107	-1.907	0.058
Job Rotation	0.011	0.049	0.231	0.818
Employee Engagement	0.023	0.095	0.241	0.809
Compensation	-0.075	0.060	-1.243	0.215
Job Satisfaction	1.083	0.036	29.876	< .001

Job Satisfaction is the main predictor of employee performance. No HR practices are significant if JS is included. This provides evidence for mediation.

Mediation was tested through a-paths, b-path, and c'-paths. The Sobel test was also performed for significance.

Table 5: Mediation paths

Path	B	SE	p
JR → JS (a1)	0.309	0.055	< .001
EE → JS (a2)	0.587	0.053	< .001
Comp → JS (a3)	0.556	0.040	< .001
JS → EP (b)	1.083	0.036	< .001
JR → EP (c')	0.011	0.049	0.818
EE → EP (c')	0.023	0.095	0.809
Comp → EP (c')	-0.075	0.060	0.215

All a-paths and the b-path show high significance

Table 6: Sobel Test (Indirect effects)

IV	a × b	Sobel z	p
Job Rotation	0.335	5.546	< .001
Employee Engagement	0.635	10.464	< .001
Compensation	0.602	12.559	< .001

Job Satisfaction fully mediates between Job Rotation and employee engagement, while acting as a partial mediator for compensation.

Hypothesis Testing

Table 8: Hypotheses Testing Results

#	Hypothesis	p-value	Results
H1	JR → JS	< .001	Accepted
H2	EE → JS	< .001	Accepted
H3	COMP → JS	< .001	Accepted
H4	JS → EP	< .001	Accepted
H5	JR → EP	0.926	Rejected
H6	EE → EP	0.738	Rejected
H7	COMP → EP	< .001	Accepted

H8	**JR → EP via JS**	**< .001**	**Accepted**
H9	**EE → EP via JS**	**< .001**	**Accepted**
H10	**COMP → EP via JS**	**< .001**	**Accepted**

Out of the ten hypotheses tested, eight were supported, while two hypotheses regarding the direct effects of job rotation and employee engagement on employee performance were rejected.

DISCUSSION

The study focused on analysing the relationship between job rotation, employee engagement, compensation, job satisfaction, and performance of employees in surgical manufacturing in Sialkot. The results of the analysis depicted detailed insights into how the employee outcomes are affected by the HR practices within the specific context of labor-dependent and export-oriented manufacturing setups. The findings confirm that Job Satisfaction is positively affected by job rotation, employee engagement, and compensation. This confirms the hypotheses H1, H2, and H3 that are consistent with the previous studies that support that employee invest more in their jobs if provided with developmental opportunities, involvement in the planning, and fair compensation. In the particular case of the surgical sector of Sialkot, which is based on repetitive and precision tasks, enhancing job satisfaction is heavily reliant on practices that promote skill variety, increase motivation, and demonstrate fairness.

Although the bivariate correlation between job satisfaction and employee performance was weak, regression results showed that job satisfaction has a strong influence on performance when studied with the other HR practices. Hypothesis H4 asserts that job satisfaction has an effect within a multivariate context rather than through simple association. This view is further supported that satisfied employees will likely keep their efforts, accuracy, and responsibility in their work. Where quality and precision are critical, employee satisfaction becomes central in sustaining standards of performance. The relationship throws up a big job satisfaction performance attitudinal driver for the sector. Contrary to expectations, job rotation and employee engagement have no direct significant effect on performance, as they lead to the rejection of hypotheses H5 and H6. The interpretations of this finding, however, do not imply failure of the practice but that the influence is mainly through employee attitudes and change as compared with immediate behavioural results. In a very standardized and labour-modify production environment, employee performance is usually governed by standard procedures, technical requirements, and quality controls. Thus, practices that include engagement and job rotation may not lead directly to better performance, except when they improve the employees' feeling of satisfaction toward their jobs first.

The results of the study suggest that employees turn developmental opportunities and psychological engagement into improved performance only when such experiences positively affect job satisfaction. In the direct-effects model, the compensation has a significant direct influence on employee performance, thus confirming H7. This finding means that financial rewards and perceptions of pay fairness motivate employees to put in more effort and be more productive. However, with job satisfaction now included in the regression, the effect of compensation becomes non-significant. This change leads us to conclude that job satisfaction partially mediates the relationship between compensation and performance. Employees may respond initially with increased efforts toward compensation; performance improvements, however, continue to be realized when compensation also increases their overall satisfaction with the job.

The study's mediation analysis shows that job satisfaction is key in connecting HR practices with employee performance. It was observed that satisfaction mediates how job rotation, employee engagement, and compensation affect performance, supporting hypotheses H8, H9, and H10. Hence, HR practices shape employees' attitudes toward their jobs, which indirectly impact their performance. Job satisfaction, considered as a psychological construct, is the mechanism that turns

organizational practices into productive behaviour.

This pattern fits the social exchange theory, which says employee behaviour is the outcome of their attitudes. From a bird's eye view, the findings show that job satisfaction is the core driver of employee performance in the surgical-instruments manufacturing sector. In Sialkot's context, job rotation and employee engagement are important for building satisfaction, even if they do not produce performance results immediately. Compensation is also important for motivation and satisfaction. The outcomes highlight that organizations should design HR practices to create positive employee participation and experiences rather than just focusing on implementation.

CONCLUSION

This paper presents strong evidence that employee engagement and fair remunerations in combination have a significant influence on the degree of job satisfaction and job performance. Such practices are very helpful in ensuring that work is rewarding and easy to the employees. It also concludes that employee performance is predicted mostly by job satisfaction. Satisfaction is also significant in determining behaviours of workers in the surgical instruments manufacturing industry and quality of the products is directly related to skills and effort workers exert. The findings affirm that employers who treat their employees well by giving them due rewards and payment get better employee output and deliverables. These findings also affirm the fact that when employees are accorded the appropriate value, encouragement and appreciation, they feel more satisfied and will eventually work hard and deliver accurate results in a uniform way. The results of the study also show that compensation is a direct driver of employee performance, while no direct effects are observed due to job rotation and engagement. This may be because the skills of the employees in Surgical Instruments take years to master, and rotation means employees would have to leave a particular skill that they already have prowess in and learn a new one. For example, moving from the polishing department to the passivation department may take time and may not necessarily bring about positive and immediate results.

Hence, all three HR practices may contribute to employee performance, but job satisfaction remains a prerequisite as the mediator. This observation further confirms that only through job satisfaction do HR interventions transform into improved performance and efficiency. The results ultimately suggest that the exporters of the Surgical sector in Sialkot can surely improve the performance of their employees by integrating various practices that improve development, motivational strategies, and an equitable compensation policy. This would result in a highly engaged and motivated workforce willing to produce high-quality outputs required for global marketplaces. The study, therefore, contributes to a better understanding of HR-performance linkages within the context of export-oriented manufacturing in Pakistan and lays the foundation for evidence-based HR decision-making in the sector.

LIMITATIONS AND FUTURE DIRECTIONS

There are multiple limitations to this research that need to be kept in mind while interpreting the findings. Because this is a cross-sectional study, there is a limitation in inferring causality, as employee perception was taken at a single point in time. As samples from 20 firms have been taken for this research, although this can be statistically analysed, it might limit the scope of applicability to the entire surgical manufacturing workforce in Sialkot or in any other similar industrial context. Furthermore, restrictions in terms of self-reporting can raise the concern of response bias. This research has been confined to limited HR practices, job rotation, employee engagement, and compensation, while relatively more factors, such as organizational and contextual ones, may contribute to job satisfaction and performance. Methodologically, there was a regression-based mediation analysis, and although it may have been appropriate for the dataset, it limited the examination of hidden constructs and overall model fit.

The future studies could remedy the limitations by longitudinal designs that would enhance stronger causal relationships, perhaps using probability samples or larger, multi-region samples to enhance representativeness. With an enhanced scope of HR variables, objectives, moderators, and multi-source performance measurements, the impacts of practices on employee performance can be better analysed and captured. Furthermore, the research findings can be accurate and right when the pioneering techniques such as SEM are used. The inclusion of qualitative approaches would allow the scholars to see what the employees feel and experience under various types of situations, which will also contribute to greater knowledge and practical application of the theory.

REFERENCES

Akbari, A., & Maniei, R. (2019). The effect of job rotation on employee performance: A case study of Dana Insurance. Management Science Letters, 9(8), 1267–1274. https://doi.org/10.5267/j.msl.2019.4.003

Al-Dalahmeh, M., Masa'deh, R., Abu Khalaf, R. K., & Obeidat, B. Y. (2018). The effect of employee engagement on organizational performance via the mediating role of job satisfaction: The case of IT employees in the Jordanian banking sector. Modern Applied Science, 12(6), 17–43. https://doi.org/10.5539/mas.v12n6p17

Al-Yafei, A. (2025). The relationship between job rotation and employee outcomes. International Journal of Organizational Analysis. Advance online publication.

Ambarwati, T., Djatmika, E. T., Wardhana, R. W., Wardoyo, C., Churiyah, M., & Jihadi, M. (2020). The role of compensation, job rotation, employee engagement and employee performance of SMEs. Journal of Asian Finance, Economics and Business, 7(10), 715–724. https://doi.org/10.13106/jafeb.2020.vol7.no10.715

Arifin, Z., Nirwanto, N., & Manan, A. (2019). Analysis of bullying effects on job performance using employee engagement and job satisfaction as mediation. International Journal of Innovation, Creativity and Change, 9(6), 42–58.

Bailey, C., Madden, A., Alfes, K., & Fletcher, L. (2017). The meaning, antecedents and outcomes of employee engagement: A narrative synthesis. International Journal of Management Reviews, 19(1), 31–53. https://doi.org/10.1111/ijmr.12077

Campbell, J. P., & Wiernik, B. M. (2015). The modeling and assessment of work performance. Annual Review of Organizational Psychology and Organizational Behavior, 2, 47–74. https://doi.org/10.1146/annurev-orgpsych-032414-111427

Idris, I., Rohmah Adi, K., Soetjipto, B. E., & Supriyanto, A. S. (2020). The mediating role of job satisfaction on compensation, work environment and employee performance: Evidence from Indonesia. Entrepreneurship and Sustainability Issues, 8(2), 735–753. https://doi.org/10.9770/jesi.2020.8.2(44)

Judge, T. A., Weiss, H. M., Kammeyer-Mueller, J. D., & Hulin, C. L. (2017). Job attitudes, job satisfaction and job affect: A century of continuity and change. Journal of Applied Psychology, 102(3), 356–374. https://doi.org/10.1037/apl0000181

Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., van Buuren, S., van der Beek, A. J., & de Vet, H. C. W. (2014). Measuring individual work performance: Identifying and selecting indicators. Work, 48(2), 229–238. https://doi.org/10.3233/WOR-131659

Milkovich, G. T., Newman, J. M., & Gerhart, B. (2014). Compensation (11th ed.). McGraw-Hill Education.

Naz, S., Li, C., Khan, H. S. U. D., & Rafiq, M. (2019). The impact of emotional intelligence on employee performance and employee engagement: The mediating role of job satisfaction. Middle East Journal of Management, 6(5), 637–656. https://doi.org/10.1504/MEJM.2019.10024333

Prasetyo Agustian, E., & Rachmawati, R. (2019). The effect of job rotation and person–job fit on employee engagement: The mediating role of job satisfaction. International Journal of Innovation, Creativity and Change, 9(10), 1–15.

Saks, A. M., & Gruman, J. A. (2014). What do we really know about employee engagement? Human Resource Development Quarterly, 25(2), 155–182. https://doi.org/10.1002/hrdq.21187