



Employee engagement, job satisfaction, organizational culture, and servant leadership as drivers of worker productivity

Mikhriani^{a*}, Ahmad Dani Virsal^b, Suddin Lada^c

^a Faculty of Da'wah and Communication, State Islamic University of Sunan Kalijaga, Yogyakarta, Indonesia; mikhriani@uin-suka.ac.id*

^b PT Timah Tbk, Pangkalpinang, Indonesia; dani@pttimah.co.id

^c Faculty of Business Economics and Accounting, University Malaysia Sabah, Sabah, Malaysia; suddin@ums.edu.my

ARTICLE INFO

Article History:

Received 06-12-2024

Revised 01-13-2025

Accepted 03-12-2025

Kata Kunci:

Kepemimpinan yang melayani, budaya organisasi, kepuasan kerja, keterlibatan karyawan, produktivitas

Keywords:

Servant leadership, organizational culture, job satisfaction, employee engagement, productivity

ABSTRAK

Keberhasilan organisasi sangat terkait dengan sumber daya mereka, terutama sumber daya manusia. Dalam hal ini, sumber daya manusia yang lebih kompeten memiliki produktivitas yang lebih tinggi. Oleh karena itu, manajemen sumber daya manusia (HRM) sangat kritis dalam organisasi dan memerlukan kepemimpinan dan budaya organisasi yang tepat. Dalam konteks ini, studi ini bertujuan untuk menyelidiki peran Kepemimpinan yang melayani dan Budaya Organisasi terhadap Kepuasan Kerja Karyawan (JS). Studi kuantitatif ini menganalisis hubungan sebab-akibat dari data yang diperoleh dari 147 responden dengan skala Likert lima poin. Data dikumpulkan melalui instrumen kuesioner yang terdiri dari tiga jenis data demografis dan dua puluh pernyataan dalam kuesioner. Kami menggunakan program SPSS dan AMOS dengan alat Analisis Structural Equation Modeling (SEM). Hasilnya menunjukkan bahwa budaya organisasi dan kepemimpinan yang melayani berpengaruh positif terhadap kepuasan kerja, sementara kepuasan kerja berpengaruh positif terhadap keterlibatan karyawan dan produktivitas kerja. Namun, hipotesis yang memprediksi bahwa keterlibatan karyawan mempengaruhi produktivitas kerja tidak didukung secara empiris. Secara keseluruhan, studi kami memberikan arah bagaimana kebijakan organisasi secara strategis meningkatkan produktivitas karyawan melalui kepemimpinan yang melayani, budaya organisasi, dan kepuasan kerja karyawan.

ABSTRACT

Organizational success is closely associated with their resources, especially human resources. In this respect, more competent human resources have higher productivity. Consequently, human resource management (HRM) is critical in organizations and requires appropriate leadership and organizational culture.

*Corresponding Author

Accordingly, this study seeks to investigate the roles of Servant Leadership (SL) and Organizational Culture (OC) on Employee Job Satisfaction (JS). This quantitative study analyzes causal relationships from data obtained from 147 responses with five-point Likert scales. Data was collected through a questionnaire instrument consisting of three types of demographic data and twenty statements in the questionnaire. We utilized SPSS and AMOS programs with the Structural Equation Modeling (SEM) Analysis tool. The results reveal that organizational culture and servant leadership positively affect job satisfaction, while job satisfaction positively affects employee engagement and work productivity. However, the hypothesis predicting that employee engagement affects work productivity is not empirically supported. Overall, our study offers a direction on how organizational policies strategically improve employee productivity through servant leadership, organizational culture, and employee job satisfaction.

INTRODUCTION

Most organizations today face tremendous challenges, including an uncertain economy and increasingly fierce competition, continued market globalization, and rapidly evolving technology (Dirani & Kuchinke, 2011). Business organizations compete for success by amplifying their productivity. Productivity levels reflect firms' higher commercial success rates. In this respect, productive behavior is critical in determining occupational conditions (Suhariadi et al., 2023). Further, firms' productivity is closely linked to the roles of human resources as a distinctive determinant (Nda & Fard, 2013). Nevertheless, many firms fail to achieve the expected productivity levels, hence motivating them to explore novel work methods to solve this problem. Productivity must be measured both in terms of quantity and quality. Shujahat et al., (2019) quote Drucker who identifies the six determinants of knowledge worker productivity as more commonly known as "Drucker's theory of knowledge worker productivity." These six determinants require that knowledge workers: 1) must be knowledge-oriented, 2) must have autonomy, 3) must innovate continuously, 4) must learn and teach continuously, 5) must be committed to both quantity and quality and 6) must be treated as intellectual assets. These six productivity determinants help one formulate steps to achieve productivity goals or plans.

Productivity is critical to a firm's success. Increasing employee satisfaction is a prevalent strategy to boost productivity since job satisfaction determines organizational success. Hence, the human resource literature widely analyzes this issue, such as the role of job satisfaction in improving organizational performance (Gilli et al., 2022; Vizcaíno et al., 2023), and its role in strengthening employees' emotional bonds with their firms (Kundi et al., 2021; Nimon et al., 2016; Salau et al., 2018). Nevertheless, prior studies yield inconsistent results. For instance, recent

literature demonstrates that employee satisfaction does not affect employee productivity (Fadhli et al., 2022). Accordingly, our study seeks to address this issue by proposing a factor (Employee Engagement) as a mediating variable that mediates employee satisfaction's effect on work productivity. Employee engagement arguably mediates the association between employee satisfaction and work productivity because employees' emotional and cognitive engagement encourages intrinsic motivation, active participation, and effective team collaboration (Robledo et al., 2019). Engaged employees can better manage stress and adapt to change, improving efficiency and work quality (Bakker & Demerouti, 2016). Thus, engagement not only strengthens employee satisfaction but also directly increases work productivity within organizations (Breevaart et al., 2015).

We introduce employee engagement as a mediating variable following the Demand-Resource Model (JD-R). This model is a theoretical framework that illustrates how the interaction between job resources and job demands affects employee engagement and well-being (Tummers & Bakker, 2021). In this model, job resources include elements that support employees to achieve work goals, such as social support from colleagues or superiors, constructive feedback, and opportunities to develop skills. In contrast, job demands refer to aspects that require significant physical or mental effort, such as high workloads, time pressures, or task complexity.

Employee engagement is considered a positive response that arises when the available job resources are sufficient to cope with the demands of the job (Pratama & Tiarapuspa, 2023). Job resources not only help employees in facing challenges but also serve as intrinsic motivators that increase their commitment, passion, and dedication to the job (Schaufeli, 2004). In this context, employee engagement is an important factor that bridges the relationship between work elements and organizational outcomes, including work productivity.

In addition to presenting new things in the form of mediation variables in the research model, this study also expands the conceptual framework by including two antecedent variables, namely Servant Leadership and Organizational Culture, which are predicted to contribute positively to employee satisfaction. Servant Leadership that emphasizes the service and well-being of team members is considered to increase employee satisfaction, which in turn strengthens their work productivity (Eva et al., 2018). Meanwhile, an Organizational Culture that supports collaboration, innovation, and appreciation for individual contributions is believed to create a work environment that is conducive to employee well-being and satisfaction (Nguyen et al., 2019). By combining these two variables, this study not only offers a new perspective but also integrates key factors that are important in improving job satisfaction and productivity in organizations.

Effective human resource management strategies will arguably improve organizational performance as measured by productivity levels (Green et al., 2006).

Other studies have corroborated the role of satisfaction in shaping employee attitudes, loyalty, and performance (Castaldo et al., 2023; Oloke et al., 2017; Tleuken et al., 2022). In addition to increasing productivity, employee or job satisfaction can also directly strengthen employees' emotional bond with their work (Udayana et al., 2021), which then boils down to work productivity (Koo et al., 2022; Prentice et al., 2023). Human resource management strategies necessitate strategic and comprehensive thinking, a wealth of ideas, and the ability to consider multiple perspectives (Banyhmadan et al., 2020). In the context of State-Owned Enterprises (SOEs), merely exploring the roles of employees' job satisfaction and emotional closeness is insufficient in increasing productivity. Accordingly, this study highlights the importance of holistic integration, where leadership styles and adopted organizational culture are critical. This perspective highlights that appreciating the interaction between leadership, organizational culture, and employees' cultural factors is more effective in optimizing SOEs' productivity. Hence, this proposition fills the research gap in SOEs by combining factors such as Employee Engagement, Job Satisfaction, Organizational Culture, and Servant Leadership to strengthen Worker Productivity.

Employee satisfaction positively affects employee productivity and emotional engagement, emphasizing the importance of strengthening employee satisfaction. However, it cannot be strengthened without an acceptable organizational culture. In this respect, organizational culture strengthens employee satisfaction (Kontoghiorghe, 2016; Paais & Pattiruhu, 2020; Tzeng et al., 2002). Organizational culture offers distinct spaces in organizations, such as innovation capability, concern for members' problems, and values that boost employees' feelings as valuable resources. Indeed, organizational culture not only boosts employee satisfaction but also enhances productivity and innovation (Ahmetoglu et al., 2018; Azeem et al., 2021; Rehman et al., 2018). Consequently, various scholars investigate this issue further. For instance, a study discovers that organizational culture significantly affects the transformation and practice of structured problem-solving (Fadnavis et al., 2020). Meanwhile, another study documents the relationship between organizational culture and initiatives and corporate sustainability practices, such as production processes (Assoratgoon & Kantabutra, 2023).

Passive organizational resources will benefit organizations if they are driven by active resources competent with their roles. In this respect, human resources are intrinsically linked to psychological and individual immunological factors. The mood will affect individuals' attitudes and behavior. For instance, high work pressure will affect their work involvement, which further affects their work performance (Kundi et al., 2021). They also explain that emotionally stable employees who perceive performance stress as a challenge achieve stronger work engagement.

This study asks the following research questions. First, what is the role of servant leadership in strengthening employee work productivity? This study seeks to identify the influence of servant leadership on employee job satisfaction and

engagement and how these factors can improve work productivity. Second, how does organizational culture affect employee work productivity? This research seeks to analyze how organizational culture contributes to creating work environments that can improve job satisfaction and employee engagement. Third, what are the roles of job satisfaction and work engagement as mediators between servant leadership, organizational culture, and employee work productivity? This research explores how job satisfaction and job engagement mediate the influence of servant leadership and organizational culture on work productivity. Finally, to what extent work productivity has been achieved in the organizations studied? This research identifies factors affecting the levels of work productivity achievement and analyses obstacles or opportunities to increase future productivity.

Based on the research background, this study thoroughly analyses the roles of servant leadership and organizational culture in strengthening employee work productivity. In doing so, we seek to identify how these two factors affect employee work productivity as mediated by employees' job satisfaction and work engagement. More specifically, this research investigates how servant leadership, focusing on values of devotion, empathy, and empowerment, creates work environments that support employee satisfaction and engagement, which can increase individual and team productivity. In addition, this study also aims to measure the extent to which work productivity has been achieved so far, as well as explore the factors that can accelerate or hinder the achievement in the context of current organizational dynamics. Our research offers a more comprehensive insight into the relationship between leadership, organizational culture, and work productivity, as well as provides practical recommendations for organizations to improve employee performance through an approach based on servant leadership and organizational culture.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Organizational Culture

Organizational culture can be seen as the basis of shared norms, values, basic assumptions, and beliefs used by group members to address adaptation and integration challenges that affect members' actions and behaviors within organizational environments with deep cultural roots (Kaur Bagga et al., 2022). Competitive forces motivate organizations to increase their dynamics and innovation because their survival highly depends on innovation. In this respect, organizational culture is arguably critical in achieving innovation goals (Muhammad et. al., 2021). Organizational culture includes patterns of necessary behavior, beliefs, and values that offer opportunities to develop human resources by changing attitudes and behaviors that help organizations adapt to current and future challenges. Organizations' brands reflect the core of the entire organizational culture.

Organizational culture has an invisible social force, encouraging individuals within organizations to participate in work activities. Accordingly, employees must understand organizational culture to respond to possible challenges and changes, thus ensuring optimal performance and aligning their behaviors and attitudes with organizational standards. Innovation-focused organizations must have three critical elements: (1) creating an open and supportive climate for innovation, (2) enhancing solidarity levels among organizational members, and (3) implementing a reward system that reinforces innovative culture. In this respect, organizational culture, which consists of norms, values, underlying assumptions, and beliefs developed by organizational members is critical in addressing adaptation and integration challenges that affect employee behavior and reflect deeper cultural values (Kaur Bagga et al., 2022).

Organizational culture, as the values, norms, and assumptions the workforce embraces, is essential in creating work environments that stimulate knowledge sharing and innovation. It also promotes relationships connecting employees with high-level business processes that develop and apply advanced technologies (Azeem et. al., 2021). Strong organizational culture is essential to achieve organizational success. This culture nurtures environments where knowledge sharing and innovation promotion are key factors that drive organizations to achieve competitive advantage. In this context, organizational culture acts as a catalyst that motivates organizational members to innovate and collaborate continuously through knowledge sharing, which ultimately provides significant benefits in achieving organizational goals and success.

Organizational culture is a significant contributor to the success of structured problem-solving practices (Fadnavis et. al., 2020). The characteristics of organizational culture affect organizations' ability to solve problems, indicating the important role in problem-solving creativity. The desired culture creates an environment where teams can collaborate effectively on problem-solving to improve the organization. Organizational culture has certain indicators (Kaur Bagga et al., 2022). Some examples include: 1) innovation by considering risks, 2) examining problems in detail, 3) focusing on the results to be achieved, 4) paying attention to the interests of all employees, and 5) emphasizing persistence in the workplace

Servant Leadership

Organizational activities in achieving objectives are closely related to ongoing leadership role (Rehman et al., 2018). Besides, the complexity of environmental factors greatly affects organizational success. Rosenhead et al., (2019) identify extensive literature on complexity theory, including complexities experienced by leaders in achieving organizational success. Leadership is the art of motivating and persuading individuals to achieve common goals and results from social influence, not from strict hierarchy or seniority (Darvishmotevali & Altinay, 2022).

Organizations demand leadership processes and development that are more sensitive to dynamic contexts supportive of organizational change (McCauley & Palus, 2021). Current leadership practices must be highly dynamic to anticipate rapid and unpredictable changes. Therefore, relational leadership is an idea that helps reconstruct leadership development with dynamic adaptability to solve problems. Leadership development utilizes a framework with various relational perspectives on leadership to cultivate collective identification and action on leadership issues within the organization.

Leadership can be defined as individuals' ability to motivate their subordinates in various ways to achieve organizational goals and objectives (Kanat-Maymon et al., 2020). Leaders must be aware of their roles and functions within organizations. In this respect, leadership style greatly affects employees' attitudes and behavior that should be aligned with organizational missions and integrated with other organizational resources. Contemporary leadership markedly differs from previous eras characterized by less advanced technical breakthroughs, altering challenges, behaviors, and cultural dynamics. Leaders must utilize their innate authority and capacity to influence subordinates, ensuring their efforts align with organizational goals and objectives. In executing their responsibilities, leaders will invariably encounter diverse attitudes, personalities, behaviors, and levels of emotional development among their subordinates. Leaders should adopt nonpartisan policies that promote suitable, flexible, inclusive, and equitable work practices that significantly enhance productivity.

Do we comprehend the leadership practices employed by our leaders? Is it a transformational, democratic, visionary, or servant leadership approach? Each leadership theory possesses its unique characteristics. Transformational leaders and service-oriented leaders exhibit identical qualities toward their subordinates (Ludwikowska et al., 2022). In discussing servant leadership, it is essential to elucidate its primary traits following theoretical frameworks. Johnson, (1997) identifies that servant leadership entails prioritizing the role of a servant before assuming leadership responsibilities. Commencing with the intrinsic desire to serve, one must deliberately prioritize the needs of employees, acknowledging the dignity and significance of each subordinate as an individual while simultaneously assisting them in attaining collective objectives.

Problems stemming from ineffective leadership within an entity, such as a communities, nations, or firms, signify the necessity for servant leadership practices. Servant leadership must be cultivated to address leadership problems inside an organization. Servant leadership prioritizes the needs and aspirations of subordinates, aiming to deliver equitable service, which in turn encourages subordinates to align their behavior with company objectives. In organizations, servant leadership and a supportive attitude toward employees enhance leaders' commitment to work-related responsibilities (Darvishmotevali & Altinay, 2022). This behavior among employees applies to different types of performance and is not specifically related to any

particular performance type. Whatever the organization's goals, servant leaders encourage and steer employees toward those goals.

Job Satisfaction

Job satisfaction represents pleasant and positive emotions that come from job evaluations and work experience (Locke & Latham, 1990). Job satisfaction arises from employees' perception of how effectively the jobs deliver what is considered important. Barik & Kochar, (2017) argues that job satisfaction is a favorable emotion in the workplace, resulting in an assessment of its characteristics (Barik & Kochar, 2017). Individuals highly (less) satisfied with their jobs will have positive (negative) feelings regarding their occupations. Job satisfaction related to work or entrepreneurship topics is considered the main satisfaction source (Youssef-Morgan & Luthans, 2015). Job feedback on entrepreneurship and autonomy are the two main driving factors associated with this job. Job satisfaction is affected by job complexity.

In addition, meeting creative work requirements also increases job satisfaction. Difficult and attractive work is equally critical to increasing job satisfaction. Job satisfaction affects performance (Jalagat, 2016) while job content positively affects employees' job satisfaction (Shin et al., 2022). Satisfaction with the work's content is derived from autonomy and role clarity. Concerning labor independence, autonomy enhances employee flexibility in work-related control and decision-making. Furthermore, the clarity of employees' roles, duties, and responsibilities positively influences job happiness. Employees possessing a comprehensive awareness of themselves and their responsibilities are typically satisfied with their employment.

Employee Engagement

Employee engagement is a notable topic in human resource studies. Our literature analysis reveals that employee engagement offers various advantages for organizations, such as higher employee loyalty, which will improve organizational performance. Effective human resource management contributes to employee performance. Employees with better relationships with their organizations will devote their best efforts to theirs (Saks, 2006). Several scholars observe that employees' positive engagement with their organizations improves performance and profitability (Choo et al, 2013).

Employee engagement refers to the psychological state of employees concerned with organizational success and motivated to achieve performance exceeding expectations (Mercer, quoted by Carpenter & Wyman, 2007: 1). Employee engagement is defined as the employees' emotional connection to their work or company, is crucial for organizations and serves as a key determinant of their commercial performance (Triple Creek Associates, 2007). Employee engagement is often defined as the degree of commitment and attachment to the firm and its principles. Employees who perceive hostility are individuals who are truly involved and passionate about their work and business. Attachment refers to the readiness and

capacity to enhance the organization's performance, characterized by employees' commitment to diligently fulfill their responsibilities and invest their intellect and energy, including a desire to work overtime.

Worker Productivity

Human resource management is becoming vital due to its advantages: talent retention, elevated motivation, enhanced organizational cohesion, and improved work efficiency. Firms seeking an optimal return on investment must consider human resources as their most crucial asset (Nda & Fard, 2013). Organizational success can be analyzed from achieved productivity as compared with targeted goals. Work productivity is an important aspect of management and industrial psychology studies focusing on understanding and improving individuals' and groups' efficiency and effectiveness in their work environments (Scaduto et al., 2015). Work productivity refers to the amount of outputs produced by a worker or group of workers in a given period compared to the inputs used to produce those outputs (Saks & Gruman, 2011). This theory includes various approaches and factors that can affect productivity, from physical to psychological to managerial aspects.

A classical theory influential in understanding work productivity is the scientific management theory proposed by Frederick Winslow Taylor (Conti, 2013). Taylor proposes that productivity can be improved by systematically studying work tasks, disaggregating them into small parts, and training workers to perform them efficiently. Taylor also emphasizes the importance of proper selection and training, as well as the use of financial incentives to encourage better performance. Furthermore, Frederick Herzberg's two-factor theory highlights the role of motivation in work productivity (Bassett-Jones & Lloyd, 2005). Herzberg identified two categories of factors that affect job satisfaction: motivator factors (such as achievement, recognition, and responsibility) and hygiene factors (such as working conditions, salary, and relationships with employers). According to Herzberg, the existence of motivator factors can increase job satisfaction and productivity, while dissatisfaction can be minimized by increasing hygiene factors.

Another relevant theory is Victor Vroom's theory of expectations, which argues that work productivity is affected by workers' expectations of work results and the values of these results (Yoes & Silverman, 2021). Vroom proposes that productivity is a function of three major components: expectations (the belief that efforts will yield good performance), instrumentalization (the belief that good performance will be rewarded), and valence (the expected reward value).

The work productivity study is relevant because it illustrates firms' success rates. A study focuses on the influences of leadership style and organizational culture on employee productivity (Rehman et al., 2018). Overall, the findings suggest that leadership styles critically improve employee productivity. In addition to organizational culture, job satisfaction also significantly affects work productivity. A

recent study investigates the relationships between residential environment and job satisfaction and worker productivity (Pleuken et al., 2022). Employee work productivity is measured by the success of employees in meeting various productivity indicators such as completed workload, attendance, and time spent on each type of work (Chang & Liu, 2008).

Organizational Culture and Job Satisfaction

Organizational culture refers to organizations' values, attitudes, and behaviors. These values, attitudes, and behaviors will arguably affect employee satisfaction (Dirisu et al., 2018; Hosseinkhanzadeh et al., 2013; Meng & Berger, 2019), which then will increase their productivity (Castaldo et al., 2023). Due to its importance to organizations, organizational culture is an interesting research issue, especially at the practice levels. In light of the aforementioned evidence, the proposed hypothesis as follows:

H1: Organizational culture positively affects employee satisfaction.

Servant Leadership and Employee Satisfaction

Besides organizational culture, other factors likely affect employee satisfaction. Based on the theory of self-determination, responsible leadership to facilitate employees significantly affect employee satisfaction (Zhou & Zheng, 2023). Other studies have empirically documented the role of ministering leaders on job satisfaction (Adiguzel et al., 2020; Ozturk et al., 2021; Pham et al., 2023). Leadership style has a profound effect not only on organizational members, but also marketing performance (Zarei et al., 2022). One of the leadership styles that has attracted attention in contemporary leadership research is servant leadership due to its impact within and outside organizations (Irfan et al., 2022). Servant leadership focuses on the development and empowerment of individuals as team members through the principles of devotion, empathy, and attention to others' needs (Sudarmo et al., 2022). Servant leaders prioritize their subordinates' interests and well-being, thereby creating work environments that support employee engagement, satisfaction, and motivation (Saputra & Anindita, 2021). In light of the aforementioned evidence, the proposed hypothesis as follows:

H2: Servant leadership positively affect employee satisfaction.

Job Satisfaction and Employee Engagement

Job satisfaction is closely associated with employee engagement, where both factors arguably improve individual and organizational productivity. Understanding this relationship more thoroughly requires further analysis of various psychological and organizational aspects that underlie both concepts. As a factor affecting

engagement, job satisfaction not only motivates employee engagement but also enhance their work-related mental and emotional conditions (Al-refaei et al., 2024).

Job satisfaction represents the levels of employees' comfort and happiness towards various work-related element, such as compensation received, supportive work environments, relationships with colleagues, and opportunities to develop and improve skills (Ohunakin & Olugbade, 2022). Employees more satisfied with these elements are arguably more motivated to fully participate in their work, devote greater efforts, and achieve goal standards (Zhao et al., 2016). This satisfaction creates a sense of pleasure that strengthens their engagement, fostering a deeper connection with employees' work and organizations. In light of the aforementioned evidence, the proposed hypothesis as follows:

H3: Job satisfaction positively affects employee engagement.

Job Satisfaction and Work Productivity

Employees who exhibit greater work-related satisfaction (in terms of compensation, work environments, relationships with colleagues, or self-development opportunities) tend to be more motivated and enthusiastic in carrying out their duties (Gazi et al., 2024). Consequently, they are more engaged, committed, efficient, and productive. Satisfied employees are more likely to work with greater quality, complete work more-timely, and actively contribute to the organization's goals. Work productivity is affected by employee job satisfaction (Castaldo et al., 2023; Dirani & Kuchinke, 2011; Martin-Rodilla et al., 2018) and employee engagement (Aman et al., 2023; Koo et al., 2022; Prentice et al., 2023). In light of the aforementioned evidence, the proposed hypothesis as follows:

H4: Job satisfaction positively affects work productivity.

Employee Engagement and Work Productivity

Employee engagement represents the extent to which employees feel connected, valued, and motivated by their work and organizational values (Ahmed et al., 2024). Highly engaged employees are arguably more dedicated and more willing to improve their work quality and actively participate in realizing organizational visions and mission (Osborne & Hammoud, 2017). This involvement enhances responsibility, improves team collaboration, and encourages proactive behavior in completing tasks.

Additionally, high engagement increases job satisfaction, reducing turnover and absence rates. Employees who perceive themselves as valued and are afforded growth opportunities are more inclined to deliver optimal performance, often surpassing expectations. When this engagement manifests as productive behavior, the

outcomes are more favorable (Oksa et al., 2022). Therefore, increasing employee engagement can facilitate achieving organizational goals, increase innovation, and create more dynamic and competitive work environments. In light of the aforementioned evidence, the proposed hypothesis as follows:

H5: Employee engagement positively affects employee work productivity.

RESEARCH METHODS

The research framework offers a theoretical foundation for understanding how servant leadership, employee engagement, job satisfaction, and organizational culture contribute to worker productivity. It aims to clarify the proposed hypothesis and provide practical insights for management to improve productivity through a holistic approach.

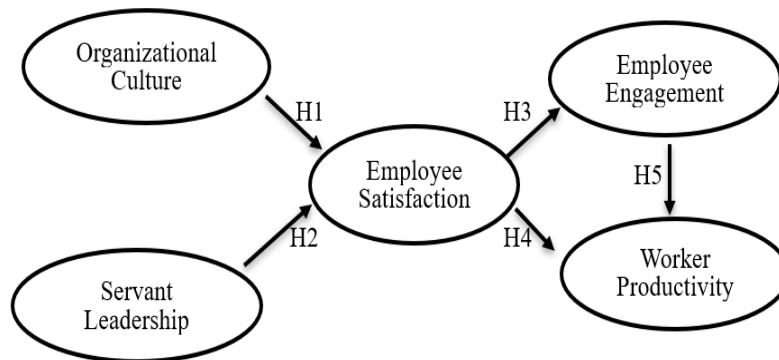


Figure 1
Research Framework

This quantitative study was conducted at PT Timah Tbk, with a total population of 4362 employees. This company was selected because PT Timah Tbk. is a prominent Indonesian state-owned enterprise (SOE) that face fierce global competition. Hence, employee productivity is an inevitably significant factor for this company. The data was obtained with a questionnaire to measure five variables represented by 28 detailed statements. Each statement in this questionnaire is assessed using a five-level Likert scale, allowing respondents to provide answers ranging from strongly disagree to strongly agree.

The first variable is Servant Leadership (Ozturk et al., 2021), which is measured using six indicators: listening, empathy, healing, awareness, persuasion, and stewardship. Our second variable is Employee Engagement (Rabiul et al., 2023), which is measured using five indicators: vigor, dedication, absorption, sense of belonging, and commitment. The third variable is Job Satisfaction (Gulec & Aslan, 2024), which is measured using six indicators: work itself, salary, promotion opportunities, supervision, colleagues, and working conditions. The fourth variable is Organizational Culture, which is measured using six indicators: innovation and risk-

taking, attention to detail, results-oriented, people-oriented, team-oriented, and stability (Wiroonrath et al., 2024). The fifth variable is Worker Productivity, which is measured using five indicators: quantity of work, quality of work, efficiency, discipline, and creativity (Rehman et al., 2018).

We selected the sample respondents using the purposive sampling technique, resulting in 152 respondents, arguably representative data for further analysis. The collected data was then processed using AMOS software, a popular statistical analysis and structural modeling. We used Structural Equation Modelling (SEM) to test the relationships between variables and the proposed theoretical mode. SEM is a powerful statistical analysis technique that tests and estimates causal relationships between latent variables. This method is particularly suitable for research involving complex constructions and variables that cannot be measured directly. SEM enables us to evaluate the validity and reliability of the measured construction and the overall suitability of the model.

RESULTS

Respondents' Demographic Characteristics

Table 1 below presents our respondents' demographic characteristics (sex, marital status, and education level).

Table 1
Descriptive Statistics of Respondents' Demographic Characteristics

	Demographics	Frequency	Percentage (%)
Marital Status	Married	140	95.2
	Unmarried	7	4.8
Sex	Male	132	89.8
	Female	15	10.2
Education	High School / Equivalent	84	57.1
	Diploma	29	19.7
	Bachelor	30	20.4
	Master	4	2.7

Validity and Reliability

Before analyzing the data to test our hypotheses, we initially ran the validity and reliability tests. Table 2 below demonstrates the results of our validity and reliability tests.

Table 2
Validity and Reliability of Research Variables

Variables and Indicators	Count	α
Organizational Culture		
BO1	0.609	
BO2	0.733	0.912
BO3	0.730	
BO4	0.789	

Variables and Indicators	Count	α
BO5	0.771	
BO6	0.709	
BO7	0.506	
BO8	0.678	
BO9	0.805	
Servant Leadership		
SL1	0.655	
SL2	0.728	
SL3	0.710	0.869
SL4	0.748	
SL5	0.640	
SL6	0.551	
Job Satisfaction		
KK1	0.740	
KK2	0.837	0.912
KK3	0.805	
KK4	0.822	
Employee Engagement		
EE1	0.725	
EE2	0.554	0.836
EE3	0.788	
EE4	0.632	
Work Productivity		
PK1	0.798	
PK2	0.765	
PK3	0.791	0.913
PK4	0.787	
PK5	0.753	

ANALYSIS AND DISCUSSION

This study initially analyzed the goodness of fit to ensure that our data met the requirements of AMOS and SEM. More particularly, the chi-square value = 242.640, probability = 0.00000019. CMIN/DF = 1.896, TLI = 0.926, GFI = 0.849, IFI = 0.939, CFI = 0.938, and RMSEA value = 0.78. furthermore, the loading factor values for all variables have met the requirements with a minimum value of 0.6 (typically above 0.7). The following figure illustrates the results of the SEM analysis.

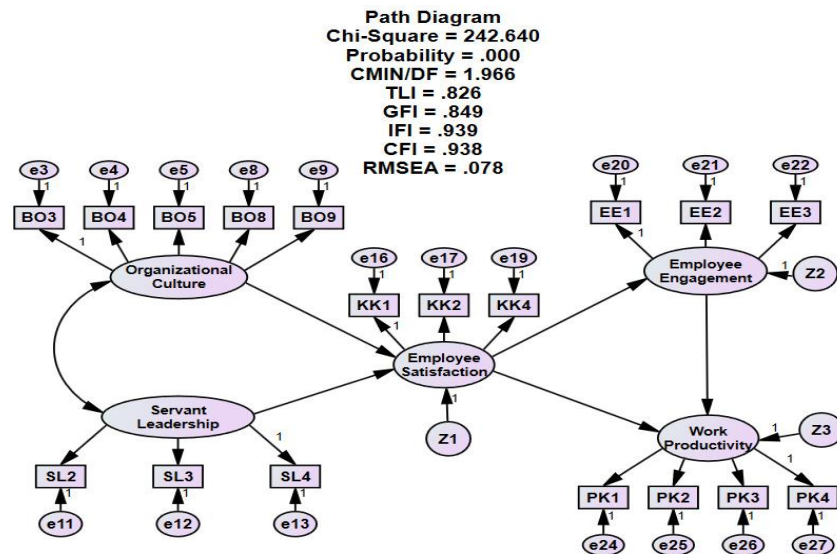


Figure 2
AMOS-SEM Output

Furthermore, the following table presents the regression output weights to indicate whether the hypotheses are supported.

Table 3
Regression Weight

	Regression		Estimate	S.E.	C.R.	P	Information
KK	←	BO	0.606	0.094	6.419	0.000	Supported
KK	←	SL	0.148	0.067	2.197	0.028	Supported
EE	←	KK	1.083	0.108	10.067	0.000	Supported
PK	←	KK	0.830	0.267	3.110	0.002	Supported
PK	←	EE	-0.288	0.218	-1.320	0.187	Not Supported

DISCUSSIONS

Table 3 suggests that four hypotheses are empirically supported while the remaining one is not. All supported hypotheses have positive coefficients, implying that the directions are positive. Organizational culture positively affects employees. The result is consistent with prior studies (Asha et al., 2023; Dirisu et al., 2018; Hosseinkhanzadeh et al., 2013; Meng & Berger, 2019). Hence, employees working with a stronger organizational culture are more satisfied than their counterparts working in a less supportive organizational culture, likely because constructive organizational culture improves business capabilities (Azeem et al., 2021). In turn, business capabilities enhance investment efficiency. Eventually, employee job satisfaction (Arvidsson et al., 2022).

Meanwhile, Servant Leadership (SL) also affects Employee Satisfaction (sig. value of $0.025 < 0.05$ and a positive coefficient value of 0.148). The finding is consistent with prior studies (Ozturk et al., 2021; Pham et al., 2023). Today's competitive and

globalized environments, characterized by fading boundaries due to advances ICT, employees' organization-related attitudes, behaviors, and satisfaction greatly affect their performance (Adiguzel et al., 2020).

Further, job satisfaction empirically enhances employee engagement within organizations (sig. value of $0.000 < 0.01$ and a positive coefficient value of 1.083). Our result is in line with prior studies (Jiang et al., 2022; Peláez-Fernández et al., 2022; Teng et al., 2022). The Employee Effectiveness Theory indicates that more job-related satisfied employees arguably carry out their duties more effectively and productively (Castaldo et al., 2023). Satisfied workers tend to be more motivated and more committed to contributing to organizational success (Canrinus et al., 2012). Hence, employee satisfaction increases Employee Engagement (Memon et al., 2016; Salau et al., 2018; Udayana et al., 2021), representing the levels of employees' engagement, motivation, and commitment to their works and organizations.

In addition, employees' job satisfaction positively affects employee productivity (sig. value of $0.002 < 0.01$ and a positive coefficient value of 0.830). Our result is consistent with prior studies (Hoboubi et al., 2017; Marikyan et al., 2022; Tanabe et al., 2015). Motivational theories in psychology and management, such as Herzberg's hygiene-motivational theory and Maslow's motivational theory, emphasize that job satisfaction can play a role as a motivational factor. Satisfied employees exhibit greater intrinsic motivation to achieve better results (Ayalew et al., 2021). In turn, higher motivation will increase work productivity or performance (Itri et al., 2019).

Lastly, we cannot empirically support the hypothesis predicting that employee engagement positively affects work productivity. We conjecture that other variables may significantly explain employee engagement. For instance, respondents' demographic differences, such as family type, status, or educational factors, may affect work productivity.

CONCLUSION

This study empirically supports four of the five proposed hypotheses. More specifically, strong organizational culture and servant leadership positively affect employee job satisfaction. Hence, supportive organizational culture, combined with leaders attentive to employees' needs, will increase employee satisfaction and eventually work engagement.

Further, employees' greater engagement is reflected in their dedication and motivation to achieve organizational visions and missions. Greater job satisfaction also increases employee productivity. This is in line with motivational theories arguing that satisfied workers are likely more motivated to deliver optimal results. Nonetheless, employee engagement is not significantly associated with work productivity,

suggesting further analysis of other variables (such as demographic factors) that may affect these outcomes. This research is subject to several caveats. First, we do not include the entire employees in the analysis. Second, this study excludes the role of moderating or control variables that may strengthen our analysis. We advise future studies to address these issues. Further, our research advises future studies to analyze employee engagement's role in work productivity or job-related satisfaction.

Our study offers several practical implications, especially for PT. Timah Tbk in adopting policies to boost their employees' work productivity. We advise this firm to implement servant leadership and enhance its organizational culture. In addition, PT. Timah Tbk must periodically evaluate their employees' job satisfaction due to its significant effect on productivity.

REFERENCES

- Adiguzel, Z., Ozcinar, M. F., & Karadal, H. (2020). Does servant leadership moderate the link between strategic human resource management on rule breaking and job satisfaction? *European Research on Management and Business Economics*, 26(2), 103–110. <https://doi.org/10.1016/j.iedeen.2020.04.002>
- Ahmed, S., Ashrafi, D. M., Ahmed, R., Ahmed, E., & Azim, M. (2024). How employee engagement mediates the training and development and work–life balance towards job performance of the private banks? *The TQM Journal*, 1–26. <https://doi.org/10.1108/TQM-10-2023-0316>
- Ahmetoglu, G., Akhtar, R., Tsivrikos, D., & Chamorro-Premuzic, T. (2018). The entrepreneurial organization: The effects of organizational culture on innovation output. *Consulting Psychology Journal: Practice and Research*, 70(4), 318–338. <http://doi.org/10.1037/cpb0000121>
- Al-refaei, A. A.-A., Ali, H. B. M., Ateeq, A., Ibrahim, A., Ibrahim, S., Alzoraiki, M., Milhem, M., & Beshr, B. (2024). Unveiling the role of job involvement as a mediator in the linkage between academics' job satisfaction and service quality. *Cogent Business & Management*, 11(1), 2386463. <https://doi.org/10.1080/23311975.2024.2386463>
- Aman, A., Rafiq, M., & Dastane, O. (2023). A cross-cultural comparison of work engagement in the relationships between trust climate – Job performance and turnover intention: Focusing China and Pakistan. *Heliyon*, 9, e19534. <https://doi.org/10.1016/j.heliyon.2023.e19534>
- Arvidsson, S., Eierle, B., & Hartlieb, S. (2022). Job satisfaction and investment efficiency – Evidence from crowdsourced employer reviews. *European Management Journal*, 42(2), 266–280. <https://doi.org/10.1016/j.emj.2022.10.007>

- Asha, A. A., Dulal, M., & Habib, D. A. (2023). The influence of sustainable supply chain management, technology orientation, and organizational culture on the delivery product quality-customer satisfaction nexus. *Cleaner Logistics and Supply Chain*, 7, 100107. <https://doi.org/10.1016/j.clscn.2023.100107>
- Asiaei, K., & Jusoh, R. (2015). A multidimensional view of intellectual capital: the impact on organizational performance. *Management Decision*, 53(3), 668–697. <https://doi.org/10.1108/MD-05-2014-0300>
- Assoratgoon, W., & Kantabutra, S. (2023). Toward a sustainability organizational culture model. *Journal of Cleaner Production*, 400, 136666. <https://doi.org/10.1016/j.jclepro.2023.136666>
- Ayalew, E., Workineh, Y., Abate, A., Zeleke, B., Semachew, A., & Woldegiorgies, T. (2021). Intrinsic motivation factors associated with job satisfaction of nurses in three selected public hospitals in Amhara regional state, 2018. *International Journal of Africa Nursing Sciences*, 15, 100340. <https://doi.org/10.1016/j.ijans.2021.100340>
- Azeem, M., Ahmed, M., Haider, S., & Sajjad, M. (2021). Expanding competitive advantage through organizational culture, knowledge sharing and organizational innovation. *Technology in Society*, 66, 101635. <https://doi.org/10.1016/j.techsoc.2021.101635>
- Bakker, A. B., & Demerouti, E. (2016). Job Demands-Resources Theory: Taking Stock and Looking Forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. <https://doi.org/10.1037/ocp0000056>
- Banyhmadan, K., Al Muala, I., Risheed, R., & Abu Adi, W. (2020). The impact of strategic thinking on human resources development strategy. *International Journal of Innovation, Creativity and Change*, 14(4), 1129–1141.
- Barik, S., & Kochar, A. (2017). Antecedents and consequences of employee engagement: A literature review. *International Journal of Latest Technology in Engineering, Management & Applied Science (IJLTEMAS)*, 06(04), 33–38.
- Bassett-Jones, N., & Lloyd, G. C. (2005). Does Herzberg's motivation theory have staying power? *Journal of Management Development*, 24(10), 929–943. <https://doi.org/10.1108/02621710510627064>
- Breevaart, K., Demerouti, E., & Heuvel, M. (Maggie). (2015). Leader-member exchange, work engagement, and job performance. *Journal of Managerial Psychology*, 30(7), 754–9770. <https://doi.org/10.1108/JMP-03-2013-0088>
- Canrinus, E. T., Helms-Lorenz, M., Beijgaard, D., Buitink, J., & Hofman, A. (2012). Self-efficacy, job satisfaction, motivation and commitment: Exploring the relationships between indicators of teachers' professional identity. *European Journal of Psychology of Education*, 27(1), 115–132.

<https://doi.org/10.1007/s10212-011-0069-2>

- Castaldo, S., Ciacci, A., & Penco, L. (2023). Perceived corporate social responsibility and job satisfaction in grocery retail: A comparison between low- and high-productivity stores. *Journal of Retailing and Consumer Services*, 74, 103444. <https://doi.org/10.1016/j.jretconser.2023.103444>
- Chang, L. C., & Liu, C. H. (2008). Employee empowerment, innovative behavior and job productivity of public health nurses: A cross-sectional questionnaire survey. *International Journal of Nursing Studies*, 45(10), 1442–1448. <https://doi.org/10.1016/j.ijnurstu.2007.12.006>
- Conti, R. F. (2013). Frederick Winslow Taylor. In M. Witzel & M. Warner (Eds.), *The Oxford Handbook of Management Theorists*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199585762.013.0002>
- Darvishmotevali, M., & Altinay, L. (2022). Green HRM, environmental awareness and green behaviors: The moderating role of servant leadership. *Tourism Management*, 88, 104401. <https://doi.org/10.1016/j.tourman.2021.104401>
- Dirani, K. M., & Kuchinke, K. P. (2011). Job satisfaction and organizational commitment: Validating the arabic satisfaction and commitment questionnaire (ASCQ), testing the correlations, and investigating the effects of demographic variables in the lebanese banking sector. *International Journal of Human Resource Management*, 22(5), 1180–1202. <https://doi.org/10.1080/09585192.2011.556801>
- Dirisu, J., Worlu, R., Osibanjo, A., Salau, O., Borishade, T., Meninwa, S., & Atolagbe, T. (2018). An integrated dataset on organisational culture, job satisfaction and performance in the hospitality industry. *Data in Brief*, 19, 317–321. <https://doi.org/10.1016/j.dib.2018.04.137>
- Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., & Liden, R. (2019). Servant Leadership: A systematic review and call for future research. *The Leadership Quarterly*, 30(1), 111–132. <https://doi.org/10.1016/j.leaqua.2018.07.004>
- Fadhli, A., Komardi, D., & Putra, R. (2022). Commitment, competence, leadership style, and work culture on job satisfaction and employee performance at the office of the Ministry of Religion, Kampar District. *Journal of Applied Business and Technology*, 3(1), 56–72. <https://doi.org/10.35145/jabt.v3i1.90>
- Fadnavis, S., Najarzadeh, A., & Badurdeen, F. (2020). An Assessment of Organizational Culture Traits Impacting Problem Solving for Lean Transformation. *Procedia Manufacturing*, 48, 31–42. <https://doi.org/10.1016/j.promfg.2020.05.017>
- Gazi, M. A. I., Yusof, M. F., Islam, M. A., Amin, M. Bin, & Senathirajah, A. R. bin S. (2024). Analyzing the impact of employee job satisfaction on their job

- behavior in the industrial setting: An analysis from the perspective of job performance. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(4), 100427. <https://doi.org/10.1016/j.joitmc.2024.100427>
- Gilli, K., Veglio, V., Gunkel, M., & Taras, V. (2022). In search of the Holy Grail in global virtual teams: The mediating role of satisfaction on performance outcomes. *Journal of Business Research*, 146, 325–337. <https://doi.org/10.1016/j.jbusres.2022.03.056>
- Green, K. W., Wu, C., Whitten, D., & Medlin, B. (2006). The impact of strategic human resource management on firm performance and HR professionals' work attitude and work performance. *International Journal of Human Resource Management*, 17(4), 559–579. <https://doi.org/10.1080/09585190600581279>
- Gulec, H. Y., & Aslan, H. (2024). The effect of conscience perception on job satisfaction and care behaviours in nurses. *Archives of Psychiatric Nursing*, 50(2), 49–59. <https://doi.org/10.1016/j.apnu.2024.03.008>
- Hoboubi, N., Choobineh, A., Kamari Ghanavati, F., Keshavarzi, S., & Akbar Hosseini, A. (2017). The impact of job stress and job satisfaction on workforce productivity in an Iranian petrochemical industry. *Safety and Health at Work*, 8(1), 67–71. <https://doi.org/10.1016/j.shaw.2016.07.002>
- Hosseinkhanzadeh, A. A., Hosseinkhanzadeh, A., & Yeganeh, T. (2013). Investigate relationship between job satisfaction and organizational culture among teachers. *Procedia - Social and Behavioral Sciences*, 84, 832–836. <https://doi.org/10.1016/j.sbspro.2013.06.656>
- Irfan, M., Salameh, A. A., Saleem, H., Naveed, R. T., Dalain, A. F., & Shahid, R. M. (2022). Impact of servant leadership on organization excellence through employees' competence : Exploring a cross-cultural perspective. *Frontiers in Environmental Science*, 10, 1–13. <https://doi.org/10.3389/fenvs.2022.985436>
- Itri, J. N., Bruno, M. A., Lalwani, N., Munden, R. F., & Tappouni, R. (2019). The incentive dilemma: Intrinsic motivation and workplace performance. *Journal of the American College of Radiology*, 16(1), 39–44. <https://doi.org/10.1016/j.jacr.2018.09.008>
- Jalagat, R. (2016). Job performance, job satisfaction, and motivation: A critical review of their relationship. *International Journal of Advances in Management and Economics*, 5(6), 36–42.
- Jiang, H., Cheng, Y., Yang, J., & Gao, S. (2022). AI-powered chatbot communication with customers: Dialogic interactions, satisfaction, engagement, and customer behavior. *Computers in Human Behavior*, 134, 107329. <https://doi.org/10.1016/j.chb.2022.107329>
- Johnson, E. R. (1997). On becoming a servant-leader. *The Journal of Academic*

- Librarianship*, 23(3), 245–246. [https://doi.org/10.1016/S0099-1333\(97\)90123-3](https://doi.org/10.1016/S0099-1333(97)90123-3)
- Kanat-Maymon, Y., Elimelech, M., & Roth, G. (2020). Work motivations as antecedents and outcomes of leadership: Integrating self-determination theory and the full range leadership theory. *European Management Journal*, 38(4), 555–564. <https://doi.org/10.1016/j.emj.2020.01.003>
- Kaur Bagga, S., Gera, S., & Haque, S. N. (2022). The mediating role of organizational culture: Transformational leadership and change management in virtual teams. *Asia Pacific Management Review*, 28(2), 120–131. <https://doi.org/10.1016/j.apmr.2022.07.003>
- Kontoghiorghes, C. (2016). Linking high performance organizational culture and talent management: satisfaction/motivation and organizational commitment as mediators. *The International Journal of Human Resource Management*, 27(16), 1833–1853. <https://doi.org/10.1080/09585192.2015.1075572>
- Koo, D. C., Xie, Z., Demyan, L., Nofi, C., Sadeghi, J. K., Morales, J., Thompson, D., & Patel, V. (2022). Learning to SuRRF: Sustained engagement and increased academic productivity over two years of a resident-led virtual laboratory. *Journal of Surgical Education*, 79(6), e30–e37. <https://doi.org/10.1016/j.jsurg.2022.07.012>
- Kundi, Y. M., Sardar, S., & Badar, K. (2021). Linking performance pressure to employee work engagement: The moderating role of emotional stability. *Personnel Review*, 51(3), 841–860. <https://doi.org/10.1108/pr-05-2020-0313>
- Locke, E. A., & Latham, G. P. (1990). Work motivation and satisfaction: light at the end of the tunnel. *Psychological Science*, 1(4), 240–246. <https://doi.org/10.1111/j.1467-9280.1990.tb00207.x>
- Ludwikowska, K., & Tworek, K. (2022). Dynamic capabilities of IT as a factor shaping servant leadership influence on organizational perform. *Procedia Computer Science*, 207(4), 34–43. <https://doi.org/10.1016/j.procs.2022.09.035>
- Marikyan, D., Papagiannidis, S., Rana, O. F., Ranjan, R., & Morgan, G. (2022). “Alexa, let’s talk about my productivity”: The impact of digital assistants on work productivity. *Journal of Business Research*, 142, 572–584. <https://doi.org/10.1016/j.jbusres.2022.01.015>
- Martin-Rodilla, P., Panach, J. I., Gonzalez-Perez, C., & Pastor, O. (2018). Assessing data analysis performance in research contexts: An experiment on accuracy, efficiency, productivity and researchers’ satisfaction. *Data & Knowledge Engineering*, 116, 177–204. <https://doi.org/10.1016/j.datak.2018.06.003>
- McCauley, C. D., & Palus, C. J. (2021). Developing the theory and practice of leadership development: A relational view. *The Leadership Quarterly*, 32(5),

101456. <https://doi.org/10.1016/j.leaqua.2020.101456>
- Memon, M. A., Salleh, R., & Baharom, M. N. R. (2016). The link between training satisfaction, work engagement and turnover intention. *European Journal of Training and Development*, 40(6), 407–429. <https://doi.org/10.1108/EJTD-10-2015-0077>
- Meng, J., & Berger, B. K. (2019). The impact of organizational culture and leadership performance on PR professionals' job satisfaction: Testing the joint mediating effects of engagement and trust. *Public Relations Review*, 45(1), 64–75. <https://doi.org/10.1016/j.pubrev.2018.11.002>
- Muhammad, F., Ikram, A., Jafri, S. K., & Naveed, K. (2021). Product innovations through ambidextrous organizational culture with mediating effect of contextual ambidexterity: An empirical study of IT and telecom firms. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 9. <https://doi.org/10.3390/joitmc7010009>
- Nda, M. M., & Fard, R. Y. (2013). the impact of employee training and development on employee productivity. *Global Institute for Research & Education*, 2(6), 91–93.
- Nguyen, V., Siengthai, S., Swierczek, F., & Bamel, U. (2019). The effects of organizational culture and commitment on employee innovation: evidence from Vietnam's IT industry. *Journal of Asia Business Studies*, 13(4), 719–742. <https://doi.org/10.1108/JABS-09-2018-0253>
- Nimon, K., Shuck, B., & Zigarmi, D. (2016). Construct overlap between employee engagement and job satisfaction: A function of semantic equivalence? *Journal of Happiness Studies*, 17(3), 1149–1171. <https://doi.org/10.1007/s10902-015-9636-6>
- Ohunakin, F., & Olugbade, O. A. (2022). Do employees' perceived compensation system influence turnover intentions and job performance? The role of communication satisfaction as a moderator. *Tourism Management Perspectives*, 42, 100970. <https://doi.org/10.1016/j.tmp.2022.100970>
- Oksa, R., Pirkkalainen, H., Salo, M., Savela, N., & Oksanen, A. (2022). Professional social media-enabled productivity: A five-wave longitudinal study on the role of professional social media invasion, work engagement and work exhaustion. *Information Technology & People*, 35(8), 349–368. <https://doi.org/10.1108/ITP-11-2021-0899>
- Oloke, O. C., Oni, A. S., Babalola, D. O., & Ojelabi, R. A. (2017). Incentive package, employee's productivity and performance of real estate firms in Nigeria. *European Scientific Journal*, 13(11), 1857–7881. <https://doi.org/10.19044/esj.2017.v13n11p246>

- Osborne, S., & Hammoud, M. (2017). Effective employee engagement in the workplace. *International Journal of Applied Management and Technology*, 16(1), 50–67. <https://doi.org/10.5590/IJAMT.2017.16.1.04>
- Ozturk, A., Karatepe, O. M., & Okumus, F. (2021). The effect of servant leadership on hotel employees' behavioral consequences: Work engagement versus job satisfaction. *International Journal of Hospitality Management*, 97, 102994. <https://doi.org/10.1016/j.ijhm.2021.102994>
- Paais, M., & Pattiruhu, J. R. (2020). Effect of motivation, leadership, and organizational culture on satisfaction and employee performance. *Journal of Asian Finance, Economics and Business*, 7(8), 377–588. <https://doi.org/10.13106/jafeb.2020.vol7.no8.577>
- Peláez-Fernández, M. A., Mérida-López, S., Rey, L., & Extremera, N. (2022). Burnout, work engagement and life satisfaction among Spanish teachers: The unique contribution of core self-evaluations. *Personality and Individual Differences*, 196(6), 111727. <https://doi.org/10.1016/j.paid.2022.111727>
- Pham, N. T., Tuan, T. H., Le, T. D., Nguyen, P. N. D., Usman, M., & Ferreira, G. T. C. (2023). Socially responsible human resources management and employee retention: The roles of shared value, relationship satisfaction, and servant leadership. *Journal of Cleaner Production*, 414, 137704. <https://doi.org/10.1016/j.jclepro.2023.137704>
- Pratama, F., & Tiarapuspa, T. (2023). Pengaruh keterikatan kerja, pembuatan pekerjaan, sumber daya pekerjaan pada keterlibatan kerja. *Jurnal Ekonomi Dan Teknik*, 2(4), 335–342. <https://doi.org/10.54543/etnik.v2i4.179>
- Prentice, C., Wong, I. K. A., & Lin, Z. (CJ). (2023). Artificial intelligence as a boundary-crossing object for employee engagement and performance. *Journal of Retailing and Consumer Services*, 73(2), 103376. <https://doi.org/10.1016/j.jretconser.2023.103376>
- Rabiul, M. K., Karatepe, O. M., Karim, R. Al, & Panha, I. M. (2023). An investigation of the interrelationships of leadership styles, psychological safety, thriving at work, and work engagement in the hotel industry: A sequential mediation model. *International Journal of Hospitality Management*, 113, 103508. <https://doi.org/10.1016/j.ijhm.2023.103508>
- Rehman, S., Rahman, H. U., Zahid, M., & Asif, M. (2018). Leadership styles, organizational culture and employees' productivity: Fresh evidence from private banks of Khyber-Pakhtunkhwa, Pakistan. *Abasyn Journal of Social Sciences*, 18, 1–15.
- Robledo, E., Zappalà, S., & Topa, G. (2019). Job crafting as a mediator between work engagement and wellbeing outcomes: A time-lagged study. *International Journal of Environmental Research and Public Health*, 16(8), 1376.

<https://doi.org/10.3390/ijerph16081376>

- Rosenhead, J., Franco, L. A., Grint, K., & Friedland, B. (2019). Complexity theory and leadership practice: A review, a critique, and some recommendations. *The Leadership Quarterly*, 30(5), 101304. <https://doi.org/10.1016/j.leaqua.2019.07.002>
- Saks, A. M., & Gruman, J. A. (2011). Manage employee engagement to manage performance. *Industrial and Organizational Psychology*, 4(2), 204–207. <https://doi.org/10.1111/j.1754-9434.2011.01328.x>
- Salau, O., Oludayo, O., Falola, H., Olokundun, M., Ibidunni, S., & Atolagbe, T. (2018). Integrated datasets on transformational leadership attributes and employee engagement: The moderating role of job satisfaction in the Fast Moving Consumer Goods (FMCG) industry. *Data in Brief*, 19, 2329–2335. <https://doi.org/10.1016/j.dib.2018.06.032>
- Saputra, B., & Anindita, R. (2021). Peran servant leadership dalam meningkatkan kepuasan dan loyalitas karyawan pada industri manufaktur. *Jurnal Ilmiah Manajemen Sumber Daya Manusia*, 5, 12. <https://doi.org/10.32493/JJSDM.v5i1.13139>
- Scaduto, A., Hunt, B., & Schmerling, D. (2015). A Performance management solution: productivity measurement and enhancement system (ProMES). *Industrial and Organizational Psychology*, 8(1), 93–99. <https://doi.org/10.1017/iop.2015.4>
- Schaufeli, W. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25, 293–315. <https://doi.org/10.1002/job.248>
- Shin, J., Moon, J. J., & Kang, J. (2022). Where does ESG pay? The role of national culture in moderating the relationship between ESG performance and financial performance. *International Business Review*, 32(3), 102071. <https://doi.org/10.1016/j.ibusrev.2022.102071>
- Shujahat, M., Sousa, M. J., Hussain, S., Nawaz, F., Wang, M., & Umer, M. (2019). Translating the impact of knowledge management processes into knowledge-based innovation: The neglected and mediating role of knowledge-worker productivity. *Journal of Business Research*, 94, 442–450. <https://doi.org/10.1016/j.jbusres.2017.11.001>
- Sudarmo, S., Suhartanti, P. D., & Prasetyanto, W. E. (2022). Servant leadership and employee productivity: a mediating and moderating role. *International Journal of Productivity and Performance Management*, 71(8), 3488–3506. <https://doi.org/10.1108/IJPPM-12-2020-0658>
- Suhariadi, F., Sugiarti, R., Hardaningtyas, D., Mulyati, R., Kurniasari, E., Saadah, N., Yumni, H., & Abbas, A. (2023). Work from home: A behavioral model of

- Indonesian education workers' productivity during Covid-19. *Heliyon*, 9(3), e14082. <https://doi.org/10.1016/j.heliyon.2023.e14082>
- Tanabe, S., Haneda, M., & Nishihara, N. (2015). Workplace productivity and individual thermal satisfaction. *Building and Environment*, 91, 42–50. <https://doi.org/10.1016/j.buildenv.2015.02.032>
- Teng, C.-I., Huang, T.-L., Yang, Z.-H., Wu, W.-J., & Liao, G.-Y. (2022). How strategic, offensive, and defensive engagement impact gamers' need satisfaction, loyalty, and game usage. *International Journal of Information Management*, 66(1), 102515. <https://doi.org/10.1016/j.ijinfomgt.2022.102515>
- Tleuken, A., Turkyilmaz, A., Sovetbek, M., Durdyev, S., Guney, M., Tokazhanov, G., Wiecheteck, L., Pastuszak, Z., Draghici, A., Boatca, M. E., Dermol, V., Trunk, N., Tokbolat, S., Dolidze, T., Yola, L., Avcu, E., Kim, J., & Karaca, F. (2022). Effects of the residential built environment on remote work productivity and satisfaction during COVID-19 lockdowns: An analysis of workers' perceptions. *Building and Environment*, 219, 109234. <https://doi.org/10.1016/j.buildenv.2022.109234>
- Tummers, L. G., & Bakker, A. B. (2021). Leadership and job demands-resources theory: A systematic review. *Frontiers in Psychology*, 12, 1–13. <https://doi.org/10.3389/fpsyg.2021.722080>
- Tzeng, H. M., Ketefian, S., & Redman, R. W. (2002). Relationship of nurses' assessment of organizational culture, job satisfaction, and patient satisfaction with nursing care. *Journal of Nursing Studies*, 39(1), 79–84. [https://doi.org/10.1016/s0020-7489\(00\)00121-8](https://doi.org/10.1016/s0020-7489(00)00121-8)
- Udayana, I. B. N., Subiyanto, D., & Prayekti. (2021). Building word of mouth (WOM) through emotional engagement: Problem solving satisfaction and innovative culture perception as predictors. empirical research on tourism village visitors in the special region of Yogyakarta-Indonesia. *Quality - Access to Success*, 22(181), 137–140.
- Vizcaíno, F. V., Martin, S. L., & Jaramillo, F. (2023). The role of i-deals negotiated by small business managers in job satisfaction and firm performance: Do company ethics matter? *Journal of Business Research*, 158, 113697. <https://doi.org/10.1016/j.jbusres.2023.113697>
- Wiroonrath, S., Phanniphong, K., Somnuk, S., & Na-Nan, K. (2024). Impact of leader support on open innovation: The mediating role of organizational culture, intellectual property, and collaboration. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(3), 100333. <https://doi.org/10.1016/j.joitmc.2024.100333>
- Yoes, M., & Silverman, M. J. (2021). Expectancy theory of motivation and substance use treatment: Implications for music therapy. *Music Therapy Perspectives*,

39(3), 61–68. <https://doi.org/10.1093/mtp/miaa019>

Youssef-Morgan, C. M., & Luthans, F. (2015). Psychological capital and well-being. *Stress and Health*, 31(3), 180–188. <https://doi.org/10.1002/smi.2623>

Zarei, M., Supphellen, M., & Bagozzi, R. P. (2022). Servant leadership in marketing: A critical review and a model of creativity-effects. *Journal of Business Research*, 153, 172–184. <https://doi.org/10.1016/j.jbusres.2022.08.013>

Zhao, X., Ghiselli, R., Law, R., & Ma, J. (2016). Motivating frontline employees: Role of job characteristics in work and life satisfaction. *Journal of Hospitality and Tourism Management*, 27, 27–38. <https://doi.org/10.1016/j.jhtm.2016.01.010>

Zhou, Q., & Zheng, X. (2023). From responsible leadership to hospitality employee's support for external CSR: Need satisfaction as a mediator and moral reflectiveness as a moderator. *Journal of Hospitality and Tourism Management*, 56, 115–123. <https://doi.org/10.1016/j.jhtm.2023.06.015>