Future of Work and Digital Management Journal

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The Impact of Manager Support and Digital Feedback Quality on Employee Engagement

ABSTRACT

This study aimed to examine the predictive roles of manager support and digital feedback quality on employee engagement in the Malaysian workforce. A correlational descriptive design was used to investigate the relationships between the variables. The study involved 379 full-time employees from various sectors in Malaysia, selected using stratified random sampling based on the Krejcie and Morgan sample size table. Data were collected via an online self-report survey comprising three standardized instruments: the Utrecht Work Engagement Scale (UWES-17), the Perceived Supervisor Support Scale (PSS), and the Feedback Environment Scale (FES). Statistical analyses were performed using SPSS-27, including descriptive statistics, Pearson correlation, and multiple linear regression to determine the strength and significance of relationships among variables. Inferential analysis revealed significant positive correlations between employee engagement and both manager support (r = .61, p < .001) and digital feedback quality (r = .54, p < .001). Multiple regression analysis showed that manager support and digital feedback quality jointly predicted employee engagement, F(2, 376) = 159.84, p < .001, with an R² of .44. In the regression model, manager support (β = .48, p < .001) emerged as a stronger predictor than digital feedback quality (β = .33, p < .001), indicating that both interpersonal and digital communication factors significantly influence employee engagement. The findings underscore the critical importance of both managerial support and digital feedback quality in promoting employee engagement within digitally evolving organizations. Managerial behaviors that convey support and well-designed digital feedback systems together form a robust foundation for sustaining employee motivation and involvement. These insights are particularly relevant for organizations operating in hybrid or technology-mediated environments and offer strategic directions for leadership development and digital communication practices.

Keywords: Employee engagement, manager support, digital feedback quality, organizational behavior.

Introduction

Employee engagement has emerged as a cornerstone of organizational effectiveness, reflecting the emotional, cognitive, and behavioral investment employees place in their work. In today's rapidly changing and digitally mediated work environment, the challenge of sustaining employee engagement is increasingly tied to leadership support and the quality of feedback systems. Organizations seeking to enhance performance, innovation, and employee retention must therefore focus on key relational and technological enablers of engagement. Among these, manager support and digital feedback quality have gained significant attention as strategic levers that influence the depth and sustainability of employee engagement across diverse sectors and cultural contexts [1, 2].

Employee engagement is not merely a psychological state but a dynamic interaction between individuals and their work environment, driven by motivational, relational, and systemic factors. Engagement has been associated with outcomes such as increased productivity, lower turnover, greater innovation, and enhanced organizational citizenship behavior [3, 4].

However, the antecedents of engagement vary across organizations and contexts. Manager support—defined as the degree to which employees perceive their supervisors as valuing their contributions and caring about their well-being—has consistently been identified as one of the most influential predictors of engagement [5, 6]. Equally important, the rise of digital communication tools and remote work structures has foregrounded the role of digital feedback quality—clarity, timeliness, relevance, and constructiveness of feedback delivered through digital platforms—as a critical determinant of how engaged employees feel in their roles [7, 8].

The theoretical basis for exploring these relationships lies in the Job Demands–Resources (JD-R) model, which posits that job resources such as supervisor support and performance feedback can enhance work engagement by fulfilling psychological needs and promoting motivational processes [9, 10]. Manager support acts as a buffer against job demands and helps employees develop a sense of purpose, safety, and belonging, which are fundamental to engagement [11]. Empirical evidence supports this link: for example, studies have found that employees with high levels of supervisor support report greater levels of vigor, dedication, and absorption—the core components of engagement [12, 13]. In Malaysia, where workplace hierarchies and collectivist norms are salient, perceived managerial support is particularly influential in shaping affective and behavioral work responses [14].

Digital feedback systems, meanwhile, have reshaped performance communication in contemporary organizations. Unlike traditional face-to-face feedback, digital feedback is mediated through platforms such as performance dashboards, email evaluations, chat tools, and asynchronous appraisal systems. The effectiveness of these tools depends heavily on the quality of the feedback transmitted: feedback must be specific, credible, frequent, and aligned with employees' development goals to support engagement [15, 16]. Poor digital feedback—characterized by ambiguity, delay, or impersonality—can diminish employee morale, reduce role clarity, and ultimately disengage workers [17]. However, when implemented effectively, digital feedback systems offer real-time support, continuous recognition, and accessible performance insights that can foster a sense of progress and involvement [18, 19].

Emerging literature highlights the interactive role of manager support and digital feedback quality in enhancing engagement. Managers who provide emotional and instrumental support often reinforce the impact of feedback by contextualizing it, responding to employee concerns, and coaching toward performance improvement [1, 20]. In digital-first environments, the synergy between supportive supervision and high-quality feedback delivery is even more critical, as employees rely more on mediated communication to gauge expectations, receive recognition, and feel psychologically connected to the organization [21, 22]. Studies across sectors, including healthcare, finance, and education, have shown that when both manager support and feedback mechanisms are strong, engagement levels are consistently higher [2, 7].

While substantial evidence has established the separate effects of manager support and feedback on engagement, relatively fewer studies have examined these variables jointly, particularly in Southeast Asian contexts such as Malaysia. The Malaysian work environment presents unique cultural dynamics where respect for authority, harmony, and collectivism influence employee perceptions and behaviors. In such a setting, manager support not only signals recognition and inclusion but also aligns with socio-cultural expectations of relational interdependence [23, 24]. Furthermore, as digital platforms become more central to work communication in Malaysia's public and private sectors, understanding how digital feedback quality contributes to employee engagement has become increasingly important [5, 8].

Employee engagement in Malaysia has shown varied trends across industries. Research indicates that in sectors like technology and banking, where digital performance tools are widely adopted, employees report higher engagement when feedback is continuous and personalized [12, 13]. However, where feedback systems are generic or overly automated, they fail to foster the emotional connection required for sustained engagement. Manager support, on the other hand, appears to consistently influence employee engagement regardless of sector, indicating that interpersonal trust and supervisor accessibility remain universal drivers of motivation [4, 6].

From a practical perspective, insights into how digital feedback quality and manager support relate to engagement can guide organizational policies and human resource practices. Organizations that invest in digital feedback platforms must ensure that these tools are not only technologically efficient but also designed around principles of user-centered communication, clarity, and developmental orientation. Equally, leadership development programs must focus on enhancing supervisors' ability to provide authentic support, mentor subordinates, and leverage digital tools effectively [18, 21]. Without such alignment, the technological potential of feedback systems may be undermined by a lack of relational resonance.

This study contributes to the growing body of research that seeks to understand employee engagement through a dual lens of interpersonal and technological support systems.

Methods and Materials

Study Design and Participants

This study employed a correlational descriptive design to examine the relationships between manager support, digital feedback quality, and employee engagement. A total of 379 employees from various industries in Malaysia participated in the study. The sample size was determined based on the Morgan and Krejcie sample size determination table, which recommends a sample of 379 for a population of 10,000 or more. Participants were selected using stratified random sampling to ensure diversity in terms of sector, organizational level, and employment status. All participants were working full-time in digital or hybrid work environments and completed self-report questionnaires via an online survey platform.

Data Collection

Employee engagement was measured using the Utrecht Work Engagement Scale (UWES-17), developed by Schaufeli, Salanova, González-Romá, and Bakker (2002). This instrument consists of 17 items and captures three core dimensions of engagement: vigor (6 items), dedication (5 items), and absorption (6 items). Responses are recorded on a 7-point Likert scale ranging from 0 (never) to 6 (always/every day). Higher scores reflect greater levels of work engagement. The UWES-17 has demonstrated strong psychometric properties across various cultural and organizational contexts. Its internal consistency is robust, with Cronbach's alpha coefficients typically exceeding 0.85 for the total scale and subscales. The validity of the scale has been confirmed through factor analysis and its correlation with related constructs such as job satisfaction, organizational commitment, and burnout in multiple empirical studies.

Manager support was assessed using the Perceived Supervisor Support Scale (PSS), developed by Eisenberger et al. (2002). This scale contains 8 items designed to evaluate the degree to which employees believe their supervisors value their contributions and care about their well-being. Items are rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating stronger perceived support from supervisors. The PSS has consistently shown high

reliability, with Cronbach's alpha values typically ranging from 0.88 to 0.94 in organizational research. Its construct and criterion-related validity have been well established through studies demonstrating its predictive power regarding employee job satisfaction, organizational commitment, and performance.

Digital feedback quality was measured using the Feedback Environment Scale (FES) developed by Steelman, Levy, and Snell (2004). For this study, the focus was on the technology-mediated feedback context, drawing specifically from the adapted subscales that assess feedback quality in digital communication settings. The original FES includes 32 items across seven dimensions, but the digital context emphasizes the subscales of source credibility, feedback quality, and feedback delivery. Items are rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). The adapted version has been validated in recent studies exploring virtual work and digital performance management systems, showing strong internal consistency (Cronbach's alpha > 0.85) and good construct validity when correlated with outcomes such as employee learning, motivation, and engagement.

Data analysis

Data were analyzed using SPSS version 27. Descriptive statistics were used to summarize the demographic characteristics of the sample. Pearson correlation analysis was conducted to examine the bivariate relationships between employee engagement (the dependent variable) and the independent variables (manager support and digital feedback quality). To assess the combined predictive power of the independent variables, a standard linear regression analysis was performed, with employee engagement as the criterion variable. Prior to conducting the main analyses, assumptions of normality, linearity, homoscedasticity, and multicollinearity were examined and confirmed.

Findings and Results

The sample consisted of 379 participants, of whom 215 (56.7%) were female and 164 (43.3%) were male. The majority of participants (141 individuals, 37.2%) were between the ages of 26 and 35, followed by 117 participants (30.9%) aged 36–45, 82 participants (21.6%) aged 18–25, and 39 participants (10.3%) aged 46 and above. In terms of education level, 203 participants (53.6%) held a bachelor's degree, 97 participants (25.6%) had a master's degree, 61 participants (16.1%) held a diploma, and 18 participants (4.7%) had a doctoral degree. Regarding occupational sector, 148 participants (39.1%) were from the service sector, 105 (27.7%) from education, 87 (22.9%) from IT and technology, and 39 (10.3%) from other industries.

Table 1

Descriptive Statistics for Study Variables

Variable	Mean	Standard Deviation
Employee Engagement	4.89	0.76
Manager Support	5.17	0.84
Digital Feedback Quality	4.74	0.79

The descriptive statistics in Table 1 indicate that participants reported relatively high levels of employee engagement (M = 4.89, SD = 0.76), perceived manager support (M = 5.17, SD = 0.84), and digital feedback quality (M = 4.74, SD = 0.79). These means suggest that employees generally perceive supportive managerial relationships and adequate quality of digital performance feedback in their work environments.

Preliminary analysis confirmed that the assumptions for Pearson correlation and linear regression were met. The Kolmogorov–Smirnov test indicated that the distribution of all continuous variables did not significantly deviate from normality (p > .05), with skewness and kurtosis values ranging from −0.45 to 0.72, all within acceptable limits. A scatterplot of standardized residuals confirmed linearity and homoscedasticity. The Durbin–Watson statistic was 1.84, indicating no autocorrelation. Additionally, multicollinearity was not a concern, as the variance inflation factor (VIF) values were 1.41 and 1.38, well below the cut-off value of 5, confirming that the predictors were sufficiently independent.

Table 2

Pearson Correlation Between Employee Engagement and Predictor Variables

Variable	r	p
Manager Support	.61	< .001
Digital Feedback Quality	.54	< .001

Table 2 shows that employee engagement was significantly and positively correlated with both manager support (r = .61, *p* < .001) and digital feedback quality (r = .54, *p* < .001). These results support the hypotheses that greater perceptions of managerial support and higher quality of digital feedback are associated with increased employee engagement.

Table 3

Summary of Regression Analysis (ANOVA Table)

Source	Sum of Squares	df	Mean Square	R	R²	R² adj	F	p
Regression	108.37	2	54.18	.66	.44	.44	159.84	< .001
Residual	139.82	376	0.37					
Total	248.19	378						

As shown in Table 3, the overall regression model was statistically significant, F(2, 376) = 159.84, *p* < .001, indicating that the combination of manager support and digital feedback quality significantly predicts employee engagement. The model explained 44% of the variance in engagement (R² = .44), with an adjusted R² of .44, indicating a strong effect size in the context of behavioral research.

Table 4

Coefficients for Predicting Employee Engagement from Manager Support and Digital Feedback Quality

Predictor	B	SE	β	t	p
Constant	1.47	0.21	—	6.90	< .001
Manager Support	0.43	0.05	.48	8.78	< .001
Digital Feedback Quality	0.29	0.06	.33	5.08	< .001

Table 4 presents the results of the multivariate regression analysis. Manager support (β = .48, *p* < .001) and digital feedback quality (β = .33, *p* < .001) were both significant predictors of employee engagement. Manager support had a stronger standardized beta coefficient, suggesting that it contributed more substantially to explaining variance in engagement levels than digital feedback quality.

Discussion and Conclusion

The present study aimed to investigate the relationships between manager support, digital feedback quality, and employee engagement in a Malaysian workforce context. Correlational analyses revealed that both independent variables

were significantly and positively associated with employee engagement. Moreover, linear regression analysis demonstrated that manager support and digital feedback quality jointly predicted employee engagement, with manager support emerging as a slightly stronger predictor.

These findings reinforce existing literature that highlights the essential role of supervisor behavior in fostering engagement. Manager support, operationalized as the perception that supervisors care for employee well-being and appreciate their contributions, was significantly correlated with engagement levels. This is consistent with the Job Demands–Resources model, which identifies supervisory support as a key job resource that enhances motivation and mitigates burnout risks [9, 10]. The findings of this study align with those reported by Nelson (2021), who found that supportive managerial behavior significantly enhances employee motivation and engagement in organizational contexts characterized by high work demands [2]. Similarly, Nugraha et al. (2023) demonstrated that perceived supervisor support has a direct positive impact on employee performance and engagement, emphasizing the centrality of relational dynamics in the workplace [12].

The regression analysis also confirmed the significant role of digital feedback quality in predicting engagement. In a technologically mediated work environment, feedback mechanisms must be timely, constructive, and aligned with employee development goals to foster engagement. This finding echoes the observations of Sabila et al. (2024), who underscored that high-quality feedback positively affects perceived organizational support and, consequently, employee retention and engagement levels [7]. Similarly, Zu and Weerakit (2022) emphasized that feedback clarity, when delivered through digital channels, significantly predicts employee involvement and commitment in the hospitality sector [8].

The dual significance of both manager support and digital feedback quality in this study is noteworthy. While each variable independently correlates with engagement, their combined predictive power suggests a complementary relationship. That is, strong managerial support may enhance the perceived relevance and credibility of digital feedback, while high-quality feedback may reinforce the perceived availability and competency of supervisors. This interdependence supports findings by Weng et al. (2023), who noted that employee engagement is highest when both interpersonal and systemic support mechanisms are functioning effectively [17]. Likewise, Odiaka and Chang (2024) pointed out that in service-oriented industries, engagement is a function of high-performance work practices, which include supportive leadership and meaningful feedback systems [11].

This study further supports prior research on engagement in non-Western contexts, particularly in Southeast Asia. In Malaysia, cultural norms such as power distance and collectivism emphasize the importance of relational leadership and responsive communication [14, 23]. Manager support, in such cultural contexts, may not only fulfill psychological needs related to competence and autonomy but also reflect relational respect and harmony. Veronica et al. (2024) found that work engagement and manager support significantly predict job satisfaction and knowledge sharing behaviors among Malaysian bank employees, providing strong cultural validation for the findings of this study [5]. Likewise, Tan (2024) observed that talent management strategies in Vietnam that emphasize perceived organizational support—often channeled through managerial behavior—contribute significantly to employee engagement [6].

Moreover, digital feedback quality is particularly relevant in a Malaysian context where hybrid and remote work arrangements are increasingly common. As noted by Lauridsen et al. (2024), organizational policies and technological tools must accommodate diverse employee needs and circumstances, especially in service delivery environments [16]. The findings of this study align with Rožman et al. (2022), who emphasized that integrating artificial intelligence into feedback systems

can enhance both engagement and performance when the quality of feedback remains high [21]. Such integration, however, must be grounded in sound human resource principles that emphasize individual development and communication clarity.

Interestingly, the results also align with Kim and Kim (2020), who found that well-being and employee engagement among frontline employees are significantly influenced by both organizational climate and quality feedback mechanisms [3]. The convergence of findings suggests that regardless of the sector—public, private, or nonprofit—the twin pillars of supportive supervision and high-quality performance communication remain central to fostering a productive and engaged workforce.

The study's findings also corroborate the notion that digital transformation in the workplace requires a parallel evolution in leadership competencies. As Rankin (2024) explains, modern management science must integrate technological acumen with emotional intelligence and relational leadership to address employee engagement holistically [22]. This aligns with Olivia et al. (2023), who suggested that effective talent management in the digital era hinges on both technology and relational leadership factors [18]. Hence, the present study underscores the necessity of equipping managers not only with digital tools but also with the interpersonal skills necessary to maintain psychological engagement among employees.

Finally, this research contributes to the broader discourse on sustainable workforce strategies. Sabila et al. (2024) emphasized that engagement serves as a mediating variable between organizational support and employee retention, a finding that parallels the current study's emphasis on manager support and digital communication as foundational elements of sustainability in human capital [7]. Similarly, Graham et al. (2023) linked employee engagement with green supply chain management practices, illustrating that engaged employees are more likely to embrace organizational goals and values beyond their core job roles [13].

Despite its contributions, this study has several limitations. First, the research employed a cross-sectional design, limiting causal interpretations of the relationships among variables. While correlations and regression suggest predictive relationships, longitudinal data would be needed to establish directionality over time. Second, all data were collected via self-report questionnaires, which introduces the possibility of response biases, such as social desirability or common method variance. Third, the study was limited to a Malaysian sample, which may restrict the generalizability of findings to other cultural or economic contexts. Fourth, although manager support and digital feedback quality were selected based on strong theoretical rationale, other important predictors of engagement—such as job autonomy, workload, and organizational justice—were not included in the analysis.

Future studies should consider employing longitudinal or experimental designs to explore the causal mechanisms linking manager support and digital feedback quality to employee engagement. Additionally, expanding the study across different cultural and organizational contexts would enhance external validity and provide comparative insights. Researchers may also explore mediating and moderating variables such as organizational culture, trust, or psychological safety, which could influence the strength or direction of these relationships. Moreover, future studies could benefit from integrating qualitative methods—such as interviews or focus groups—to deepen understanding of how employees interpret support and feedback in digital contexts. Finally, exploring sector-specific dynamics, especially in industries undergoing rapid digital transformation, could yield practical insights for targeted interventions.

Organizations seeking to enhance employee engagement should prioritize the development of supportive managerial relationships through targeted leadership training and coaching. Managers must be equipped not only to deliver effective feedback but also to build trust and psychological safety within their teams. Additionally, investment in digital feedback

systems should go beyond technological infrastructure to include user-centered design, personalization, and feedback literacy training for both managers and employees. Clear guidelines for digital communication, feedback frequency, and performance recognition should be established to ensure consistency and impact. Lastly, human resource departments should routinely assess the perceived quality of managerial support and digital feedback as part of their engagement strategy audits, ensuring continuous improvement based on employee experiences.

Acknowledgments

Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Written consent was obtained from all participants in the study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

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