

Transformational Leadership and Employee Performance in Malaysia's F&B Sector: The Mediation Effect of Digital Age Learning Culture

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ABSTRACT

As organisations increasingly operate in digitally driven environments, understanding how leadership translates into performance through learning-oriented cultures has become critical. Despite extensive research on transformational leadership and employee outcomes, limited empirical attention has been given to the mechanisms, particularly digital learning cultures that explain this relationship, highlighting a significant research gap. This study examines the mediating role of Digital Age Learning Culture (DALC) in the relationship between transformational leadership (TL) and employee performance (EP) within the food and beverage (F&B) industry in Malaysia. Adopting a quantitative research design, this study collected survey data from 151 employees in Malaysia's F&B sector. Using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS, both measurement and structural models were assessed for reliability, validity, and predictive relevance. Mediation analysis was conducted using bootstrapping techniques to evaluate indirect effects. The findings reveal that TL strongly predicts DALC, which in turn positively influences EP, confirming a significant mediating effect. The model demonstrates substantial explanatory power ($R^2 = 0.629$) and strong predictive capability, reinforcing the robustness of the proposed framework. In practice, the findings suggest that organisations and managers, particularly in digitally evolving industries, should cultivate a strong digital learning culture alongside transformational leadership practices to maximise employee performance. Policymakers and HR practitioners can also leverage these insights to design leadership development and digital upskilling initiatives. This study contributes to the literature by integrating leadership theory with digital learning culture, offering a novel explanatory mechanism that enriches the understanding of performance outcomes in modern organisational contexts.

Keywords – Transformational Leadership, Digital Age Learning Culture, Employee Performance

INTRODUCTION

The contemporary business environment is increasingly characterised by volatility, uncertainty, complexity, and ambiguity (VUCA), requiring organisations to continuously adapt their leadership approaches to sustain performance and competitiveness. In both manufacturing and service sectors, including the food and beverage (F&B) industry, rapid technological advancements and evolving workforce expectations have reshaped the nature of work, often referred to as the “future of work” (Fung et al., 2025). Leadership is no longer limited to supervision but extends to enabling learning, innovation, and adaptability within organisations (Benmira & Agboola, 2021; Hogan & Kaiser, 2005; Klingborg et al., 2006). Within such challenging environments, organisations must cultivate internal capabilities that allow employees to respond effectively to digital transformation and operational complexity. This shift has placed increasing emphasis on leadership styles that can foster both performance outcomes and continuous learning cultures in dynamic organisational settings (Gao & Gao, 2024; Hensellek, 2020).

In the Malaysian context, particularly within the F&B sector, organisational performance is strongly influenced

by leadership practices due to the labour-intensive and service-oriented nature of the industry. The sector is characterised by high employee turnover, demanding customer expectations, and the need for operational efficiency, making employee performance a critical determinant of organisational success (Basit et al., 2017). Traditional hierarchical leadership approaches, which remain prevalent in Malaysia, may limit employee engagement and innovation due to high power distance and centralised decision-making structures (Hofstede, 1983; Alghazo & Al-Anazi, 2016). Consequently, there is increasing attention on transformational leadership as a means to enhance motivation, engagement, and productivity by aligning employee values with organisational goals (Bass & Avolio, 2007; Tan et al., 2023; Teoh et al., 2022).

Transformational leadership has been widely recognised as an effective leadership style that encourages employees to exceed expectations through inspiration, intellectual stimulation, motivation, and individual consideration. Such leadership behaviours are associated with improved job satisfaction, motivation, and overall performance across various industries (Bass & Bass, 2009; Tan et al., 2023). However, the emergence of digital transformation has introduced additional organisational requirements, where leadership must also support technological adaptation and continuous learning. In this regard, the concept of Digital Age Learning Culture (DALC) becomes increasingly relevant, as it reflects an organisational environment that promotes digital competencies, knowledge sharing, and innovation (AlAjmi, 2022; Hensellek, 2020; Huang et al., 2026; ISTE, 2009). Despite the recognised importance of both transformational leadership and digital learning environments, limited attention has been given to how these elements interact to influence employee performance.

Existing literature has predominantly examined the direct relationship between leadership styles and employee performance, often neglecting the underlying mechanisms that explain this relationship. While studies have confirmed the positive effects of transformational leadership on performance, there remains insufficient empirical investigation into mediating variables such as learning culture, particularly within digital contexts (Senadjki et al., 2024; Gao & Gao, 2024). Furthermore, most empirical studies have focused on sectors such as manufacturing, banking, and technology, with relatively limited focus on the F&B industry in Malaysia (Basit et al., 2017; Huang et al., 2026; Teoh et al., 2022). This gap limits the contextual understanding of how leadership influences employee outcomes in service-oriented and digitally evolving environments.

The present study addresses this gap by examining the mediating role of Digital Age Learning Culture (DALC) in the relationship between transformational leadership and employee performance in the F&B sector. Drawing upon Path-Goal Theory, which emphasises the role of leadership in facilitating employee motivation and removing performance barriers (Benmira & Agboola, 2021; Hogan & Kaiser, 2005; House, 1971), this study proposes that transformational leadership enhances employee performance through the development of a supportive digital learning environment. Empirical findings from the analysed data indicate that transformational leadership significantly influences DALC, which in turn contributes to improved employee performance, confirming the importance of organisational learning mechanisms in leadership-performance relationships.

This study focuses on employees in the F&B industry in Malaysia, using a quantitative approach to examine the relationships among transformational leadership, DALC, and employee performance. By integrating leadership theory with digital learning culture, this research provides a more comprehensive understanding of performance enhancement in modern organisational contexts. The findings are expected to contribute to both theoretical development and practical application, particularly in guiding organisations to align leadership strategies with digital transformation initiatives.

LITERATURE REVIEW

The relationship between leadership styles and employee performance has been widely examined across different organisational settings, with consistent evidence indicating that leadership behaviour significantly shapes employee outcomes such as motivation, productivity, and job satisfaction. Early conceptualisations (Benmira & Agboola, 2021; Hogan & Kaiser, 2005; Klingborg et al., 2006) describe leadership as a dynamic process that influences organisational direction and employee behaviour. Empirical studies by Basit et al. (2017) confirm that leadership styles are critical determinants of employee performance, particularly in service-oriented industries. In the Malaysian context, Aminah et al. (2020) highlight that leadership practices remain influenced by hierarchical structures, which may constrain employee engagement and limit innovation. Such findings

indicate that leadership approaches must evolve to address contemporary organisational challenges, especially in F&B sectors where operational efficiency and service quality are highly dependent on employee performance.

Transformational Leadership Overview

Transformational leadership refers to a leadership approach that stimulates employees to transcend personal interests in favour of organisational goals through idealised influence, intellectual stimulation, inspirational motivation, and individualised consideration (Bass & Avolio, 2007; Bass & Bass, 2009). This leadership style is considered important in contemporary organisations because it encourages adaptive thinking and intrinsic motivation, which are necessary in dynamic and service-oriented sectors (Lasrin et al., 2025). In the F&B industry, where operational demands and customer expectations are high, leadership that inspires and guides employees beyond routine tasks becomes essential for sustaining performance levels. Several proponents (Benmira & Agboola, 2021; Hogan & Kaiser, 2005; Klingborg et al., 2006) concur that leadership effectiveness is closely tied to the ability to influence behavioural and cognitive processes among employees. However, the effect of transformational leadership may not operate in isolation, as organisational conditions often shape how leadership behaviours are interpreted and translated into outcomes.

Transformational leadership has received substantial scholarly attention due to its ability to enhance employee motivation and organisational outcomes (Caharian & Cabanlit, 2024). Empirical evidence from existing literature suggests that transformational leadership positively influences employee performance through increased job satisfaction and engagement (Lai et al., 2020; Tan et al., 2023). However, some inconsistencies have been observed in prior findings. For instance, existing studies reported that certain dimensions of transformational leadership, such as intellectual stimulation, may not always produce positive performance outcomes, and the effectiveness of transformational leadership may vary depending on contextual and cultural factors (Lai et al., 2020; Stone et al., 2014). These mixed findings suggest that the relationship between transformational leadership and performance may not be purely direct but could be influenced by intervening organisational mechanisms.

Digital Age Learning Culture Overview

Digital Age Learning Culture (DALC) refers to an organisational environment that promotes continuous learning, knowledge sharing, and the integration of digital tools into everyday work practices (ISTE, 2009). This concept has gained relevance in the context of digital transformation and the future of work, where employees are expected to continuously update skills and adapt to technological changes. Proponents emphasise that digital-oriented leadership practices are closely associated with fostering learning cultures that support innovation and adaptability (Hensellek, 2020; Gao & Gao, 2024). Similarly, AlAjmi (2022) highlights that digital learning environments enable employees to engage in self-directed learning and collaborative knowledge exchange. The importance of DALC lies in its ability to bridge the gap between leadership intentions and employee actions by providing the necessary infrastructure and mindset for continuous improvement. In the absence of such a culture, leadership efforts aimed at transformation may not effectively translate into enhanced competencies or performance.

Recent empirical findings indicate that digital leadership enhances employee performance by promoting innovation and improving communication processes (Huang et al., 2026; Senadjki et al., 2024). However, existing studies primarily examine digital leadership as a direct predictor of performance, with limited exploration of its role as an organisational culture that mediates leadership effects (Alasqah & Noureldin, 2025; Gao & Gao, 2024; Huang et al., 2026; Lim & Teoh, 2021; Senadjki et al., 2024). The concept of DALC remains relatively underexplored in empirical research, particularly in relation to leadership-performance relationships. While existing studies acknowledge the importance of learning cultures in enhancing employee competencies and organisational adaptability, few have explicitly examined DALC as a mediating construct (Gao & Gao, 2024; Huang et al., 2026; Senadjki et al., 2024).

Despite the growing body of literature, several research gaps remain evident. First, most prior studies, including those by Huang et al. (2026), have been conducted in sectors such as manufacturing, banking, and technology, with limited focus on the F&B industry. Second, existing research is largely based on non-Malaysian contexts,

limiting the generalisability of findings to local F&B industries. Third, while transformational leadership has been extensively studied, the integration of digital learning culture as a mediating mechanism has received minimal empirical attention. Additionally, prior studies often examine leadership variables in isolation, without considering the interaction between leadership styles and organisational culture in shaping employee outcomes.

Positioned within this context, the present study contributes by integrating transformational leadership and DALC within a single analytical framework to explain employee performance in the F&B sector within Malaysia. Unlike previous studies that focus on direct relationships, this research emphasises the mediating role of DALC, offering a more comprehensive explanation of how leadership influences performance. The necessity of this study is further justified by the increasing digitalisation of the F&B industry, where employees are required to adapt to new technologies, service systems, and operational processes. By addressing the identified gaps, this study provides both theoretical extension and practical relevance, particularly in understanding how leadership can foster a learning-oriented environment that enhances employee performance in a rapidly evolving work context.

Conceptual foundation and hypothesis development

Employee performance represents the extent to which individuals fulfil job responsibilities effectively and contribute to organisational objectives. It is a critical construct in the F&B sector due to its direct impact on service quality, customer satisfaction, and organisational sustainability. Existing studies indicate that employee performance is influenced by both motivational and environmental factors (Basit et al., 2017; Aminah, 2020). In high-contact service industries, performance is not only dependent on individual capability but also on access to knowledge, learning opportunities, and organisational support systems. Therefore, the presence of a supportive internal environment becomes essential in translating leadership influence into actual performance outcomes. Without such an environment, the motivational effects of transformational leadership may not fully materialise into measurable improvements in employee output.

The rationale for proposing DALC as a mediating variable is grounded in the assumption that leadership influences organisational culture, which subsequently shapes employee behaviour. Transformational leaders are expected to encourage openness, experimentation, and learning (Tharuni et al., 2025) which are essential components of a digital learning culture. Evidence from Udin (2023) suggests that leadership behaviours contribute to the development of organisational learning environments that facilitate knowledge acquisition and application. Similarly, Gil et al. (2021) indicate that learning culture functions as an intermediary mechanism linking leadership practices to knowledge outcomes. In digitally evolving contexts, several researchers further argue that leadership contributes to shaping digital culture by promoting technology adoption and collaborative practices (Alasqah & Noureldin, 2025; Arham et al., 2024). Such arguments imply that transformational leadership may first influence the establishment of DALC, which then enables employees to perform more effectively through improved skills, information access, and adaptability.

From a theoretical perspective, this mediating relationship can be explained through Path-Goal Theory, which theorises that leadership enhances employee performance by clarifying paths and removing obstacles to goal achievement (Benmira & Agboola, 2021; Hogan & Kaiser, 2005; House, 1971). In this context, DALC can be interpreted as a facilitating condition that reduces barriers related to knowledge gaps, technological uncertainty, and skill deficiencies. Transformational leadership contributes by shaping this environment, while DALC provides the mechanisms through which employees can translate motivation into effective performance. In the F&B sector, where digital ordering systems, service automation, and customer interaction technologies are increasingly implemented, such a learning culture becomes a necessary condition for achieving high performance. Without DALC, the influence of transformational leadership may remain limited to attitudinal changes rather than behavioural outcomes.

Based on the above conceptual arguments, the following hypothesis is proposed:

H1: Transformational leadership has a significant positive effect on employee performance in the food and beverage sector.

H2: Digital age learning culture has a significant positive effect on employee performance in the food and beverage sector.

H3: Transformational leadership has a significant positive effect on digital age learning culture in the food and beverage sector.

H4: Digital Age Learning Culture (DALC) mediates the relationship between transformational leadership and employee performance in the food and beverage sector.

METHOD

This study adopts a quantitative research design to examine the mediating effect of Digital Age Learning Culture (DALC) on the relationship between transformational leadership and employee performance within the food and beverage (F&B) sector in Malaysia. A quantitative approach is considered appropriate because the study aims to test theoretically derived relationships among latent constructs using measurable indicators. Furthermore, the use of statistical modelling allows for objective evaluation of mediation effects, which aligns with the explanatory nature of the research framework. The structured nature of quantitative research also enhances the comparability and generalisability of findings across similar organisational contexts.

Instrumentation

Data are collected using a self-administered structured questionnaire, which is widely used in organisational and behavioural research for capturing perceptions, attitudes, and behaviours. The questionnaire is designed with closed-ended questions measured on a 5-point Likert scale to ensure consistency and ease of analysis. Constructs such as transformational leadership, DALC, and employee performance are operationalised using multiple items adapted from established literature (Bass & Avolio, 1995; ISTE, 2009; Koopmans et al., 2013; Macatuno-Nocom, 2019; Ramos-Villagrasa et al., 2019) to ensure content validity. Additionally, anonymity and confidentiality are maintained to reduce social desirability bias and improve the accuracy of responses.

Sampling

The target population consists of 202 employees working in the selected F&B chain in Malaysia. This organisation is selected due to its labour-intensive characteristics and increasing exposure to digital transformation. A total of 151 valid responses were collected, surpassing the required sample size of 68 as determined by statistical power analysis (Faul et al., 2009). The demographic analysis indicates that the majority of respondents are relatively young, with 143 respondents (94.7%) below the age of 39, while only 8 respondents (5.3%) are aged 40 years and above. This suggests that the workforce in the Malaysian F&B sector is predominantly composed of younger employees, which may reflect the dynamic and fast-paced nature of the industry. In terms of work experience, the distribution shows a balanced representation across different tenure groups. A total of 57 respondents (37.8%) have less than one year of experience, indicating a significant proportion of relatively new employees. Meanwhile, 42 respondents (27.8%) report having between one to two years of experience, and 52 respondents (34.4%) have three years or more of experience. This variation in tenure provides a diverse perspective on employee performance, as it captures insights from both less experienced and more established workers within the sector.

Analysis

The collected data are analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4 version software (Ringle et al., 2022). PLS-SEM is particularly suitable for predictive research, especially when the research objective focuses on explaining variance in dependent variables. The analysis follows a two-stage approach involving assessment of the measurement model and evaluation of the structural model (Anderson & Gerbing, 1988). In the first stage, the measurement model is assessed for reliability and validity. In the second stage, the structural model is evaluated by examining path coefficients, coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2). Mediation analysis is conducted using the bootstrapping procedure, which involves resampling techniques to test the significance of indirect effects. Chin

et al. (2003) highlight that bootstrapping in PLS-SEM provides robust estimates for mediation testing without requiring normal data distribution assumptions.

RESULTS

Since data was collected using a single source, we first tested the issue of Common Method Bias by following the suggestions of Kock (2015) by testing the full collinearity. In this method, all the variables are regressed against a common variable and if the $VIF \leq 5.0$, then there is no bias from the single source data. The analysis yielded VIF less than 5.0 thus single-source bias is not a serious issue with our data.

Table 1. Full collinearity test results

DALC	EP	TL
4.077	2.696	4.073

Note: DALC = Digital Age Learning Culture, EP = Employee Performance, TL = Transformational Leadership

Measurement Model

We followed the suggestions of Anderson and Gerbing (1988) to test the model developed using a two-step approach. First, we tested the measurement model to test the validity and reliability of the instruments used, following the guidelines of Hair et al. (2022) and Ramayah et al. (2018), then we ran the structural model to test the hypothesis developed.

For the measurement model, we assessed the loadings, average variance extracted (AVE) and the composite reliability (CR). The values of loadings should be ≥ 0.5 , the AVE should be ≥ 0.5 , and the CR should be ≥ 0.7 . As shown in Table 2, the AVEs are all higher than 0.5, and the CRs are all higher than 0.7. The loadings less than 0.708 (Hair et al., 2022) were excluded.

Then, in step 2, we assessed the discriminant validity using the HTMT criterion suggested by Henseler et al. (2015) and updated by Franke and Sarstedt (2019). The HTMT values should be ≤ 0.90 . As shown in Table 3, the values of HTMT were all lower than ≤ 0.9 as such, we can conclude that the respondents understood that the 3 constructs are distinct. Taken together, both these validity tests have shown that the measurement items are both valid and reliable.

Table 2. Measurement Model for the Constructs

Constructs	Items	Loadings	AVE	CR
Digital Age Learning Culture	DALC1	0.874	0.781	0.947
	DALC2	0.900		
	DALC3	0.909		
	DALC4	0.889		
	DALC5	0.844		
Employee Performance	EP1	0.805	0.718	0.971
	EP2	0.868		
	EP3	0.793		

	EP4	0.830		
	EP5	0.741		
	EP6	0.866		
	EP7	0.879		
	EP8	0.873		
	EP9	0.853		
	EP10	0.866		
	EP11	0.870		
	EP12	0.872		
	EP13	0.887		
Transformational Leadership	TL1	0.828	0.736	0.982
	TL2	0.875		
	TL3	0.874		
	TL4	0.778		
	TL5	0.802		
	TL6	0.874		
	TL7	0.812		
	TL8	0.896		
	TL9	0.899		
	TL10	0.887		
	TL11	0.928		
	TL12	0.770		
	TL13	0.891		
	TL14	0.860		
	TL15	0.912		
	TL16	0.877		
	TL17	0.826		
	TL18	0.851		
	TL19	0.806		
	TL20	0.889		

Table 3. Discriminant Validity (HTMT)

	1	2	3
1. Digital Age Learning Culture			
2. Employee Performance	0.801		
3. Transformational Leadership	0.887	0.781	

Structural Model

As suggested by Hair et al. (2022) and Cain et al. (2017), we assessed the multivariate skewness and kurtosis. The results showed that the data we have collected were not multivariate normal, Mardia’s multivariate skewness ($\beta = 10.447, p < 0.01$) and Mardia’s multivariate kurtosis ($\beta = 32.919, p < 0.01$), thus following the suggestions of Becker et al. (2023), we reported the path coefficients, the standard errors, t-values and p-values for the structural model using a 10,000-sample re-sample bootstrapping procedure (Ramayah et al. 2018). Also based on the criticism of Hahn and Ang (2017) that p-values are not good criterion for testing the significance of hypothesis, and suggested to use a combination of criteria such as p-values, confidence intervals and effect sizes. Table 4 shows the summary of the criteria we have used to test the hypotheses developed.

First, we tested the effect of the 2 predictors (TL; DALC) on Employee Performance, the R^2 was 0.629 which shows that both predictors explained 62.9% of the variance in Employee Performance. Since Transformational Leadership ($\beta = 0.411, p=0.008$) and Digital Age Learning Culture ($\beta = 0.413, p=0.007$) were all positively related to Employee Performance, thus H1 and H2 were supported. Next, we tested the effect of Transformational Leadership ($\beta = 0.851, p < 0.01$) on Digital Age Learning Culture, with an R^2 of 0.724 which indicates that Transformational Leadership explains 72.4% of the variance in Digital Age Learning Culture, which gives support for H3.

To test the mediation hypotheses, we followed the suggestions of Preacher and Hayes (2004; 2008) by bootstrapping the indirect effect. If the confidence interval does not straddle a 0 then we can conclude that there is significant mediation. As shown in Table 5 for Transformational Leadership \rightarrow Digital Age Learning Culture \rightarrow Employee Performance ($\beta = 0.352, p=0.008$), the mediation is significant. The confidence intervals bias corrected 95% also did not show any intervals straddling a 0 thus confirming our findings. Thus, H4 were also supported.

Table 4. Hypothesis Testing Direct Effect

Hypothesis	Relationship	Std Beta	Std Error	t-values	p-values	BCI LL	BCI UL	f ²	Outcome
H1	TL \rightarrow EP	0.411	0.172	2.398	0.008	0.115	0.681	0.126	Supported
H2	DALC \rightarrow EP	0.413	0.167	2.478	0.007	0.139	0.694	0.127	Supported
H3	TL \rightarrow DALC	0.851	0.035	24.553	p < 0.01	0.780	0.897	2.618	Supported

Note: We use 95% confidence interval with a bootstrapping of 10,000

Table 5. Hypothesis Testing Indirect Effect

Hypothesis	Relationship	Std Beta	Std Error	t-values	p-values	BCI LL	BCI UL	f ²	Outcome
H4	TL \rightarrow DALC \rightarrow EP	0.352	0.145	2.432	0.008	0.117	0.596	0.124	Supported

Note: We use 95% confidence interval with a bootstrapping of 10,000

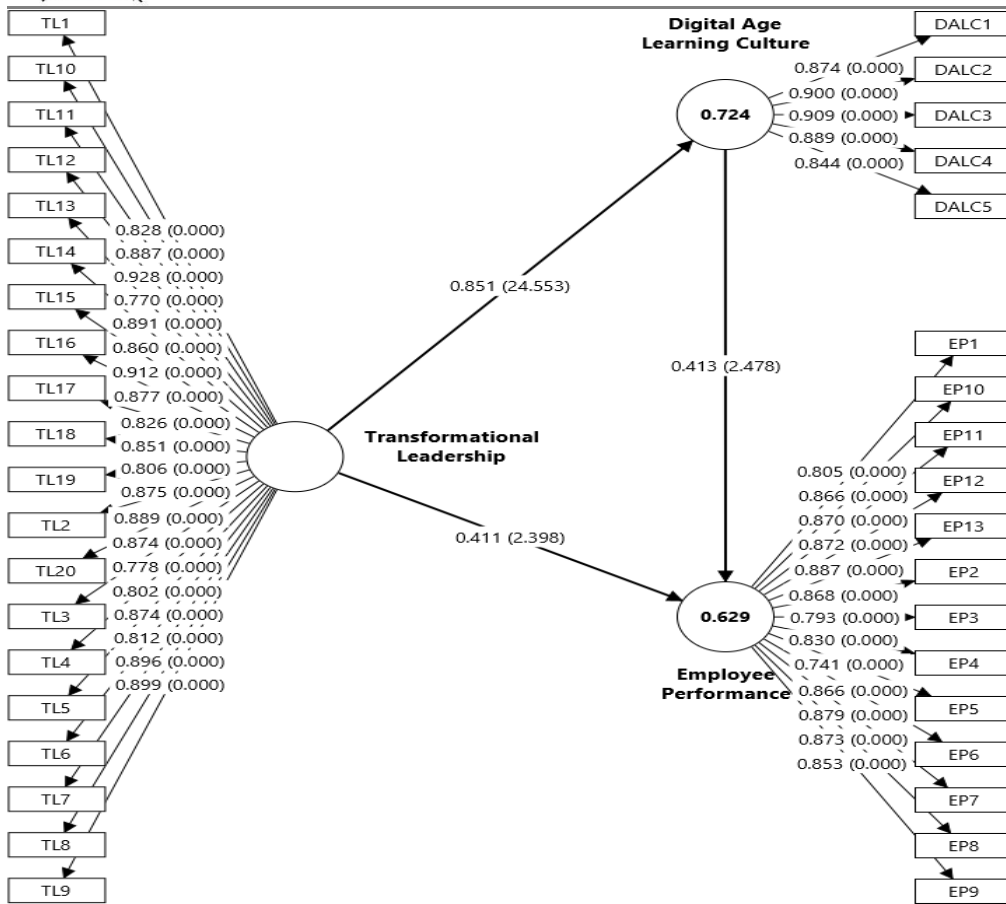


Figure 1. Results of the PLS analysis

Further to that, Shmueli et al. (2019) proposed PLSpredict, a holdout sample-based procedure that generates case-level predictions on an item or a construct level using the PLS-Predict with a 5-fold procedure to check for predictive relevance. Shmueli et al. (2019) suggested that if all the item differences (PLS-LM) were lower, then there is strong predictive power; if all are higher, then predictive relevance is not confirmed. If the majority is lower, then there is moderate predictive power, and if the minority is lower, then there is low predictive power. Based on Table 6, all the errors of the PLS model were lower than those of the LM model. Thus, we can conclude that our model has a strong predictive power.

Table 6. PLS Predict

Construct	Q ² _predict			
EP	0.568			
Item	PLS	LM	PLS-LM	Q ² _predict
	RMSE	RMSE		
EP1	0.611	0.690	-0.079	0.434
EP2	0.597	0.626	-0.029	0.390
EP3	0.617	0.674	-0.057	0.500
EP4	0.683	0.777	-0.094	0.398
EP5	0.699	0.744	-0.045	0.380

EP6	0.602	0.711	-0.109	0.446
EP7	0.617	0.709	-0.092	0.402
EP8	0.606	0.681	-0.075	0.390
EP9	0.624	0.654	-0.030	0.459
EP10	0.692	0.831	-0.139	0.400
EP11	0.818	0.855	-0.037	0.320
EP12	0.676	0.725	-0.049	0.390
EP13	0.781	0.901	-0.120	0.327

DISCUSSION

The findings indicate that transformational leadership and Digital Age Learning Culture (DALC) both have significant positive effects on employee performance within the F&B sector in Malaysia. The structural model demonstrates that these two predictors explain a substantial proportion of variance in employee performance ($R^2 = 0.629$), suggesting strong explanatory capability. Transformational leadership shows a direct positive relationship with employee performance ($\beta = 0.411, p = 0.008$), while DALC also exerts a comparable positive influence ($\beta = 0.413, p = 0.007$). These results suggest that both leadership behaviour and organisational learning environment are equally important in shaping employee outcomes. The findings of this study align with the arguments that leadership effectiveness is reflected in its ability to enhance employee motivation and productivity (Bass & Avolio, 2007; Bass & Bass, 2009). Similarly, the empirical evidence is supported by recent literature, which also highlights that digital-oriented organisational environments further strengthen employee capability and performance, particularly in technology-driven contexts (Gao & Gao, 2024; Huang et al., 2026).

A key finding of the study is the strong relationship between Transformational Leadership and DALC ($\beta = 0.851, p < 0.01$), indicating that leadership behaviour plays a dominant role in shaping a digital learning-oriented organisational culture. This result suggests that transformational leaders contribute not only through direct motivation (Hashim et al., 2025) but also by fostering an environment that supports continuous learning, digital adaptation, and knowledge sharing. Such an outcome is consistent with the perspectives of AlAjmi (2022) and Hensellek (2020), who argue that leadership in the digital era must extend beyond traditional functions to include the development of learning infrastructures. Furthermore, Senadjki et al. (2024) and Arham et al. (2024) indicate that digital culture emerges as a product of leadership practices that encourage collaboration and innovation. In the F&B sector, where digital tools such as ordering systems and service platforms are increasingly adopted, such leadership-driven learning environments become particularly relevant.

The mediation analysis provides further insight into the mechanism linking Transformational Leadership and Employee Performance. The indirect effect of TL on EP through DALC is significant ($\beta = 0.352, p = 0.008$), confirming the mediating role of DALC. This suggests that the influence of transformational leadership is transmitted through the establishment of a digital learning culture. In other words, leadership effectiveness is not solely dependent on direct interaction with employees but also on the ability to create supportive organisational systems. This finding supports the conceptual arguments that learning culture functions as an intermediary mechanism in translating leadership behaviour into performance outcomes (Alasqah & Noureldin, 2025; Gil et al., 2021; Udin, 2023). The presence of mediation also explains inconsistencies in prior studies, where direct relationships between leadership and performance were not always strong, suggesting that underlying organisational conditions, such as learning culture, play a crucial role.

Theoretical implications

The findings of this study contribute to theoretical development by extending the application of Path-Goal

Theory in the context of digital transformation and organisational learning. Path-Goal Theory, as proposed by House (1971), suggests that leaders enhance employee performance by clarifying pathways and reducing obstacles (Benmira & Agboola, 2021; Hogan & Kaiser, 2005). The present findings indicate that DALC functions as a structural mechanism through which such obstacles are addressed, particularly those related to knowledge gaps and technological adaptation. This extends the theory by incorporating digital learning culture as a contextual factor that facilitates goal attainment.

In addition, the study advances leadership literature by integrating transformational leadership with digital organisational constructs. While previous studies have examined leadership and performance relationships separately, the inclusion of DALC provides a more comprehensive explanation of how leadership operates within modern work environments. The strong effect of transformational leadership on DALC suggests that leadership plays a foundational role in shaping organisational culture, supporting the views of Bass and Bass (2009). Furthermore, the significant mediation effect reinforces the argument that organisational culture should be treated as an essential explanatory mechanism rather than a peripheral factor. This contributes to bridging the gap between leadership theory and digital transformation literature (Gao & Gao, 2024; Hensellek, 2020).

Managerial implications

The findings offer several practical implications for managers in the F&B industry. First, the significant direct and indirect effects of transformational leadership indicate that organisations should invest in leadership development programmes that emphasise vision communication, employee support, and intellectual stimulation. As suggested by Bass and Avolio (2007), leaders who inspire and guide employees effectively can enhance motivation and performance outcomes. In practice, this may involve structured training initiatives, mentoring systems, and performance feedback mechanisms that align employee goals with organisational objectives.

Second, the mediating role of DALC highlights the importance of cultivating a digital learning-oriented organisational environment. Managers should focus on creating systems that encourage continuous learning, knowledge sharing, and digital skill development. This includes implementing digital platforms for communication, providing access to training resources, and promoting collaborative problem-solving practices. Insights from AlAjmi (2022) and Senadjki et al. (2024) suggest that such environments enhance employee adaptability and innovation, which are critical in the evolving F&B sector. Additionally, fostering a culture that values experimentation and learning can help employees respond more effectively to technological changes.

Finally, the results suggest that leadership and organisational culture should not be managed independently but as interconnected elements. The strong influence of transformational leadership on DALC implies that leadership behaviours must be aligned with organisational initiatives aimed at digital transformation. In line with the recommendations of existing literature, managers should integrate leadership practices with digital strategies to create a cohesive system that supports employee performance (Alasqah & Nouredin, 2025; Arham et al., 2024; Huang et al., 2026). This integrated approach is particularly important in the F&B industry, where operational efficiency and service quality depend heavily on both human and technological capabilities.

Future Directions

Several directions for future research can be considered to extend the current findings. First, future studies may adopt a longitudinal or time-lagged research design to better capture changes over time and provide stronger evidence of causal relationships among transformational leadership, digital age learning culture, and employee performance. Observing these variables across multiple time periods would allow observation of changes over time and offer a deeper understanding of how leadership practices gradually influence learning culture and performance outcomes in dynamic organisational environments. Second, future research may expand the scope of the sample by including different industries as well as broader geographical regions beyond Malaysia. This would enhance the generalisability of findings and allow comparative analysis across sectors with varying levels of digital adoption. Third, the use of multi-source data or mixed-method approaches could be considered to complement quantitative findings with qualitative insights. Interviews or case studies may provide a deeper exploration of how employees perceive leadership behaviours and learning culture in practice, which may not be fully captured through structured questionnaires. Finally, future research may incorporate relevant control

variables, including age, tenure, and digital competency or explore the role of emerging technologies, such as artificial intelligence and digital platforms, in shaping learning culture and employee performance. As the F&B sector continues to evolve with digital transformation, examining how advanced technologies interact with leadership and organisational culture could provide valuable insights for both theory and practice.

CONCLUSION

The study demonstrates that leadership and organisational learning environment play a substantial role in shaping employee performance within the F&B sector in Malaysia. The results indicate that both transformational leadership and digital age learning culture contribute positively to performance outcomes, with a considerable proportion of variance explained by these factors. This suggests that employee performance is not determined by a single influence but rather by a combination of leadership behaviour and the surrounding organisational context. The findings further show that transformational leadership has a strong influence on the development of a digital learning-oriented environment. This implies that leadership is not limited to motivating employees directly but also functions in shaping workplace conditions that support continuous learning and adaptation. A well-developed learning culture enables employees to improve their competencies, respond to technological changes, and perform tasks more effectively. In this regard, leadership serves as a foundational driver that facilitates the creation of such an environment. In addition, the results confirm that digital age learning culture plays an important mediating role in the relationship between transformational leadership and employee performance. The presence of this mediating effect indicates that leadership influences performance not only through direct interaction but also through indirect pathways. Specifically, leadership contributes to the establishment of a supportive learning environment, which then enhances employee capability and productivity. This highlights the importance of organisational systems in translating leadership efforts into tangible outcomes. The predictive assessment of the model also suggests that the proposed framework has strong explanatory and predictive ability. The model demonstrates consistent performance in predicting employee outcomes, indicating that the relationships identified are stable and meaningful within the studied context. This strengthens confidence in the relevance of combining leadership and learning culture constructs when examining performance-related issues in service-oriented industries. Overall, the study establishes that employee performance in the Malaysian food and beverage sector is influenced by both leadership style and the presence of a supportive digital learning culture. Transformational leadership enhances performance directly while also fostering an environment that encourages continuous learning and adaptation. The integration of these elements provides a more comprehensive understanding of how performance can be improved in a rapidly evolving work setting.

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