International Journal of Computer Information Systems and Industrial Management Applications
ISSN 2150-7988 Volume 18(2) 2026 pp. 330-340
https://doi.org/10.70917/ijcisim-2026-2628
Article

The Mediating Role of Digital Transformation and Employee Engagement between Internal Service Control and Employee Performance in Chinese Department Stores in Xi'an

Nianzi Han[1] **and Arti Pandey**[2,*]

[1]Business Administration Program, International College, Rajamangala University of Technology, Krungthep, Bangkok, 10120, Thailand.
E-mail: 678080100079@mail.rmutk.ac.th

[*2]International College, Rajamangala University of Technology, Krungthep, Bangkok, 10120, Thailand. Correspondence author's E-mail: arti.p@mail.rmutk.ac.th

Abstract: This study examines the relationship between internal service control, digital transformation, employee engagement, and employee performance in Chinese department stores. Drawing on Job Demands–Resources theory and the Technology Acceptance Model, the study explains how structured internal management systems and information system-enabled digital initiatives influence employee outcomes in service-oriented retail organizations. A quantitative cross-sectional survey was conducted with internal employees from department stores in Xi'an, China, and the data were analyzed using partial least squares structural equation modeling (PLS-SEM) with WarpPLS version 8.0. The findings indicate that internal service control significantly improves employee performance and positively influences both digital transformation and employee engagement. Digital transformation and employee engagement also significantly enhance employee performance and partially mediate the relationship between internal service control and employee performance. From an information systems perspective, these results show that internal service control functions as an organizational governance mechanism that supports digital workflow integration, data-based coordination, information sharing, and system-enabled task execution. Digital transformation, including digital platforms, automated processes, cloud-based systems, and data-supported decision-making, serves as a technological pathway through which internal control improves operational efficiency. Employee engagement represents the psychological pathway through which supportive internal systems increase motivation, commitment, and work involvement. This study contributes to service management and information systems literature by integrating organizational control, digital capability, and employee behavior into a unified performance model. The findings offer practical implications for department store managers seeking to improve employee performance through coordinated internal systems, digital infrastructure, information quality, employee-centered transformation strategies, and decision support tools.

Keywords: Internal Service Control; Digital Transformation; Employee Engagement; Employee Performance; Information Technology

1. Introduction

Service-oriented retail organizations increasingly rely on internal employees (such as inventory, operational coordination, and commodity sales support) to maintain operational efficiency, service consistency, and responsiveness. Although these employees do not always interact directly with customers, their performance is at the core of daily execution and overall service experience, which makes employee performance a key driving force for the competitiveness of Chinese department stores.

Internal service control provides a structural basis for internal coordination by clarifying responsibilities, standardizing workflows, and improving cross-departmental communication. At the same time, digital transformation through technologies such as cloud systems, automation, and data-supported processes is rapidly reshaping the organization and support of retail work (Vial, 2019; Ghobakhloo, 2020). Under the pressure of declining in-store traffic, and outdated traditional systems, and rising omnichannel expectations, Chinese department stores increasingly rely on strong internal control mechanisms and effective digital initiatives to improve employee performance.

Despite this practical urgency, previous studies have presented inconsistent evidence of whether internal service controls directly improve employee performance, indicating that other mechanisms may be involved. Digital transformation can play a role as a key connection mechanism by transforming internal coordination into more efficient processes and better task support, but it is still unclear whether digital initiatives will strengthen or change the impact of internal service control on performance. In addition, employee engagement that reflects employee motivation and psychological participation may be an important mediator in the digital work environment, but its role in the internal service system is often not fully examined.

Existing studies usually investigate internal control, digital transformation, or employee engagement in isolation, with limited attention to their comprehensive impact on employee performance. For example, Li et al. (2022) emphasized the role of internal coordination mechanisms in digital transformation in China's service industries, but their study did not specifically examine the parallel mediating roles of digital transformation and employee engagement in department stores. This limitation is especially evident in the field of Chinese department stores, where the traditional retail business is undergoing rapid restructuring and technology-driven transformation. Therefore, the mechanism of transforming internal service control into employee performance, especially through numbers and behaviors, has not yet been explored. Therefore, a parallel mediation model is appropriate because digital transformation represents the technological pathway, whereas employee engagement represents the psychological pathway through which internal service control may influence employee performance.

To address this research gap, this study develops and tests a parallel mediation model to examine how internal service control influences employee performance in Chinese department stores. Specifically, the study investigates whether digital transformation and employee engagement serve as two mediating mechanisms linking internal service control to employee performance. Using survey data from internal employees of department stores in Xi'an and applying partial least squares structural equation modeling (PLS-SEM) with WarpPLS 8.0, this study clarifies how structural, technological, and psychological mechanisms jointly shape employee performance. The findings contribute to service management and digital transformation research by explaining how internal systems generate performance outcomes during retail digitalization and by offering practical implications for department store managers.

2. Literature Review

2.1 Theoretical foundation

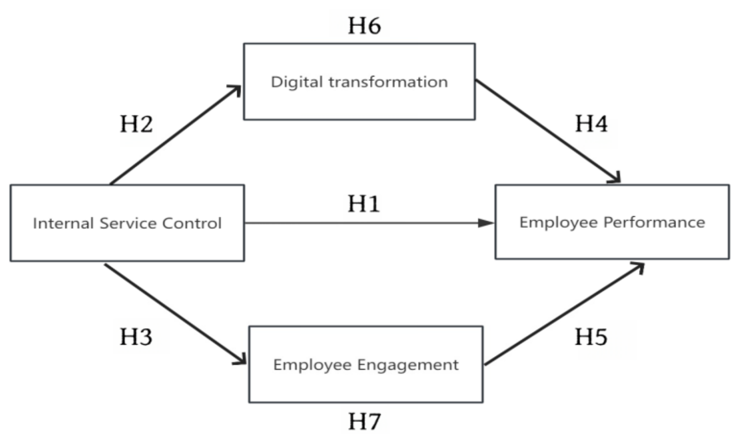
This study is grounded in the Job Demands–Resources (JD-R) theory (Bakker & Demerouti, 2017; Demerouti et al., 2001) and the Technology Acceptance Model (TAM). The JD-R theory explains how organizational resources enhance employee motivation and performance (Bakker & Demerouti, 2017) by reducing work stress and supporting goal achievement. In the service sector, structured resource systems such as the environment, internal coordination mechanisms, and technical support can help employees perform tasks more effectively and maintain higher participation. From this perspective, internal service control and digital infrastructure are considered key organizational resources that can improve employee performance.

The Technology Acceptance Model explains how employees adopt and use digital tools. According to TAM, when employees think that the digital system is useful and easy to use, they are more likely to use digital systems, which in turn improves the efficiency of the task and the results of the work. Therefore, in the digital transformation retail environment, the acceptance digital platform of employees is transforming technology investment into an improvement in actual performance. Therefore, the integration of JD-R and TAM provides a comprehensive framework that connects organizational control, digital capabilities, employee engagement, and performance results. According to the integration of JD-R theory and TAM, this study treats digital transformation and employee engagement as two parallel mediating mechanisms. Digital transformation represents the technological pathway through which internal service control supports workflow efficiency, information access, and digital task support. Employee engagement represents the psychological pathway through which internal service control enhances motivation, enthusiasm, and work involvement. Therefore, the two mediators explain different but complementary mechanisms linking internal service control to employee performance.

Although previous studies have examined internal service control, digital transformation, employee engagement, and employee performance, most of them have discussed these variables separately. Existing research has not sufficiently explained how structured internal service processes are translated into employee performance through both technological and psychological mechanisms. In particular, limited attention has been paid to Chinese department stores, where traditional internal processes and digital transformation initiatives coexist during retail restructuring. Therefore, this study extends prior research by examining how internal service control affects employee performance through both digital transformation and employee engagement.

2.2 Hypotheses development

Figure 1: Conceptual Framework



Although the measurement items were adapted from internal service quality studies, this study uses the retained indicators to capture the control-oriented aspects of internal service processes. Internal service control is therefore defined as a process-based coordination and control mechanism rather than a general evaluation of internal service satisfaction. Specifically, the retained ISC items focus on dependable interdepartmental support, work-related internal service support, and efficient internal processes, which reflect how internal service processes are coordinated and controlled in daily operations.

Internal service control refers to the mechanism of coordinating and standardizing cross-departmental internal service processes to ensure efficient operational support. Unlike internal service quality or internal marketing, which focus on employee satisfaction or organizational atmosphere, internal service control emphasizes the structured procedures, communication coordination, and management supervision within the organization. The focus of this study is on internal service control because it examines operational coordination and workflow management at the departmental level within department stores.

Internal service control is widely regarded as an important organizational mechanism that can strengthen workflow coordination, clarify responsibilities, and reduce operational uncertainty. By providing structured processes and communication channels, the internal control system can help employees complete tasks more efficiently and consistently. Previous studies have shown that supportive internal systems can improve service quality and employee efficiency (Alshurideh et al., 2021; Lin et al., 2021). Recent evidence also shows that a stronger internal control system is related to better employee performance results, which highlights the performance value of structured monitoring and process control (Jarah et al., 2023). Consequently, internal service control is expected to have a positive impact on employee performance.

H1: Internal service control positively affects Employee performance.

In addition to the direct impact, internal service control may also promote the adoption of digital tools. Well-structured processes and clear responsibilities create a stable environment to support the implementation of new technologies. Organizations with more powerful internal control systems (Moll & Yigitbasioglu, 2019; Matarazzo et al., 2021) are more capable of integrating digital platforms and managing technical support operations. Recent digital transformation research emphasizes that IT governance and internal control mechanisms (e.g., strategic and architectural coordination, data governance, and risk and audit procedures) are key drivers of successful digital transformation (Mulyana et al., 2024). Therefore, internal service control may promote digital transformation. The structured internal control environment reduces uncertainty and provides a clear process, which promotes the implementation and effective use of digital technology.

H2: Internal service control positively affects Digital transformation.

Internal service control may further promote employee engagement. When employees receive clear guidance, fair procedures, and adequate organizational support, they are more likely to feel motivated (Karatepe & Karadas, 2019; Schaufeli, 2017) and psychologically involved in the work. A recent systematic literature review further shows that internal control practice can strengthen the key driving force of employee engagement through a clear, communicative, and supportive control environment (Haryanto et al., 2023). This supportive environment enhances the enthusiasm and commitment of employees. Therefore, internal service control is expected to improve the engagement of employees. Clear procedures and supportive internal coordination enhance employees' perception of organizational support, which in turn strengthens their psychological participation in the work.

H3: Internal service control positively affects Employee engagement.

Digital transformation is related to improving task efficiency and decision-making quality. Digital tools such as automated systems and data platforms can reduce repetitive work, enhance information accessibility, and enable faster responses to operational needs. These technical resources can directly improve the productivity (Razavi & Attarnezhad, 2020; Youthao et al., 2026; Soomro et al., 2019) and efficiency of employees. Recent evidence shows that digital transformation can improve employee performance by improving digital workflows and strengthening employees' ability in digital workplaces (Qiao et al., 2024). So, the digital transformation is expected to have a positive impact on employee performance.

H4: Digital transformation positively affects Employee performance.

Employee engagement represents employees’ ability, dedication, and Level of dedication in their work. Highly engaged employees tend to exert greater effort, demonstrate stronger commitment, and achieve better performance outcomes. Previous research consistently links engagement with higher service quality and productivity (Schaufeli, 2017; Zhou et al., 2021). A recent meta-analysis provides strong evidence that work engagement is positively correlated with task performance and broader performance indicators, including evidence from longitudinal research (Neuber et al., 2022). Consequently, employee engagement is expected to enhance employee performance.

H5: Employee engagement positively affects employee performance.

In addition to direct effects, digital transformation may act as a mediating mechanism that translates internal service control into performance outcomes. Effective internal control systems can enable the successful implementation of digital tools (Pillai & Sivathanu, 2021; Matarazzo et al., 2021), which subsequently improve employees’ work processes and results. To support this mechanism, recent studies clearly show that digital transformation can be used as a mediator to link organizational/leadership drivers with employee performance results (Qiao et al., 2024). Hence, digital transformation is proposed to mediate the relationship between internal service control and employee performance. Internal service control can promote the adoption of digital systems, thus improving the workflow and turn it into better performance results. This mediating role is theoretically meaningful because digital transformation explains how internal service control is converted into operational efficiency. Clear internal procedures and coordinated workflows provide the organizational foundation for employees to use digital tools more effectively. Therefore, digital transformation represents the technological pathway through which internal service control improves employee performance.

H6: Digital transformation mediates the relationship between Internal service control and Employee performance.

Similarly, internal service control may indirectly improve performance through employee engagement. The supportive organizational system (Van Woerkom et al., 2016; Schaufeli, 2017) cultivates the enthusiasm and psychological attachment of employees, which in turn helps to improve performance. Recent JD-R evidence further shows that employee engagement mediates the relationship between work resources and performance results, supporting participation as a reasonable way of explanation (Lee & Jo, 2023; Fei et al., 2026). Therefore, employee engagement is expected to mediate the relationship between internal service control and employee performance. The supportive internal control environment enhances the enthusiasm and engagement of employees, thus improving performance. This mediating role also adds theoretical value because employee engagement explains the psychological process through which internal service control affects performance. When internal processes are dependable and supportive of work-related needs, employees are more likely to feel motivated, focused, and involved in their tasks. Therefore, employee engagement represents the motivational pathway linking internal service control to employee performance.

H7: Employee engagement mediates the relationship between Internal service control and Employee performance.

It proposes that employee engagement mediates the relationship between internal service control and employee performance. This means that internal service control improves employee performance not only directly but also indirectly by strengthening employees' motivation, dedication, and work involvement. When internal processes are clear, communication is effective, and support from other departments is dependable, employees are more likely to feel valued and engaged in their work. Higher engagement then encourages employees to make greater effort, remain focused, and complete their tasks more effectively.

3. Methodology

3.1 Research design

This study adopts a quantitative research design to examine the relationships among internal service control, digital transformation, employee engagement, and employee performance. A proportionate sampling approach was used based on the employee size of the five participating department stores. The survey targeted internal employees working in Chinese department stores, and respondents were invited to participate in the online questionnaire. The sampling frame is based on the internal employee list provided by the five participating department stores in Xi 'an.

A cross-sectional survey approach was employed to collect empirical data from department store employees.

3.2 Sample and data collection

The target group includes internal employees working in Chinese department stores, including employees engaged in logistics, inventory management, operation coordination, and cross-departmental support functions. Sales staff who primarily interact with customers were excluded because the study focuses on internal operational employees involved in coordination and support processes.

These employees often use digital systems and internal service processes in their daily work, so they are suitable respondents to evaluate the impact of organization and technology on performance.

The data were collected through a structured questionnaire distributed to internal employees of five participating department stores in Xi'an. According to the sampling frame, the five stores had approximately 3,200 eligible internal employees in total. The target sample was proportionally allocated across the five stores according to employee size. Questionnaires were distributed through an online survey platform and internal communication channels after obtaining permission from the participating stores. A total of 396 valid responses were retained after excluding incomplete or invalid responses.

To reduce potential common method bias, respondents were informed that participation was voluntary and that their answers would remain anonymous and confidential. The questionnaire was organized into separate sections for demographic information and the main constructs. The measurement items were also presented in a structured order to reduce respondents' tendency to provide uniform answers.

3.3 Measures

All constructs are measured using established scales adopted and adapted from previous studies. Internal service control was measured using items adapted from prior internal service quality research (e.g., Alshurideh et al., 2021; Lin et al., 2021). Digital transformation was measured using items adapted from digital transformation studies (e.g., Vial, 2019; Zhou et al., 2021). Employee performance was measured using established performance scales in service research (e.g., Karatepe & Karadas, 2019). Employee engagement was measured using the Utrecht Work Engagement Scale developed by Schaufeli et al. (2002). No new measurement scales were developed in this study; all items were derived from previously validated instruments.

Internal service control is measured by employees' perceptions of coordinated internal processes, communication efficiency, and cross-departmental support, which reflects organizational control and coordination mechanisms rather than general service support. Digital transformation measures the degree to which digital tools and technologies are integrated into daily operations. Employee engagement captures the enthusiasm, dedication, and engagement of employees for work. Employee performance evaluates task efficiency, effectiveness, and overall work results. In addition, several demographic variables were included as control variables, including employee age, education level, department type, and years of work experience, to reduce potential bias in the estimation of the structural relationships. These variables were selected because demographic characteristics may influence employees' perceptions of organizational systems and work performance. To ensure conceptual consistency, the measurement items for internal service control were carefully reviewed during the measurement model assessment. When this study defines internal service control as the coordination, standardization, and supervision of internal service processes, items that mainly reflected general internal service satisfaction or perceived emotional support were not retained in the final model. The retained ISC items focused on prompt interdepartmental support, work-related internal service support, and efficient internal processes, which together reflect the coordination and effectiveness of internal service control in daily operations. The ISC4 was retained because it reflects the practical fit between internal service processes and employees' work needs, rather than general satisfaction with internal service quality. In addition, the initial questionnaire contained a larger pool of measurement items, including eight items for internal service control, twelve items for digital transformation, sixteen items for employee performance, and six items for employee engagement. During the item purification process, items with low outer loadings, cross-loading concerns, or weaker conceptual alignment with their constructs were removed. Therefore, the final PLS-SEM analysis retained three items for internal service control, three items for digital transformation, four items for employee performance, and three items for employee engagement. The number of retained items is reported in Table 1.

All items are scored with a 5-point Likert scoring standard, ranging from 1 (completely disagree) to 5 (completely agree). The questionnaires used in this study were mainly from English literature, and the respondents were frontline employees of a department store in China. In order to ensure that the respondents could have a correct understanding of the questionnaire and avoid misunderstandings caused by the questionnaire's wrong language and culture caused misunderstanding, in this study we used the questionnaire's translation and back-translation method.

The reliability and validity were evaluated before the hypothesis test. Cronbach's α and composite reliability values exceeded the recommended threshold and confirmed the effectiveness of convergence and discrimination.

3.4 Data analysis

The hypothesis test was analyzed using partial least squares structural equation modeling (PLS-SEM) and WarpPLS version 8.0 software applied to perform PLS-SEM. In addition, the parallel mediation model is used to study the mediation role of digital transformation and employee engagement in the relationship between internal service control and employee performance. In this parallel mediation structure, digital transformation and employee engagement act as two independent mediators rather than forming a sequential relationship.

The analysis followed a two-step approach: first evaluating the measurement model for reliability and validity, and then testing the structural model to examine path relationships and mediation effects. The control variables, including age, education level, department type, and work experience, were included in the structural model as exogenous predictors of employee performance. This procedure was used to examine whether the hypothesized relationships remained significant after accounting for potential demographic differences among respondents. The main structural paths remained statistically significant after including these controls, indicating that the proposed relationships were robust. The PLS-SEM algorithm with the internal model of Warp3 is applied. Use the arithmetic mean imputation method to process the missing data. Use 100 stable resampling procedures to estimate the standard error and test path significance. The statistical significance is evaluated according to the p value, and $p < 0.05$ indicates a significant relationship. In addition, confidence intervals were used to further assess the significance of indirect effects in the mediation analysis. The measurement model and factor analysis results are reported in Section 4.1.

4. Research Results

4.1 Measurement model

The measurement model demonstrated satisfactory reliability and validity. Factor analysis results are shown in Table 1. All constructs exceeded recommended thresholds for internal consistency and convergent validity, and discriminant validity was confirmed. These findings indicate that the measurement model is appropriate for structural analysis. In addition, full collinearity VIFs were examined in Table 2. Full collinearity VIF values ranged from 2.856

to 3.240, which are below the threshold of 3.3, indicating that multicollinearity and common method bias are not serious concerns. Overall, the results indicate that common method bias is unlikely to pose a serious threat to the validity of the findings.

Table 1 Reliability and convergent validity of the measurement model

Construct	Items	Loading Range	Cronbach's Alpha	CR	AVE
ISC	3	0.779 – 0.801	0.696	0.831	0.622
DT	3	0.805 – 0.824	0.748	0.856	0.665
EP	4	0.776 – 0.816	0.800	0.870	0.625
EE	3	0.811 – 0.829	0.761	0.863	0.677

Note. ISC = internal service control; DT = digital transformation; EP = employee performance; EE = employee engagement; CR = composite reliability; AVE = average variance extracted. Loading range indicates standardized outer loadings.

Table 2 Full Collinearity VIFs

Construct	Full Collinearity VIF
ISC	2.856
DT	2.992
EP	3.240
EE	3.013

Note. Full collinearity was assessed using VIF values generated by WarpPLS

4.2 Structural model

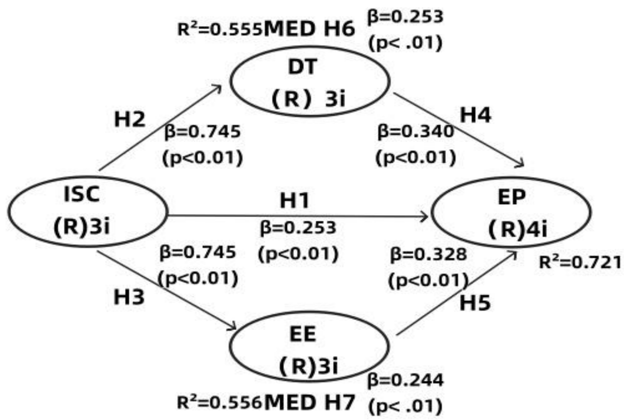
The structural model shows strong explanatory power and can explain the significant variances in digital transformation, employee engagement and employee performance. The model explains 55.5% of the variance in digital transformation, 55.6% in employee engagement, and 72.1% in employee performance. Internal service control has a significant impact on digital transformation and employee engagement, and these three variables have a positive impact on employee performance. The complete hypothesis testing results are summarized in Table 3. After including the control variables in the model, the main structural relationships remained statistically significant, indicating that the core findings of the study are robust.

Table 3 Structural model paths and mediation results

Hypothesis	**Path**	**β**	**P**	**Result**
H1	ISC → EP	0.253	<0.001	Supported
H2	ISC → DT	0.745	<0.001	Supported
H3	ISC → EE	0.745	<0.001	Supported
H4	DT → EP	0.340	<0.001	Supported
H5	EE → EP	0.328	<0.001	Supported
H6	ISC → DT → EP	0.253	<0.01	Supported
H7	ISC → EE → EP	0.244	<0.01	Supported
Total indirect effect	ISC → DT/EE → EP	0.498	< .01	Supported

Note. ISC = internal service control; DT = digital transformation; EP = employee performance; EE = employee engagement. β = standardized path coefficient. P values are based on bootstrapping in WarpPLS. All tests are two-tailed. H6 and H7 report specific indirect effects, whereas the total indirect effect represents the combined indirect effect through digital transformation and employee engagement.

Figure 2: Structural model results with path coefficients and R^2 values



Note. The total indirect effect through digital transformation and employee engagement was $\beta = 0.498$, $p < .01$. Path coefficients are standardized estimates. Values in the figure are rounded to two decimal places.

4.3 Mediation effects

The mediation analysis indicates that digital transformation and employee engagement significantly mediate the relationship between internal service control and employee performance. Specifically, the indirect effect of internal service control on employee performance through digital transformation was significant ($\beta = 0.253$, $p < .01$), supporting H6. Similarly, the indirect effect through employee engagement was also significant ($\beta = 0.244$, $p < .01$), supporting H7. The total indirect effect was $\beta = 0.498$, $p < .01$, indicating that the two mediators jointly transmit the effect of internal service control on employee performance. Since the direct effect of internal service control on employee performance remained significant after the inclusion of digital transformation and employee engagement, the results support partial mediation.

These findings suggest that internal service control improves employee performance indirectly through the dual mechanisms of digital transformation and employee engagement. When the direct effect remains significant after the inclusion of mediation variables, the results show that there is a partial mediation effect. These findings support H6 and H7.

4.4 Discussion

According to the Job Demands-Resources (JD-R) theory (Bakker & Demerouti, 2017), as a key organizational resource, internal service control can effectively improve coordination and reduce operational barriers, thereby improving employee performance. This finding shows that internal service control should not be viewed only as a monitoring mechanism, but as a strategic organizational resource to improve operational efficiency in a service-oriented retail environment. The positive effect of digital transformation confirms the Technology Acceptance Model (Vial, 2019; Razavi & Attarnezhad, 2020; Channuwong et al., 2026), showing that the technology application can significantly improve task efficiency and work performance. This means that digital transformation plays a crucial role in transforming structured internal processes into tangible performance results, and highlighting the importance of keeping the organizational system consistent with technical capabilities.

The mediation analysis shows that the dual mechanisms of technology and psychology work together to transform the internal system into performance improvement. This finding provides empirical support for the parallel mediation structure, showing that digital transformation and employee engagement operate independently, but at the same time transform internal service control into performance improvement.

This finding further confirms the parallel mediating roles of digital transformation and employee engagement in translating internal service control into improved employee performance. For Chinese department stores that are promoting digital transformation, the key to achieving sustainable improvement is to simultaneously strengthen the internal coordination mechanism, improve digital capabilities, and enhance employee engagement. From a management perspective, this shows that organizations should adopt a comprehensive approach, while developing internal control systems, investing in digital infrastructure, and promoting employee engagement to achieve sustainable performance improvement.

Digital transformation and employee engagement do not explain the same process. Digital transformation mainly helps employees work with better systems, smoother information flow, and more efficient task support. Employee engagement, on the other hand, explains the human side of the process, as clearer internal support can make employees more willing to focus on and invest effort in their work. This shows that internal service control improves employee performance through both work-process improvement and employee motivation.

The results confirm that internal service control is a key organizational and information systems resource for improving employee performance in Chinese department stores. H1 was supported, indicating that clear internal processes, dependable interdepartmental support, and efficient information flow directly enhance employee performance. H2 and H3 were also supported, showing that internal service control strengthens both digital transformation and employee engagement. These findings suggest that digital systems are more effective when they are supported by standardized workflows, reliable data exchange, and clear responsibility structures. H4 was supported because digital transformation significantly improved employee performance, confirming that digital platforms, automated processes, cloud systems, and data-based decision support help employees complete tasks more accurately and efficiently. H5 was supported, showing that engaged employees perform better because they are more motivated, focused, and committed to their work. The mediation results further supported H6 and H7. Digital transformation and employee engagement both partially mediated the relationship between internal service control and employee performance. Therefore, all seven hypotheses were accepted. Overall, the findings show that employee performance improves through two complementary pathways: a technological pathway through information system-enabled digital transformation and a psychological pathway through employee engagement.

5. Conclusion

5.1 Theoretical Contributions

This study contributes to service management and digital transformation research by showing how internal service control is linked to employee performance. Instead of treating internal service control as only a direct factor, this study shows that its effect can also pass through digital transformation and employee engagement. This provides a more balanced explanation of how internal systems, digital tools, and employee motivation work together in Chinese department stores. First, the study integrates internal service control, digital transformation, and employee engagement into a unified framework to explain how the formation mechanism of employee performance will work in service-oriented retail organizations. Although existing studies often examine these elements in isolation, this study reveals their synergies and interactions. Secondly, by introducing the (JD-R) theory, this study regards internal service control and digital infrastructure as organizational resources to improve employee motivation and work efficiency. Third, using the Technology Acceptance Model (TAM), this study explains how digital transformation can act as a technical bridge between the internal systems and performance results. These contributions jointly help build a more complete theoretical framework and clarify how the organizational structure, technical means, and psychological mechanisms can jointly affect employee performance.

5.2 Practical Implications

This study has important insights for department store and service industry managers. First of all, enterprises should strengthen the internal service control system by optimizing coordination processes, improving communication channels, and establishing standardized workflows to reduce operational inefficiency. Secondly, enterprises should take the initiative to promote digital transformation and integrate digital tools into daily operations instead of treating them as isolated technical inputs. Third, improving employee engagement through training, support, and participatory management can further improve performance. In general, the research results show that to achieve sustainable performance improvement, organizational systems, digital capabilities, and human resources practices need to work together. For department store managers, the results point to several practical actions. Internal approval, inventory checking, reporting, and cross-departmental communication should be made clearer and easier for employees to follow. Digital systems, such as ERP platforms, inventory systems, internal communication tools, and data dashboards, should be connected with employees' daily work rather than used as separate systems. Managers should also provide hands-on training for the digital tools that employees use most often. At the same time, employees should be encouraged to give feedback on workflow problems and digital system use, so that they can feel more involved in the improvement process.

5.3 Limitations

Although this study has made several contributions, some limitations should be acknowledged as follows:

(1) Cross-sectional research design - This study used a cross-sectional survey design, which collected data at one point in time. Therefore, it limits the ability to establish clear causal relationships among internal service control, digital transformation, employee engagement, and employee performance.

(2) Limited research context - The sample was limited to employees of Chinese department stores in Xi'an. As a result, the findings may not be fully generalizable to other industries, service sectors, regions, or countries with different organizational structures and digital transformation levels.

(3) Use of self-reported data - The study relied on self-reported questionnaire data, which may create common method bias. Respondents may overestimate or underestimate their perceptions of internal service control, digital transformation, engagement, or performance.

5.4 Future Research

Future research may expand this study in several directions as follows:

(1) Use longitudinal or experimental research design - Future studies can adopt a longitudinal or experimental design to examine how internal service control, digital transformation, employee engagement, and employee performance change over time. This would help researchers better understand causal relationships among the variables.

(2) Expand to other industries and regions - Future research can extend the study to other service sectors, such as hotels, restaurants, healthcare, logistics, or e-commerce. Cross-cultural or cross-regional studies may also improve the external validity and generalizability of the findings.

(3) Include additional organizational and behavioral variables - Future studies may add other relevant variables, such as leadership style, organizational culture, employee digital literacy, technical readiness, training effectiveness, or perceived organizational support. These variables may provide a deeper understanding of employee performance in a digital transformation environment.

(4) Use mixed-method research - Future research can combine quantitative surveys with qualitative interviews or case studies. This approach would provide richer insights into how employees experience internal service control and digital transformation in real workplace settings.

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