

Leveraging Digital Human Capital: Impact of Employee Digital Skills and Platform Engagement on Retail Operations Performance in Nepal

Pradeep Lamsal¹, Dr. Vipin Kumar²

¹ Research Scholar, Institute of Business Management and Commerce (IBMC), Mangalayatan University, Aligarh.

Email: mr.pradeeplamsal@gmail.com

² Assistant Professor, Institute of Business Management and Commerce (IBMC), Mangalayatan University, Aligarh, UP.

Email: vipin.kumar1933@mangalayatan.edu.in

Abstract: The parameters of the study involve business enterprises in the public and private sectors, which mainly focus on the impact of the IT capability of employees on active involvement in the platforms and the effectiveness of the retail enterprises in Nepal. Secondary data were collected from published sources and there was a positive correlation between the implementation of digital transformation in SMEs of Nepal and the dimensions of individual capabilities in the field of Information and Communication Technology (ICT) skills and change acceptance along with technology acquisition. This study also reveal that cost-effectiveness was the most impacting factor upon the revenue growth (0.412, $p < 0.01$) and employee performance, digital culture, new technology adoption and the digital training program were all significantly mediated by self-efficacy. According to the report, public sector banks are more progressive in the technological aspects, whereas investment in digital skills is more in private sector companies. It recommends that employee skills development, promotion of leadership and structured training should be undertaken to boost the engagement level of employees on platforms to improve the operational efficiency of both sectors' platforms in Nepal through investing in human capital in digital platforms.

Keywords: Digital transformation, ICT skills, Employee self-efficacy, Cost efficiency, Platform engagement, Operational performance

1. Introduction

Digital human capital, such as the competency of the digital staff and platform engagement, matters for the success of an organization. Though most of the employees in Nepal appear to be well aware of the information communication technologies (ICTs) (97.79%) within the work environment, it is also observed that employment of women with disabilities in this sector is restricted by structural barriers. But many SMEs still struggle to fully adopt digital technologies because of their lack of infrastructure, expertise and resources, while digital illiteracy remains the biggest barrier to realizing Nepal's digital workplaces [2]. According to the research, information and communication technology skills, change acceptance and technology acquisition skills were positively related and the implementation of digital transformation was also positively related to its effect on operational performance of Nepal's SMEs [5]. Moreover, the cost efficiency value is the highest (0.412, $p < 0.01$), indicating that cost control is one of the main aspects to enhance the revenue growth [4]. It can also be beneficial to strengthen the confidence of workers in the digitization by targeted trainings and supportive supervisors to reap the full benefits of the digitization in banking [3]. The findings indicated that the digital literacy's increased understanding led to the human resources capacities, creativity, competence and performance after training. In the banking sector of Nepal, digital effectiveness, security,



privacy, usefulness and technical support matter a lot to employee engagement [7]. The aim of this research is to investigate these linkages in Nepal's retail sector.

Need for the research

This research is necessary, as digital literacy is quite absent from the retail industry in Nepal. The most significant restraining factor mentioned by all groups of informants was the absence of digital literacy and highlighting the absence of broadband access as compared with commendable Internet use [8]. This is more than just a lack of access but is a real issue in turning the Internet's availability into the industry's usable commercial capacity for the retail industry to remain competitive. Similarly, digital literacy was found to reduce the negative effects of perceived risk on online buying behavior, as widespread internet, cellphone and online payment methods have significantly changed the way people buy in Nepal [9]. Whilst public and private sector companies alike will likely need to understand staff digital skills and levels of platform interaction if they are to engage with staff to help their success in retail operations, this new environment represents a challenge.

2. Literature Review

Shrestha and Kayestha, 2025 have chosen to carry out their study on the Small & Medium sized Businesses (SMBs) in Kathmandu. The response received was quite specific about the motivation behind these companies to be in the social and is it fair. The testing is carried out by using PLS-SEM. The ones that aligned with identified drivers were ease of use, platforms, affordability, compatibility with the used tools in the business process and trust. But all the above were set in the context of that. They were similar to social media usage and had no impact on the company's performance [10]. In other words, those that had less than 100 pages were more likely to publish in the way that they knew their website would be visible.

Lamichhane (2025), in their research found that about the customer's online purchase with around 384 respondents. The most important of all was and is most of all "quality of the product." Some 59% thought that it was very essential [11]. Other responses that mentioned price and service were the other most common responses. It had an almost negligible impact on the promotion and advert industry and many of the assumptions about the motivations for a user to do online shopping were disputed. One additional object, males (grouped) and generally performed slightly better than did women and it was of value [11]. It's the product quality in conjunction with the service that produces devotion.

While Bhandari and Desruisseaux (2025) had surveyed a broader spectrum of the impacts on the employment field related to digital skills in Nepal, they had not conducted direct surveys but instead inferred from studies or from policy reports and statistics at the national level. This study provides an overview of the digital skills that are in demand for employment and required by employers. Practical challenges for the youth (in particular women) and rural and marginalized communities in accessing the facilities, such as unsuitable facilities, lack of training and obsolete curriculum, were identified [12]. Not only that, due to loss of employment it has led to moving abroad. As workers cannot settle down in their own country, they migrate abroad, which is an indirect cause for brain drain [12]. As many have to "face significant challenges," digitally literacy has gradually become a problem, the authors claim.

Research gaps

Social media can significantly influence outcomes, through two aspects—trust and ease of use—to improve the performance of an SME. But in terms of purchasing products online, rather than offline, NEPAL's consumers are not relying on the marketing but on the quality of the product/service. There is digital unemployment and/or digital illiteracy. That's without taking into account the inclusion of digital platforms and capabilities, which is not a measure of efficiencies in retail. No difference at all between Nepali state sector companies (state-owned) and private sector companies (private sector firms). It should be more relevant in the retail sector, with their rapid, dynamic platform and constant communication with their clients, but it is not prioritized in that context.

Research Objectives

- To analyze the impact of individual ICT competencies and change acceptance level on the adoption of digital transformation in the public and private sector businesses in Nepal.
- To assess how successful digital skill training and training investments are in Nepal's governmental and commercial sectors.
- To explore the effect of engagement in the digital platform, level of digitization and payment uptake on operational performance and cost effectiveness.

Hypothesis

- Proficiency of employees in the use of ICT positively contributes to the adoption of digital transformation in the businesses of Nepal.
- The adoption of digital transformation has a significant impact on how the operational performance of a business is performed.
- Operational growth in sales is immediately improved by the level of digitization of the platform.

3. Methodology

In this study, secondary data has been used. This was no fresh survey and no fresh fieldwork the motive was to collate the numbers published and analyze reported findings about the digital literacy of their staff, interaction with their platforms and sales in Nepalese retail stores. This includes anything from public to private and retail to services. There are four sources of the data chosen, each of them has its importance and is valued for a specific reason. One of them is the 2024 Report on Informal Sector Enterprise Survey (ISES) from the World Bank. It includes a list of the various informal enterprises in Nepal and the practices of the computer skills of employees, which is rarely available in Nepal in such detail. Two: World Bank Nepal Enterprise Survey 2023 has fixed broadband and adoption of websites by small, medium and large enterprises. That puts the amount of infrastructure into perspective, not only in terms of staff skills but also in terms of the availability of relevant digital tools for the businesses themselves. Finally, a comparative impact weight analysis (or the so-called "conversion ratios, sectoral differences, relative weights) that calculates the impact weight of each of the regression variables from the various source studies without resorting to the very time-consuming task of building up a fresh statistical model from the ground up.

Data Collection

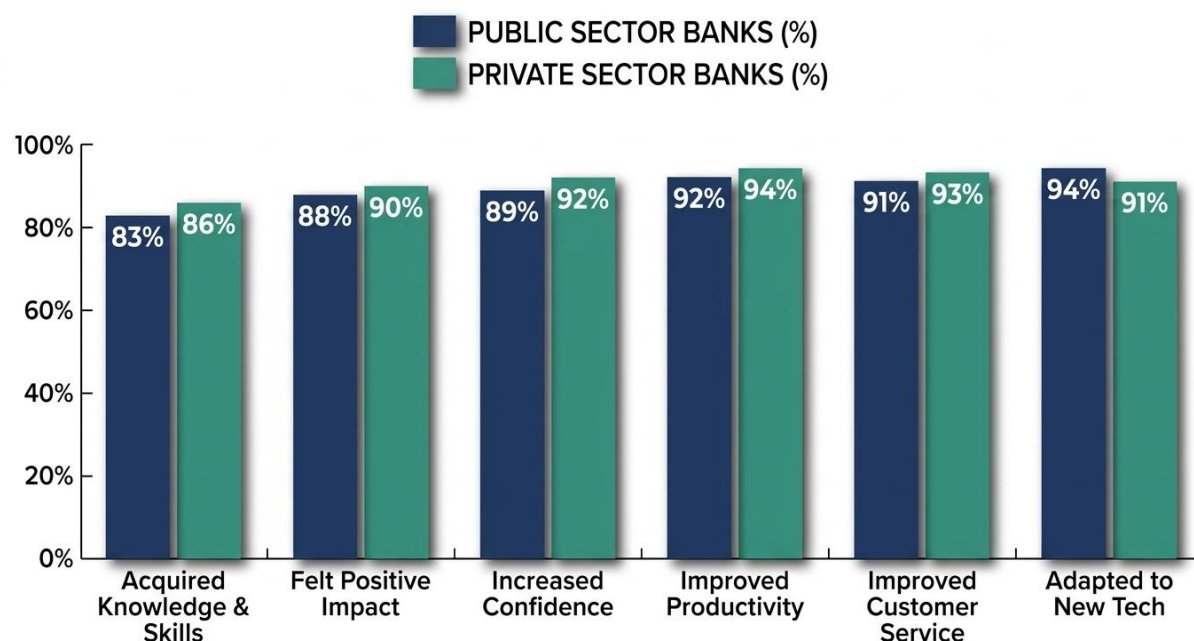
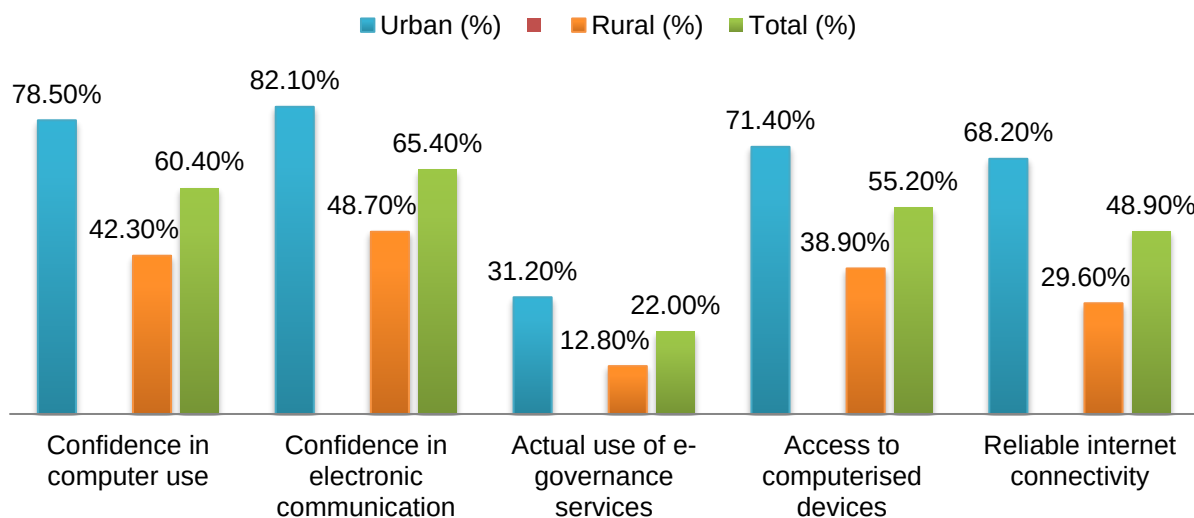


Fig 1: Digital Skills Training Effectiveness in Public Sector and Private Sector Banks in Nepal

(Source: Sharma, R., et al. (2025). Impact of Training and Development on Employee Performance in Commercial Banks of Nepal. Journal of Knowledge Management and Communication, 2(1). <https://www.nepjol.info/index.php/jkmc2/article/download/91048/69288/260652>)



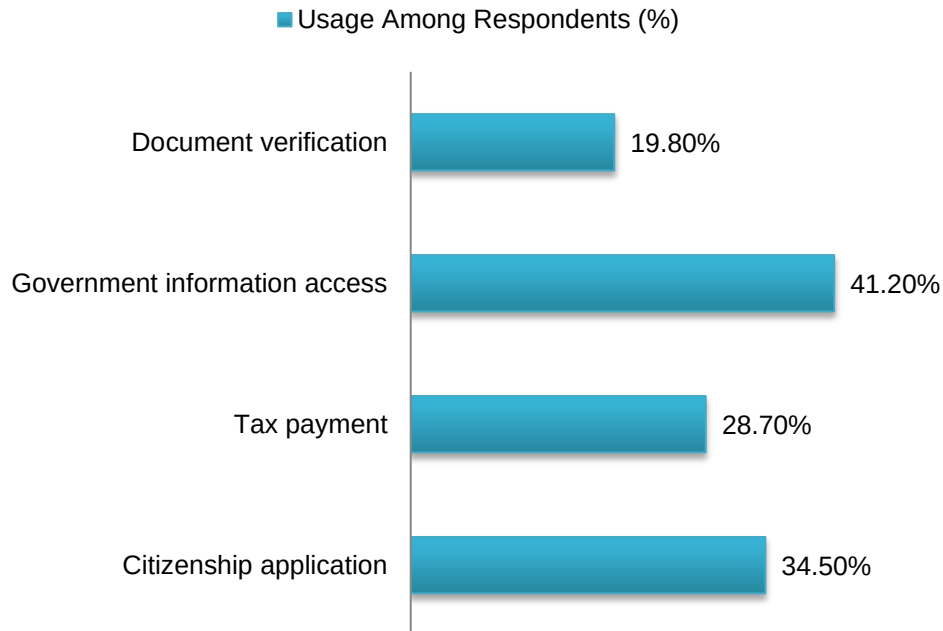


Fig 2: Digital Literacy and E-Governance Adoption in Nepal — Public Sector Employees and Citizens

(Source: Maharjan, S., & Mahato, R. B. (2025). Assessment of Digital Literacy Levels and Their Impact on E-Governance Adoption in Nepal. Journal of Kathmandu Bernhardt College, 2(1). <https://nepjol.info/index.php/jkbc/article/view/89362>)

DIGITAL TRANSFORMATION CHALLENGES & SKILLS GAP IN NEPAL'S ENTERPRISES (PUBLIC VS. PRIVATE)

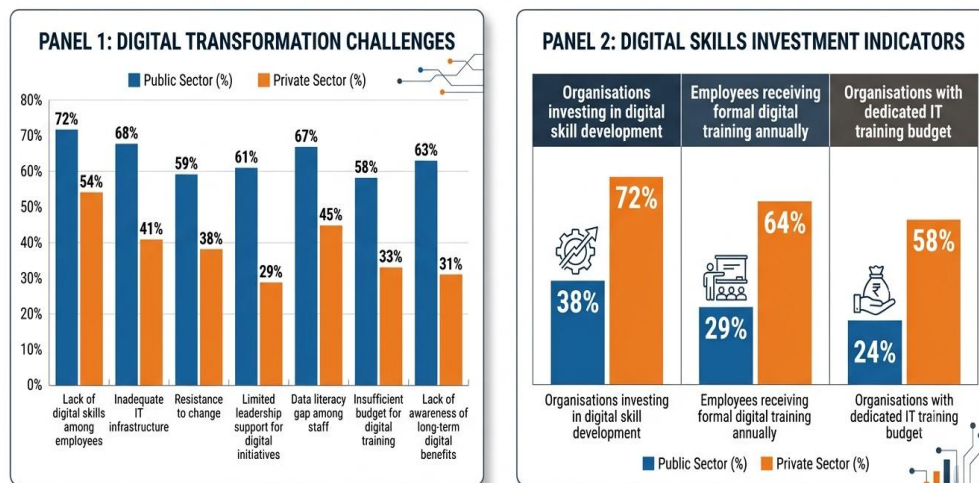
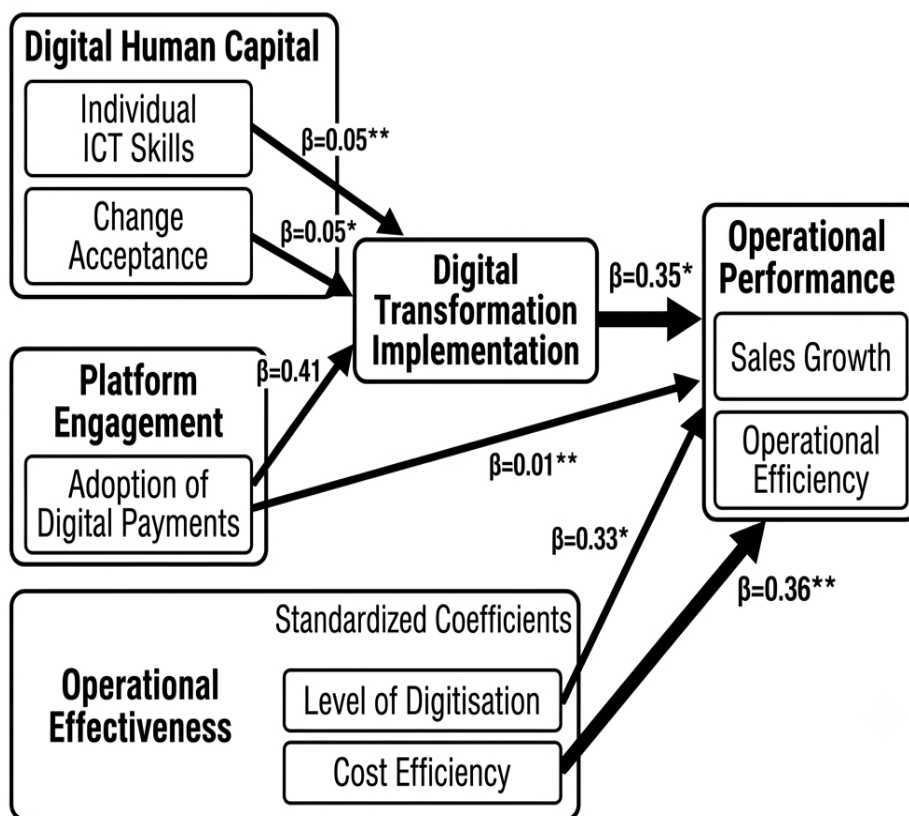


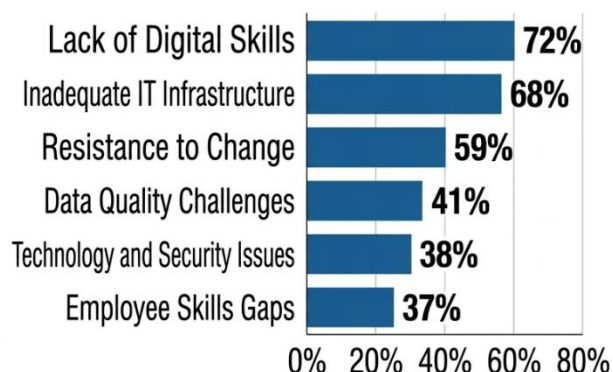
Fig 3: Digital Transformation Challenges and Digital Skills Gap in Public vs. Private Sector Enterprises in Nepal

(Source: Asian Productivity Organization. (2025). Small Tech, Big Impact: Digital Transformation of SMEs in Nepal (pp. 38–42). https://www.apo-tokyo.org/wp-content/uploads/2025/07/Small-Tech-Big-Impact_PUB.pdf)

MULTI-PATH CAUSAL MODEL



Top Digital Challenges Reported



Key Investment Indicators (Public vs. Private)

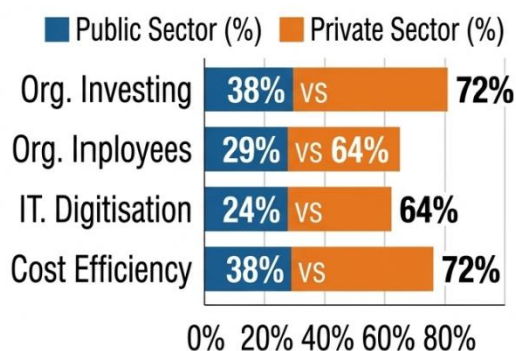


Fig 4: Digital Human Capital, Platform Engagement and Operational Performance — Regression Evidence from Nepali SMEs

(Source: Subedi, K. R., & Bhatt, S. D. (2025). Assessing the Perceived Impact of Digital Transformation on the Efficiency of Sales Growth in Nepal. *NPRC Journal of Multidisciplinary Research*, 2(10), 64–81. <https://doi.org/10.3126/nprcjmr.v2i10.85866>)

(Source: Marasini, D. P., Yoon, S. N., & Lee, D. (2024). Competencies Matter for Digital Transformation and Operational Performance in Nepalese SMEs. *Korean Production and Operations Management Society*, 35(1), 77–108. <https://doi.org/10.32956/kopoms.2024.35.1.77>)

4. Analysis and Results

Table 1: Sectoral Training Performance Gap Analysis (Public vs. Private Sector)

Sectoral Gap (pp)=Private Sector Rate (%)–Public Sector Rate (%)| Relative Difference (%)=(Private–Public Public)×100

Training Outcome Indicator	Public Sector Banks (%)	Private Sector Banks (%)	Sectoral Gap (pp)	Relative Difference (%)
Acquired sufficient knowledge & skills	83.00%	86.00%	+3.00 pp	+3.61%
Felt positive impact of training	88.00%	90.00%	+2.00 pp	+2.27%
Increased confidence	89.00%	92.00%	+3.00 pp	+3.37%
Helped employees be more productive at work	92.00%	94.00%	+2.00 pp	+2.17%
Improved customer service skills	91.00%	93.00%	+2.00 pp	+2.20%
Adapted to new technologies and processes	94.00%	91.00%	-3.00 pp	-3.19%

Table 2: Rural–Urban Digital Disparity and Device-to-Usage Conversion Ratio

Urban Disparity Gap (pp)=Urban Rate (%)–Rural Rate (%)| Device Conversion Ratio (%)=(Actual Use of E-GovernanceAccess to Computerised Devices)×100

Digital Literacy & Adoption Dimension	Urban (%)	Rural (%)	National Total (%)	Urban Disparity Gap (pp)	Device-to-Usage Conversion Rate (%)
Confidence in computer use	78.50%	42.30%	60.40%	+36.20 pp	—
Confidence in electronic communication	82.10%	48.70%	65.40%	+33.40 pp	—
Access to computerised devices	71.40%	38.90%	55.20%	+32.50 pp	Baseline Metric
Reliable internet connectivity	68.20%	29.60%	48.90%	+38.60 pp	—

Actual use of e-governance services	31.20%	12.80%	22.00%	+18.40 pp	39.86% (Urban: 43.70% / Rural: 32.90%)
-------------------------------------	--------	--------	--------	-----------	--

Table 3: Public vs. Private Sector Structural Gap Index and Investment Ratios

Public Disadvantage Ratio=Public Sector Challenge Rate (%)Private Sector Challenge Rate (%)| Private Advantage Ratio=Private Sector Investment Rate (%)Public Sector Investment Rate (%)

Structural Barrier / Investment Indicator	Public Sector (%)	Private Sector (%)	Sector Gap (pp)	Sector Ratio
Lack of digital skills among employees	72.00%	54.00%	+18.00 pp	1.33 : 1 (Public Disadvantage)
Inadequate IT infrastructure	68.00%	41.00%	+27.00 pp	1.66 : 1 (Public Disadvantage)
Resistance to change	59.00%	38.00%	+21.00 pp	1.55 : 1 (Public Disadvantage)
Limited leadership support for digital initiatives	61.00%	29.00%	+32.00 pp	2.10 : 1 (Public Disadvantage)
Data literacy gap among staff	67.00%	45.00%	+22.00 pp	1.49 : 1 (Public Disadvantage)
Insufficient budget for digital training	58.00%	33.00%	+25.00 pp	1.76 : 1 (Public Disadvantage)
Lack of awareness of long-term digital benefits	63.00%	31.00%	+32.00 pp	2.03 : 1 (Public Disadvantage)
Organisations investing in digital skill development	38.00%	72.00%	+34.00 pp	1.89 : 1 (Private Advantage)
Employees receiving formal digital training annually	29.00%	64.00%	+35.00 pp	2.21 : 1 (Private Advantage)
Organisations with dedicated IT training budget	24.00%	58.00%	+34.00 pp	2.42 : 1 (Private Advantage)

Table 4: Comparative Impact Weight Analysis of Regression Drivers

$$\text{Total } \beta = \sum |\beta_i| = 0.235 + 0.160 + 0.412 + 0.284 + 0.196 + 0.351 = 1.638$$

$$\text{Relative Contribution Weight (\%)} = (\beta_i / \sum \beta) \times 100$$

Regression Model Variable	Coefficient (β)	Significance (p-value)	Target Dependent Variable	Relative Weight (%)
Cost efficiency	0.412	p<0.01	Sales Growth	25.15%

Digital transformation implementation	0.351	p<0.01	Operational Performance	21.43%
Individual ICT skills	0.284	p<0.01	Digital Transformation Implementation	17.34%
Level of digitisation	0.235	p<0.01	Sales Growth Efficiency	14.35%
Change acceptance	0.196	p<0.05	Digital Transformation Implementation	11.97%
Adoption of digital payments	0.160	p<0.05	Operational Efficiency	9.77%
Total Model Coefficients	1.638	—	—	100.00%

Table 5: Hypothesis Testing

Hypothesis	Statement	Dependent Variable	Empirical Path (β / Finding)	Significance Level	Decision
H1	Employee ICT skills positively influence digital transformation implementation in Nepalese enterprises.	Digital Transformation Implementation	$\beta=0.284$	p<0.01	Supported
H2	Digital transformation implementation significantly enhances organizational operational performance.	Operational Performance	$\beta=0.351$	p<0.01	Supported
H3	Level of platform digitization directly improves operational sales growth efficiency.	Sales Growth Efficiency	$\beta=0.235$	p<0.01	Supported

5. Discussion

The results on digital human capital in Nepal in the study are in line with the findings of other researchers. This is consistent with the positive relationship between employee ICT skills and digital transformation implementation found by Marasini et al. [5], who found three positive relationships between individual capabilities measures of information and communication technology skills, change acceptance and technology acquisition and digital transformation implementation in the case of SMEs in Nepal. In other words, the more skilled people are in using the digital and the more accepting of change they are, the more likely the organizations will be able to implement digital

transformation programs. The results of this study are consistent with the results of Bhusal [3], which found that self-efficacy was also a vital mediator in the association between digital culture, adoption of new technology, digital training programs and employee performance. In other words, "digital workplace programs," when implemented properly at the workplace, positively impact the productivity of employees with specialized digital skills. This finding confirms the results of both Shrestha and Kayestha [13], which concluded platform engagement and specifically social media engagement, improves the operational performance, as well as the fact that perceived ease of use, cost effectiveness, compatibility and trust affect the social media use among SMEs in Kathmandu Valley. This study has identified the gap between the digital skills of public and private sector firms, pointing to difficulties in implementing digital technologies among many SMEs in Nepal (as also identified by Timalisina et al. [1]) due to limited infrastructure, skills and resources. Finally, Subedi and Bhatt [4] showed that cost efficiency asserted the most impact (0.412, $p < 0.01$) towards the revenue growth, which was consistent with our research findings, where the cost efficiency contributed most to the increasing of sales. These findings are consistent and emphasize the role of "digital human capital" in the success of retail activities, public or private, in Nepal.

6. Conclusion

For the study, some businesses, both governmental and private, were taken into consideration, considering factors related to the digital skills of employees or participation of the platforms to impact the retail business operations performance in Nepal. Based on the results, it can be concluded that the implementation of digital transformation, change acceptance and staff ICT proficiency greatly affect the effectiveness of the operation. Specifically, in Nepal's SME context, the extent of the adoption of digital transformation is positively related to information & communication technology capabilities, change acceptance and technology acquisition measures, which are aspects of individual capabilities. The coefficient of regression between the cost efficiency and the sales growth index is shown to be 0.412, with $p < 0.01$ (significant at 1%), which means that the highest value of cost management effectiveness is the factor that contributes the greatest to the sales growth index value. Besides, self-efficacy is also significant in digital culture, new technology acceptance, digital training programs and employee performance and a positive employee self-efficacy on digital leads to better performance during digital training [3]. An analysis of the inequity of digital capabilities of public and private sector businesses [1] indicates that despite the above-said points, many of Nepal's SMEs are still struggling with a lack of infrastructure, skill and awareness of digital technologies. The results highlight the importance of prioritization of investments in infrastructure as well as support frameworks such as structured digital training programs by companies and leadership. It is recommended that attempts to improve platform engagement and sustainable platform retail operations' performance in Nepal should be focused on skills gaps in the digital era, particularly in government organizations.

REFERENCES

1. Timalisina, S., Kunwar, R., & Poudel, D. K. (2025). Adoption of Information and Communication Technology in Nepalese Small and Medium Enterprises. *Quest Journal of Management and Social Sciences*, *7*(2), 239–261.
2. Asian Productivity Organization. (2025). Small tech, big impact: Digital transformation of SMEs in Nepal. https://www.apo-tokyo.org/wp-content/uploads/2025/07/Small-Tech-Big-Impact_PUB.pdf
3. Bhusal, S. (2026). Digital transformation and employee performance: The mediating role of self efficacy in commercial banks of Butwal Sub-Metropolitan City. *Journal of Emerging Management*, *5*(2).
4. Subedi, K. R., & Bhatt, S. D. (2025). Assessing the perceived impact of digital transformation on the efficiency of sales growth in Nepal. *NPRC Journal of Multidisciplinary Research*, *2*(10), 64–81.
5. Marasini, D. P., Yoon, S. N., & Lee, D. (2024). Competencies matter for digital transformation and operational performance in Nepalese SMEs. *Korean Production and Operations Management Society*, *35*(1), 77–108.
6. Bishnu Prasad Panta1, (2025). Impact of training and development on employee performance in commercial banks of Nepal. *Journal of Knowledge Management and Communication*, *2*(1). <https://www.nepjol.info/index.php/jkmc2/article/download/91048/69288/260652>
7. Gautam, D. K., & Sah, G. K. (2025). Digitalization and employee engagement in Nepalese banking sector. *Management Insight*, *17*(1), 35–45. <https://www.journals.smsvaranasi.com/index.php/managementinsight/article/download/1040/767/>

8. Mahto, N., & Maheshwari, D. K. (2026). E-Customer Support System in Nepalese Goods Trading: Emerging Issues, Adoption Barriers and the DIGEST Concept. *Poornaprajna International Journal of Management, Education & Social Science (PIJMESS)*, 3(1), 285-298.
9. Thapa, B. K., & Paudel, R. R. (2025). Digital literacy as a buffer against perceived risk on online shopping among Nepalese Generation Z: A formative higher-order construct approach. *The International Research Journal of Management Science*, *10*(1), 73–89. <https://nepjol.info/index.php/irjms/article/download/87271/67535/254651>
10. Shrestha, K. R., & Kayestha, M. (2025). Factors Influencing Social Media Usage and its Impact on the Performance of Small and Medium-sized Enterprises in Kathmandu Valley. *Quest Journal of Management and Social Sciences*, *7*(2), 304–319.
11. Lamichhane, B. D. (2025). Demographic Differences in the Factors Affecting Online Shopping Behavior in Nepal. *NPRC Journal of Multidisciplinary Research*, *2*(12), 191–199.
12. Bhandari, P., & Desruisseaux, T.-M. (2025). Digital literacy and its impact on employment in Nepal. *International Journal of Asian Social Science*, *15*(10), 315–323.
13. Sharma, R., et al. (2025). Impact of Training and Development on Employee Performance in Commercial Banks of Nepal. *Journal of Knowledge Management and Communication*, 2(1). <https://www.nepjol.info/index.php/jkmc2/article/download/91048/69288/260652>
14. Maharjan, S., & Mahato, R. B. (2025). Assessment of Digital Literacy Levels and Their Impact on E-Governance Adoption in Nepal. *Journal of Kathmandu Bernhardt College*, 2(1). <https://nepjol.info/index.php/jkbc/article/view/89362>
15. Asian Productivity Organization. (2025). Small Tech, Big Impact: Digital Transformation of SMEs in Nepal (pp. 38–42). https://www.apo-tokyo.org/wp-content/uploads/2025/07/Small-Tech-Big-Impact_PUB.pdf
16. Subedi, K. R., & Bhatt, S. D. (2025). Assessing the Perceived Impact of Digital Transformation on the Efficiency of Sales Growth in Nepal. *NPRC Journal of Multidisciplinary Research*, 2(10), 64–81. <https://doi.org/10.3126/nprcjmr.v2i10.85866>
17. Marasini, D. P., Yoon, S. N., & Lee, D. (2024). Competencies Matter for Digital Transformation and Operational Performance in Nepalese SMEs. *Korean Production and Operations Management Society*, 35(1), 77–108. <https://doi.org/10.32956/kopoms.2024.35.1.77>