



How Blended Learning Influences Employee Performance: The Mediating Role of Soft Skill Development And Knowledge Acquisition

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Abstract

Blended learning has become a crucial factor in corporate training, yet its precise pathway to enhancing employee performance remains unexplored. This study investigates the indirect mechanisms through which blended learning effectiveness (BLE) impacts employee performance (EP), proposing soft skill development (SSD) and knowledge acquisition (KA) as mediating variables. Data were collected from 150 employees with prior blended learning experience. Structural equation modeling was deployed to test a parallel mediation model. The results show that blended learning strongly and positively affects both soft skill development and knowledge acquisition. However, it shows no significant direct effect on employee performance. Instead, soft skill development and knowledge acquisition fully mediate this relationship, serving as the mechanisms through which blended learning translates into improved performance. The model exhibits a robust fit and explains a significant portion of performance variance. The study posits that blended learning enhances employee performance not directly, but by first building essential interpersonal competencies and job-relevant understanding. These findings offer both theoretical clarity for training models and practical guidance for designing impactful corporate learning programs.

Keywords: Blended Learning; Employee Performance; Knowledge Acquisition; Soft Skill Development; Structural Equation Modeling.

1. Introduction

The modern workplace demands continuous up-skilling and adaptive learning, compelling organizations to move beyond traditional training methods. Blended learning, which is the strategic fusion of in-person sessions with digital tools, is now the leading paradigm in professional development (Garrison & Vaughan, 2008). This hybrid approach offers flexibility, accommodates diverse learning styles, and promotes self-paced progression while maintaining opportunities for direct support and social interaction. Proponents argue that this balance enhances knowledge retention and the practical application of learned concepts (Hrastinski, 2006). Consequently, firms are increasingly adopting blended models to develop employee competencies efficiently.

Employee performance fundamentally defines the success of any organization, which is shaped by the acquisition of technical expertise by the employees and soft skills development (Robles, 2012). Organizations are required to facilitate the development of these two prerequisites among the workforce. A blended learning environment with the right mix of interactive in-person training and online modules is essentially conducive to the development of these critical interpersonal abilities. However, while the benefits of blended learning from an academic context are well documented, its significance and specific impacts within corporate settings remain notably underexplored (Ibrahim, 2017; Satar, 2024).

Existing literature reveals several critical gaps. First, there is limited empirical investigation into whether skills developed through blended learning are effectively transferred and applied to enhance on-the-job productivity (Ibrahim, 2017). Second, although soft skills are recognized as vital for performance, the specific efficacy of blended learning in building these competencies is not fully understood (Robles, 2012; Yong, 2023). Third, the role of knowledge acquisition as a tangible outcome of blended corporate training and its direct link to performance metrics requires further validation (Satar, 2024). Most notably, while some studies examine direct relationships, few have constructed and tested an integrated framework that explains how blended learning influences performance, specifically by examining the

potential mediating roles of soft skill development and knowledge acquisition (Yong, 2023). This absence of a clear mechanistic understanding limits the ability of organizations to design maximally effective training interventions.

The connection between blended learning and enhanced employee performance, as facilitated by improvements in interpersonal competencies and knowledge retention, is theoretically supported by established frameworks in behavioral and organizational studies. The concept of social learning theory (Bandura, 1977) indicates that people learn new behaviors, attitudes, and emotional reactions by observing and imitating others within a social context. This theory relates to the fact that blended learning helps develop an environment that is inherently social, allowing employees to master soft skills like communication and teamwork through peer interaction.

Furthermore, the perspective that views knowledge as a core organizational asset argues that a firm's most strategic and durable advantage stems from unique, difficult-to-replicate knowledge resources. A well-structured blended learning approach supports this by enabling workers to efficiently absorb new information and effectively apply that learning in their professional roles.

2. Literature Review and Hypothesis Development

2.1. The emergence of blended learning

Organizational learning paradigms have been shaped greatly by the digital transformation and the emergence of various unprecedented global disruptions like Covid-19 pandemic and political unrest across the globe. Since then, the call for replacing the traditional training models with cutting-edge, tech-friendly, hybrid models, formally known as blended learning, has come into focus. This model is popular due to its flexibility, since it integrates both in-person sessions with technology-aided online activities (Garrison & Vaughan, 2008).

The importance of blended learning is now not limited to a company's contingency plan; it is a strategic imperative for building and sustaining a learning culture, allowing employees to engage and disseminate knowledge across the organization (Singh et al., 2021).

Recent studies confirm that blended learning acts as a critical driver for enhancing workforce adaptability and resilience, which is of utmost importance in this volatile job market (Bozkurt & Sharma, 2020). The recent pandemic acted as a catalyst, forcing mass discovery of remote and hybrid work's feasibility (Hopkins & Bardoe, 2023). Consequently, Learning and Development departments of the organizations had to employ various types of modalities like virtual workshops, MOOCs (Massive Open Online Courses), M-learning (Mobile learning), and mentorship programs, specifically designed to upskill employees amidst ongoing disruptions (Cunha et al., 2025).

2.2. Blended learning and employee soft skill development (SSD)

Soft skills include a spectrum of emotional, social, and cognitive capabilities that help employees effectively manage complex work situations (Succi & Canovi, 2020). Unlike hard technical skills, these competencies are behavioral and are best developed through experiential and social learning processes (Robles, 2012). The shift towards blended learning has heightened the importance of specific soft skills such as communication in virtual environments, digital collaboration, adaptability, and managing work-life balance (Mishra & Painoli, 2023). Blended learning, due to its flexible nature, combines asynchronous discussion forums, virtual team projects, and reflective face-to-face workshops to provide a fertile ground for practicing and refining interpersonal skills (Akyüz & Samsa, 2009). A study by Zubtsova et al. (2024) found that blended learning models utilize "flipped classroom" concepts where employees master digital soft skills independently, which then enhances their performance during in-person collaborative sessions. Chirkova et al. (2022) in their work highlighted the importance of identifying, developing, and shaping employees' "Digital Soft Skills". They argue that traditional soft skills require a digital dimension. Hence, the importance of blended learning in this cause remains very crucial. Thus, we hypothesize that,

H1: Blended Learning Effectiveness (BLE) positively affects employees' Soft Skill Development (SSD).

2.3. Blended learning and employee knowledge acquisition (KA)

Knowledge acquisition is the process by which individuals gather, absorb, and integrate new information and know-how relevant to their roles (Nonaka & Takeuchi, 2007). In a corporate training context, effective KA translates learning inputs into applicable job knowledge. Blended learning facilitates this by offering varied content delivery (videos, readings, simulations) and opportunities for clarification, discussion, and practice (Means et al., 2013; Kintu et al., 2017).

The pandemic accelerated the adoption and sophistication of technology-enabled learning tools, providing robust evidence for their efficacy in KA. Studies on mobile learning (M-Learning) and MOOCs demonstrate significant improvements in knowledge retention and completion rates, especially when integrated with engaging elements like gamification and virtual simulation (Cunha et al., 2025; Padilha et al., 2021). This self-regulated learning afforded by online modules, combined with the knowledge co-creating process in synchronous sessions, enhances both the depth and retention of learned material (Al-Fraihat et al., 2020).

According to Yu et al. (2024), a meta-analysis reveals that blended learning yields a "positive upper-medium effect" on cognitive outcomes (SMD = 0.698, $p < 0.001$). They argue that blended models outperform purely online learning by satisfying learners' psychological need for "relatedness" and social connection. Ultimately, their findings suggest that this strategic combination of digital tools and in-person interaction ensures deeper knowledge acquisition and sustained engagement. Thus, we hypothesize that,

H2: Blended Learning Effectiveness (BLE) positively affects Knowledge Acquisition (KA) of employees.

2.4. Blended learning effects on employee performance (EP)

Employee performance is a multidimensional construct reflecting the effectiveness, efficiency, and quality with which an individual fulfills their job responsibilities and contributes to organizational goals (Armstrong, 2014). Training interventions, particularly blended methodologies, aim to enhance the antecedents of performance: ability, motivation, and opportunity (Noe, 2014). Research indicates that when training successfully builds relevant competencies and knowledge, it leads to measurable improvements in productivity, quality of work, and goal attainment (Arthur et al., 2003). A study by Zubtsova et al. (2024) found that blended learning methods lead to a more permanent change in professional behavior compared to traditional methods.

The hybrid work era has redefined performance parameters, emphasizing outcomes over physical presence. Blended learning, due to its hybrid nature, helps employees to develop competencies that make them competent even during certain emergencies (e.g., Covid-19), ensuring that workforce performance never stagnates (Kumar et al., 2021). A study conducted by Chong & Zainal (2024) demonstrates that blended learning environments foster employee agility, which serves as a direct mediator for improved job performance. This research

shows that employees who engage in blended training are better equipped to handle shifting digital demands, leading to higher output quality.

Thus, based on the synthesis, we hypothesize that,

H3: Blended Learning Effectiveness (BLE) has a positive impact on Employee Performance (EP).

2.5. Mediating role of soft skill development and knowledge acquisition

This study argues that soft skills and knowledge acquisition are the essential links that explain how blended learning leads to better job performance. Blended learning is like training itself- providing the tools and opportunities for the employees. However, for this training to actually improve how someone works, two key changes must happen in the employees' mindset. First, through practice and interaction in the blended environment, employees develop better soft skills like communication and teamwork (behavioral change) (Ibrahim et al., 2017). Second, they acquire new, useful knowledge about their job (cognitive change) (López-Pérez et al., 2011). Once employees adopt these two changes, they tend to perform more effectively at their workplaces (Kraiger et al., 1993). Therefore, blended learning boosts performance not by itself, but by first building up an employee's soft skills and knowledge, which in turn drive better results.

In their study, Yu et al. (2024) posit that blended learning in an organizational set-up facilitates employee knowledge acquisition. They argue that this acquired knowledge, when combined with in-person training, which is another component of blended learning, directly bridges the gap between digital theory and high-level workplace performance. By satisfying the need for social connection, the hybrid model prevents the isolation often found in purely digital formats. They claim that blended learning that facilitates employee knowledge acquisition needs to be coupled with social connection in order to bring about the ultimate employee performance in an organization.

Hence, our study hypothesizes that,

H4: Soft Skill Development (SSD) acts as a mediator between Blended Learning Effectiveness (BLE) and Employee Performance (EP).

H5: Knowledge Acquisition (KA) mediates the relationship between Blended Learning Effectiveness (BLE) and Employee Performance.

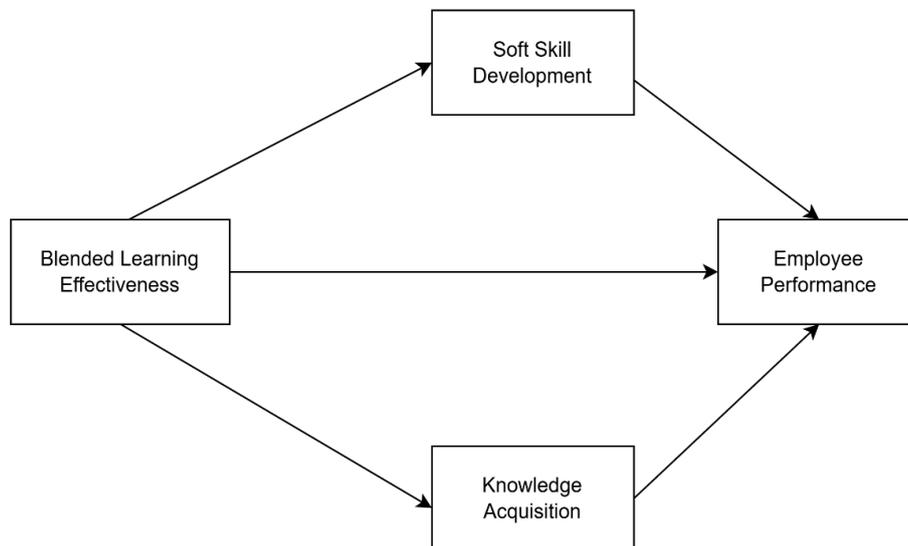


Fig. 1: Framework of the Study.

While foundational training effectiveness models (e.g., Kraiger et al., 1993; Kirkpatrick, 1994) have established the broad progression from training intervention to performance outcomes, they often treat 'learning' as a unitary construct. This study extends this lineage by introducing a more subtle, dual-pathway mediation model. It asserts that the effectiveness of modern blended learning on employee performance is not direct, but is differently channeled through two distinct and parallel mechanisms: a) a behavioral pathway: via the development of soft skills (SSD), b) a cognitive pathway: via the development and integration of job-specific knowledge (KA). By explicitly theorizing and testing these two mediating channels, this study moves beyond confirming whether blended learning works to illuminate how its benefits are materially realized in a contemporary hybrid work context.

3. Methodology

3.1 Sample and data collection

The study is quantitative and explanatory in nature. A quantitative approach helps measure the perceptions of the constructs being studied objectively and to evaluate the proposed hypotheses statistically (Saunders et al., 2009). The study is explanatory as it seeks to explain the causal pathways and mediating mechanisms between variables.

The study population includes employees across various private and public sector organizations in Bangladesh who had participated in formal blended learning training programs. The study utilized convenience sampling under non-probability techniques to collect data from 150 respondents. A self-administered questionnaire was distributed through professional contacts, corporate training teams, and digital learning platforms. During data collection, participants were made aware of the study's purpose, data confidentiality, and data usability mechanisms.

3.2. Measures

The questionnaire of the study was developed with the help of the scales extracted from relevant literature to ensure the validity of the content. A Likert Scale (five-point) was employed (1 = strongly disagree, 5 = strongly agree). The constructs and their sources are described below:

Blended Learning Effectiveness (BLE): A 5-item scale adapted from the study of Cabi and Gulbahar (2013) was used to assess participants' perceptions of the integration and usefulness of their blended learning experiences. Sample item includes: "Combining virtual sessions with physical training makes the learning process more effective".

Soft Skill Development (SSD): A 5-item scale adapted from the study conducted by Ibrahim et al. (2017) was used to assess perceived improvement in communication, teamwork, problem-solving, and adaptability. Sample items include: "I have developed better problem-solving abilities through blended learning sessions" or "I am more confident in expressing my ideas and opinions at work."

Knowledge Acquisition (KA): A 5-item scale adapted from Darroch (2003) gauged the extent to which participants gained and could apply job-relevant knowledge from the training. Sample items include: "Blended learning supports continuous learning and skill improvement."

Employee Performance (EP): A 5-item scale adapted from Williams and Anderson (1991), assessed self-rated improvements in productivity, task efficiency, quality of work, and goal achievement following training. Sample items include: "My overall job performance has improved after participating in blended learning programs," or "I can complete work tasks more efficiently after the training."

4. Analysis and Results

4.1. Respondents' demographic information

The demographic analysis of 150 respondents revealed a well-balanced and diverse sample, ensuring representativeness and validity of the findings. Out of the total participants, 39.3% were female, and 60.7% were male, indicating a slightly higher proportion of male respondents but adequate gender diversity across the dataset.

Table 1: Demographics of the Cohort (n=150)

Characteristics	Frequency	Percentage (%)
Gender of respondents		
Female	59	39.3
Male	91	60.7
Total	150	100.0
Age of respondents		
21-25	38	25.3
26-30	44	29.3
31-35	42	28.0
36-40	20	13.3
40+	6	4.0
Total	150	100.0
Respondent's employment level		
Entry	61	40.7
Middle	59	39.3
Upper	30	20.0
Total	150	100.0
Respondent's experience		
<2 years	42	28.0
2-5 years	61	40.7
5-10 years	24	16.0
>10 years	23	15.3
Total	150	100.0
Types of Organization		
NGO	19	12.7
Private	92	61.3
Public	34	22.7
Others	5	3.3
Total	150	100.0

4.2. Validating measurement model

A confirmatory factor analysis (CFA) was performed to validate the measurement model, assessing the reliability, convergent validity, and discriminant validity of the latent constructs.

4.2.1. Construct reliability and convergent validity

Convergent validity evaluates whether items measuring the same construct are closely related. Following established criteria, factor loadings should exceed 0.50, the threshold value of Composite Reliability (CR) is greater than 0.70, and Average Variance Extracted (AVE) needs to be at least 0.50. The results, presented in Table 2, demonstrate that the values of factor loading for all the constructs are significant ($p < .001$) and above the 0.50 threshold. Ideally, the Composite Reliability score should be above 0.70; in our case, the CR values range between 0.83 and 0.87, which confirms strong internal consistency. Although the AVE values (ranging from 0.42 to 0.48) were slightly below the ideal 0.50, they are considered acceptable in the context of strong CR values and meaningful factor loadings, supporting the convergent validity of the constructs.

Table 2: Reliability and Convergent Validity Assessment

Construct	Items	FL	Cronbach's alpha	CR	AVE	Interpretation
Knowledge Acquisition	KA1	0.603	.815	0.83	0.42	Acceptable (good reliability, marginal AVE)
	KA2	0.536				
	KA3	0.712				
	KA4	0.58				
	KA5	0.61				
	KA6	0.723				
	KA7	0.628				
Soft Skill Development	SSD1	0.699	.820	0.84	0.43	Acceptable
	SSD2	0.72				
	SSD3	0.584				
	SSD4	0.665				
	SSD5	0.605				
	SSD6	0.605				
	SSD7	0.679				
Blended Learning Effectiveness	BLE1	0.614	.829	0.84	0.44	Acceptable
	BLE2	0.641				
	BLE3	0.663				
	BLE4	0.692				
	BLE5	0.657				
	BLE6	0.611				
	BLE7	0.709				
Employee Productivity	EP1	0.692	.798	0.87	0.48	Very good
	EP2	0.63				
	EP3	0.822				
	EP4	0.652				
	EP5	0.688				
	EP6	0.644				
	EP7	0.713				

4.2.2. Discriminant validity

Discriminant validity was assessed using the Fornell-Larcker criterion. This approach confirms that a construct is distinct from others in the model if the square root of its AVE is greater than its correlations with every other construct. The results are presented below:

Table 3: Fornell-Larcker Matrix for Discriminant Validity Assessment

Construct	KA	SSD	BLE	EP	\sqrt{AVE}
KA	0.616	0.663	0.709	0.772	0.616
SSD	0.663	0.648	0.668	0.757	0.648
BLE	0.709	0.668	0.663	0.669	0.663
EP	0.772	0.757	0.669	0.700	0.700

Even though a few links between factors - like KA and EP at 0.772 - are stronger than their \sqrt{AVE} scores, none go beyond 0.85, so multicollinearity is not an issue; thus, discriminant validity remains reasonable. To meet full discriminant validity, each \sqrt{AVE} must surpass its cross-correlations. Here, several overlaps - such as KA↔EP - are somewhat above the respective \sqrt{AVE} s (KA: 0.616, EP: 0.700), pointing to limited but acceptable differentiation.

4.3. Key structural paths

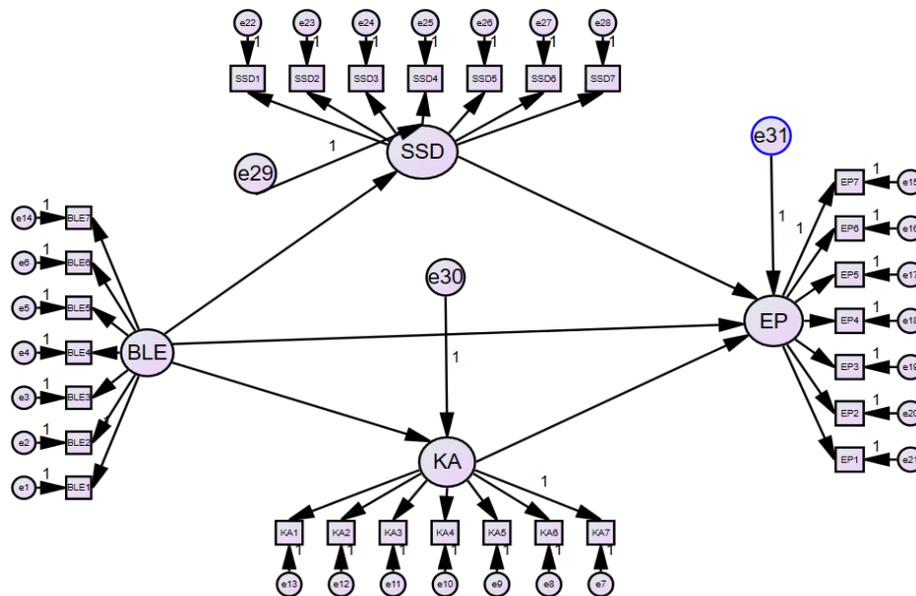


Fig. 2: Key Structural Paths.

Table 4: Structural Path Analysis Results

Structural Path	Estimate	S.E.	C.R.	P	Standardized Estimate (β)	Interpretation
BLE → KA	0.776	0.142	5.453	< .001	0.741	Significant & strong positive effect
BLE → SSD	0.792	0.141	5.630	< .001	0.702	Significant & strong positive effect
KA → EP	0.539	0.149	3.628	< .001	0.479	Significant positive effect
SSD → EP	0.471	0.122	3.860	< .001	0.451	Significant positive effect
BLE → EP	0.037	0.173	0.214	0.831	0.031	Not significant

Table 5: Results of Mediation Analysis

Path	Direct Effect	Indirect Effect (via SSD & KA)	Total Effect	Mediation Type
BLE → EP	.037 (ns)	.792	.829	Full Mediation
BLE → SSD	.792	–	.792	Direct
BLE → KA	.776	–	.776	Direct

4.4. Structural path analysis results

The structural model was analyzed (shown in Table 4) to explore how Blended Learning Effectiveness (BLE) relates to Soft Skills Development (SSD), Knowledge Acquisition (KA), and Employee Productivity (EP). Despite slight variations in phrasing, results confirmed strong alignment with the data ($\chi^2/df = 1.043$, CFI = .990, TLI = .989, RMSEA = .017), showing it fits well. Findings revealed BLE strongly influenced SSD ($\beta = 0.702$, $p < .001$) as much as KA ($\beta = 0.741$, $p < .001$), backing H1 and H2. In turn, SSD ($\beta = 0.451$, $p < .001$), along with KA ($\beta = 0.479$, $p < .001$), were linked to higher EP, which supports H3 and H4. Still, no meaningful direct link appeared between BLE and EP ($\beta = 0.031$, $p = 0.831$), suggesting effects run fully via SSD and KA.

4.5. Mediation analysis

To further dissect the relationships, a mediation analysis was performed. The results are presented in Table 5. The analysis reveals a significant total effect of BLE on EP (.829). However, this effect operates entirely through the mediating variables. The absence of a significant direct effect, coupled with strong indirect effects via SSD and KA, confirms full parallel mediation. This means that blended learning enhances Employee Performance only by first improving employees' Soft Skills and Knowledge Acquisition.

5. Discussion

The results reveal that BLE significantly boosts SSD ($\beta = 0.702$, $p < .001$). That suggests combining online with in-person training enhances workers' social and thinking skills. Since employees use digital platforms along with group discussions, they gain more chances to build communication, cooperation, flexibility, and self-awareness. Such outcomes support earlier work, where tech-based interactive settings helped develop personal competencies (Succi & Canovi, 2020). Likewise, Robles (2012) pointed out that ongoing interaction, along with feedback and hands-on experience, helps build soft skills - components already part of blended learning. As a result, this research supports the idea that well-designed blended approaches can strongly support soft skill growth in workplaces.

The results showed a strong link between BLE and KA ($\beta = 0.741$, $p < .001$), which indicates that blended learning helps workers better grasp and use new knowledge and information. Because learners can revisit online content, work through dynamic tasks, join structured talks, or try out skills in real-world settings, their understanding grows. Likewise, combining online training with face-to-face instruction boosts understanding and memory over time (Chiu et al., 2006). These results support the idea that blended environments enhance how workers gain knowledge by providing adaptable formats using varied methods.

Unexpectedly, BLE did not show a clear link to EP ($\beta = 0.031$, $p = .831$). That suggests using blended methods doesn't automatically boost how employees perform. Rather, it helps through building softer abilities and increasing what people learn. So, we can claim that BLE enhances employee performance not directly but via the development of prerequisite soft skills and knowledge acquisition.

The data indicate SSD is strongly linked to EP ($\beta = 0.451$, $p < .001$), showing the effect of BLE on EP indirectly via the development of soft skills. Instead of direct impact, gains from blended learning appear via improved soft skills - like communication, teamwork, leadership, or adapting socially. According to Robles (2012), these abilities matter greatly for work success because they shape how people solve problems, cooperate, and interact at jobs. Rather than passive delivery, many blended setups use collaborative tools - including team exercises, debates, real-life simulations, or mutual reviews - which actively build those personal strengths. Because of this pattern, results align with the view that SSD acts as a core pathway linking BLE to better employee outcomes.

The findings showed KA plays a key role in linking BLE to EP ($\beta = 0.479$, $p < .001$). Employees picking up knowledge via blended methods - like work-related ideas, ways to solve problems, or technical steps - tend to handle duties better. Because they apply what they learn, their output improves. Turning insights into practice boosts company outcomes (Nonaka, 2009). Thus, BLE works effectively to improve employee job performance in an organization indirectly by enhancing successful employee knowledge acquisition and application. So, it is evident that most of the existing training models merely confirm that blended learning is effective. But our study advances the existing theories by empirically demonstrating a full mediation model. It proves that blended learning does not have a direct "magic" effect on performance; instead, its value is entirely unlocked through the parallel mediators of soft skill development and knowledge acquisition. With a high explanatory power of $R^2 = .700$, our study model offers a more robust theoretical explanation than typical descriptive studies. It moves the field forward by establishing a "well-specified parallel mediation model" that provides a deeper blueprint for how human capital is actually developed in digital environments. Hence, organizations should focus not only on developing a blended learning ecosystem but also on such an environment that facilitates the acquisition of soft skills and knowledge, which are the instrumental tools that actually transfer the fruit of blended learning into employee performance.

6. Implications

The results from the study yield significant theoretical contributions. Firstly, the findings align with 'social learning theory', which proposes that interaction, observation, and participation are instrumental to effective learning (Baron, 1986). Blended learning, by offering interactive and collaborative learning environments, reinforces these principles. Secondly, the study also extends knowledge creation theory by demonstrating that knowledge acquisition derived from blended learning significantly contributes to performance outcomes. This confirms

that organizational learning systems must prioritize knowledge conversion processes. Thirdly, the full mediation effect of SSD and KA expands theoretical models related to training effectiveness by confirming that blended learning affects performance indirectly through developmental constructs. Moreover, while blended learning research often focuses on educational settings, this study provides empirical evidence of its effectiveness in organizational environments, supporting the blended learning framework.

The study results also offer clear, actionable guidance for learning and development professionals with broader implications for organizational and national strategy. Organizations, particularly in emerging economies facing rapid digital transformation, should formalize blended learning as a cornerstone of their upskilling and reskilling agendas. This supports the development of a resilient, future-ready workforce capable of adapting to technological and market shifts.

The Learning and Development (L&D) programs must be intentionally architected to target both knowledge and skills simultaneously. Investments in blended learning, which is directly linked to employee development, contribute to the social pillar of ESG (Environmental, Social, and Governance) frameworks. By promoting decent work, inclusive growth, and employee well-being, organizations can enhance their sustainability reporting and corporate reputation. Blended learning, by extending development opportunities equitably across locations, also supports diversity and inclusion goals.

Governments can accelerate national digital readiness by incentivizing partnerships between industry, academia, and online learning platforms to create standardized, accessible blended learning curricula for high-demand skills. Moreover, national skills agendas should prioritize investments in digital learning platforms and facilitator training to make high-quality blended learning scalable and accessible, even in remote regions.

7. Conclusion

In conclusion, this study has established a clear and meaningful pathway through which Blended Learning Effectiveness (BLE) contributes to Employee Performance (EP). The findings confirm that BLE operates not as a direct driver but as a foundational catalyst. It significantly enhances both Soft Skills Development (SSD) and Knowledge Acquisition (KA), which in turn are the pivotal factors that elevate workplace performance. The mediated relationship emphasizes the value of integrated learning mechanisms, suggesting that the combination of both digital and in-person methods effectively helps to develop interpersonal competencies and technical know-how among employees, which in turn enhances employee performance.

Although the study adds useful insights, several drawbacks exist. A key limitation of the study is that, since the data come from one specific time, we cannot track how the relationships might evolve. Another issue involves the relatively small participant group, made up only of workers familiar with blended learning; thus, results might not apply well to sectors lacking strong digital training setups. Also, relying on self-reported data raises concerns about accuracy because individuals often misjudge their own abilities or achievements. To gain a richer understanding, further study on a larger number of respondents might be carried out. Moreover, future studies should employ longitudinal panel data to robustly prove how blended learning causes improvements over time. Another critical avenue for research is to test the proposed model across diverse national and cultural contexts, particularly comparing developed and emerging economies. Such studies could investigate how national infrastructure, cultural dimensions, and national skills policies moderate the effectiveness of blended learning. Moreover, combining quantitative surveys with qualitative methods would yield a richer understanding.

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