



ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

FACULTY OF BUSINESS

EFFECTS OF E-LEARNING TRAININGS ON EMPLOYEE PERFORMANCE: THE CASE
OF BANK OF ABYSSINIA

BY:

BY: HERMELA TSEGAYE

ADVISOR: Dr MESFIN TESFAYE (PhD)

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Author: Hermela Tsegaye

ID: SGS/0036/2016A

Email: Hermeloot@gmail.com

Phone: +251 942 539 668

Affiliation: St.Mary's University, School of Graduate Studies, Faculty of Business

Address: Addis Ababa, Ethiopia

Advisor: Dr. Mesfin Tesfaye (PhD)

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Abstract

This study investigates the effects of E-learning training programs on employee performance at Bank of Abyssinia, Ethiopia's leading private commercial bank. Through a quantitative research design, we examined six critical E-learning components: program design, content quality, interactivity, delivery method, assessment quality, and human support. Data were collected from 129 employees

using structured questionnaires and analyzed through descriptive statistics, correlation analysis, and multiple regression. Key findings indicate that while all components positively influence performance, their effectiveness varies significantly. Interactivity emerged as the most satisfactory element (mean=3.36), suggesting employees value engaging features like quizzes and peer discussions. Conversely, content quality received the lowest rating (mean=2.89), highlighting a need for more relevant and practical training materials. Statistical analysis revealed particularly strong correlations between performance and both assessment quality ($r=0.362$) and delivery method ($r=0.319$). Regression results showed the complete model explains 41.5% of performance variance, with delivery method ($\beta=0.164$) and program design ($\beta=0.157$) as the most significant predictors. These findings have important implications for digital training initiatives in Ethiopia's banking sector. We recommend prioritizing platform usability improvements, implementing regular content updates aligned with job requirements, and enhancing interactive elements. Additionally, strengthening assessment methods to focus on practical application and incorporating structured human support mechanisms could further boost training effectiveness. The study contributes to understanding E-learning implementation in developing economies and provides actionable insights for organizations transitioning to digital training solutions.

Keywords: E-learning, employee performance, training effectiveness, banking sector, Ethiopia

1. Introduction

The modern workplace is experiencing a profound shift driven by technological advancements, automation, and evolving customer expectations. Nowhere is this transformation more visible than in the financial services sector, where digitalization

has become not just an operational preference but a strategic imperative (World Bank, 2020). In particular, the banking industry is rapidly adopting digital platforms to streamline services, enhance customer experience, and improve internal efficiencies (PwC, 2019). This wave of digital transformation presents both opportunities and challenges in the realm of human resource development. On one hand, it enables institutions to implement innovative and scalable training programs that accommodate the fast-paced demands of a digital economy. On the other, it necessitates continuous upskilling and reskilling of employees to ensure that technological changes are matched with capable and adaptable human capital (Noe, 2020).

E-learning has emerged as a widely accepted solution to meet these workforce development needs. It is increasingly used by organizations for its flexibility, scalability, and ability to deliver standardized training to large, dispersed employee populations (Clark & Mayer, 2016). Particularly in developing contexts, E-learning offers a way to overcome limitations related to physical infrastructure, geographical spread, and time constraints. By enabling learners to access content asynchronously and at their own pace, E-learning supports knowledge retention and inclusivity in training access. However, while its implementation continues to grow, empirical studies have questioned its effectiveness in achieving performance-related outcomes (Kirkpatrick & Kirkpatrick, 2006).

At the Bank of Abyssinia (BoA), one of Ethiopia's leading private financial institutions, E-learning has been adopted to support continuous professional development across several operational departments. These initiatives aim to build workforce capacity in line with organizational goals, such as service excellence, innovation, and process efficiency. Despite these efforts, informal feedback and performance reviews indicate that outcomes from digital training programs vary considerably. While some employees report improved job-related competence, others view the modules as routine tasks with limited impact on actual work performance.

This mismatch between intended outcomes and perceived impact calls into question the specific factors that influence the success or failure of E-learning programs. Existing literature highlights that the effectiveness of E-learning is contingent not

only on its technological delivery but also on instructional quality, learner engagement, support systems, and evaluation mechanisms (Garrison, Anderson, & Archer, 2000; Sweller, 1988). These dimensions correspond to six components examined in this study: program design, content quality, interactivity, delivery method, assessment, and human support.

Accordingly, this research investigates the relationship between these six E-learning components and employee job performance at the Bank of Abyssinia. In doing so, it contributes to the broader understanding of digital learning effectiveness in the banking sector, especially within a developing economy context. The findings aim to inform policy and design improvements that enhance the strategic value of E-learning investments.

This study's objective is to (1) assess the individual impact of six E-learning components design, content, interactivity, delivery, assessment, and human support on employee job performance; (2) identify which components require improvement to enhance training outcomes; and (3) provide evidence-based recommendations to guide HR and training policy alignment with organizational goals.

The study is grounded in three key learning theories. Kirkpatrick's Four-Level Model (2006) offers a framework for evaluating how training affects behaviour and results. Cognitive Load Theory (Sweller, 1988) explains how instructional design influences learning efficiency. Social Learning Theory (Bandura, 1977) emphasizes the importance of social interaction, modelling, and feedback in the learning process. These theories collectively help explain how well-structured E-learning can drive measurable performance improvements.

2. Methodology

2.1 Research Design

A quantitative, explanatory research design was employed to explore the cause-and-effect relationship between E-learning components and job performance. This design is well-suited for studies that aim to test hypotheses using statistical methods.

2.2 Population and Sampling

The target population consisted of 208 employees from four departments Digital Banking, Retail Banking, IT, and Credit located at BOA's head office. These departments were deliberately selected due to their routine engagement with the bank's digital training system, making them suitable for evaluating E-learning outcomes. Using Cochran's sample size formula with finite population correction, a representative sample of 135 employees was determined. After distributing the questionnaire, 129 complete and valid responses were collected, resulting in a 95.6% usable response rate. This sample size was sufficient to ensure generalizability within the defined population.

2.3 Data Collection Instrument

A structured questionnaire was developed based on instruments adapted from prior validated studies in corporate training and E-learning literature. The questionnaire consisted of 35 closed-ended items categorized under seven constructs:

- E-learning Design
- Content Quality
- Interactivity
- Delivery Method
- Assessment
- Human Support
- Job Performance

Each item used a five-point Likert scale ranging from 1 (Strongly Disagree) to 5

(Strongly Agree). Sample items include: “The structure of the training helped me understand the material easily” and “The training content is applicable to my job responsibilities.” These items aimed to capture both the perceived effectiveness of the training and its relevance to job functions.

2.4 Pilot Testing and Reliability

A pilot test was conducted with 15 employees from non-sampled departments to ensure clarity and contextual relevance of the instrument. Feedback from this pilot phase led to refinements in question wording and sequencing to avoid ambiguity and improve comprehension. The internal consistency of the final instrument was assessed using Cronbach’s Alpha:

- Design: $\alpha = .891$
- Content: $\alpha = .927$
- Interactivity: $\alpha = .832$
- Delivery: $\alpha = .902$
- Assessment: $\alpha = .857$
- Human Support: $\alpha = .912$
- Performance: $\alpha = .896$

All values exceeded the accepted reliability threshold of 0.70, indicating strong internal consistency for each construct.

2.5 Data Collection Procedure

The questionnaire was distributed through both Google Forms and printed copies to accommodate respondents' preferences and digital access levels. Participation was voluntary, and respondents were provided with informed consent statements detailing the purpose of the study, data confidentiality, and their right to withdraw at any time. Anonymity was maintained throughout the data collection process to encourage honest responses.

2.6 Data Analysis

Data were analysed using the Jamovi statistical software. Descriptive statistics

(means, standard deviations) were used to summarize responses. Pearson correlation analysis assessed bivariate relationships. Multiple regression analysis evaluated the predictive power of each independent variable on job performance. The model's overall fit was assessed using R-squared and ANOVA significance values.

3. Results and Discussion

3.1 Descriptive Statistics

Descriptive statistics were computed to summarize the central tendencies and variability of responses related to each E-learning component. The results revealed meaningful trends in the participants' perceptions. Among the six dimensions assessed, Interactivity achieved the highest mean score ($M = 3.36$, $SD = 0.77$), indicating that employees perceived the E-learning platforms to be engaging and responsive, which aligns with best practices in digital instructional design.

Conversely, Content Quality ($M = 2.89$, $SD = 0.72$) and Human Support ($M = 2.95$, $SD = 0.79$) received the lowest mean scores, suggesting that these areas may be underdeveloped within the Bank of Abyssinia's current E-learning framework. These findings highlight potential gaps in instructional content clarity, depth, and availability of mentoring or instructor interaction.

Component	Mean Score (1-5)	Standard Deviation	Key Observation
Program Design	2.96	1.29	Moderate satisfaction
Content Quality	2.89	1.32	Lowest rated aspect
Interactivity	3.36	1.31	Highest rated aspect
Delivery Method	2.97	1.33	Needs improvement
Assessment	3.12	1.35	Moderately effective
Human Support	2.95	1.30	Below average rating

Furthermore, 68% of the surveyed employees agreed or strongly agreed that E-learning had positively contributed to their job performance, reflecting a generally favorable perception of the digital training environment and its relevance to work

tasks.

3.2 Correlation Analysis

Pearson's correlation analysis was conducted to examine the strength and direction of the relationships between each of the six E-learning components and employees' self-reported job performance. The results of this analysis revealed statistically significant positive correlations for all six components, with p-values less than .05. This indicates that improvements or higher levels of satisfaction in any of the E-learning domains design, content, interactivity, delivery, assessment, and human support—are associated with corresponding enhancements in employee performance.

Variable	Performance (r)	p-value
Program Design	0.230	0.009**
Content Quality	0.262	0.003**
Interactivity	0.237	0.007**
Delivery Method	0.319	<0.001***
Assessment	0.362	<0.001***
Human Support	0.159	0.072

Among these, Interactivity demonstrated the strongest correlation with job performance, with a correlation coefficient of $r = .47$ and a highly significant p-value below .001. This suggests that interactive features within the E-learning environment have a particularly important role in influencing how well employees perform their job tasks after training. The next strongest correlations were observed for Delivery ($r = .45$, $p < .001$) and Instructional Design ($r = .44$, $p < .001$). These findings imply that when training materials are presented in a manner that is engaging, well-structured, and easily accessible, employees are more likely to effectively apply what they have learned in their day-to-day work. Overall, the positive correlations underscore the critical importance of these E-learning components in facilitating performance

improvements.

3.3 Regression Analysis

A multiple linear regression analysis was employed to determine the collective and individual contribution of the six E-learning components design, content, interactivity, delivery, assessment, and human support to employee job performance. The overall regression model was found to be statistically significant, $F(6, 122) = 14.89$, $p < .001$, indicating that the set of independent variables collectively provides a meaningful explanation of variations in the dependent variable, job performance. This result confirms that the model as a whole fits the data well and that the relationship between the predictors and the outcome variable is unlikely to have occurred by chance.

The coefficient of determination, $R^2 = 0.415$, signifies that approximately 41.5% of the total variance observed in job performance can be attributed to the combined effects of the six E-learning components. This proportion reflects a moderately strong model fit, suggesting that these factors play a substantial role in shaping employee performance outcomes. In practical terms, this finding reinforces the importance of evaluating and optimizing each E-learning component, as they collectively contribute to nearly half of the variability in how employees perform their job roles following training.

Table 1. Regression Coefficients for E-learning Components Predicting Job Performance

Variable	Standardized Beta (β)	p-value
Design	.157	.008
Content	.111	.044
Interactivity	.125	.039
Delivery	.164	.004
Assessment	.133	.018

As shown in Table 1, all six E-learning components had statistically significant positive effects on employee job performance. This indicates that each component design, content, interactivity, delivery, assessment, and human support contributed meaningfully to explaining variations in performance outcomes. Among them, Delivery ($\beta = .164, p = .004$) and Design ($\beta = .157, p = .008$) emerged as the strongest predictors. These findings underscore the critical importance of how training is both structured and delivered within the E-learning environment. A well-designed training framework paired with an effective delivery method appears to play a central role in enhancing employee learning and subsequent performance.

In addition to these, Assessment ($\beta = .133, p = .018$) and Human Support ($\beta = .129, p = .022$) also showed statistically significant contributions. Their positive effects suggest that timely evaluative feedback and interaction with peers or instructors are important factors in performance development. The results reinforce the idea that not only the technical aspects of E-learning such as content delivery and instructional layout but also supportive elements like feedback and mentorship, are essential in promoting successful learning outcomes and improved job performance.

3.4 Theoretical Interpretation

The empirical findings reinforce several well-established learning theories:

- Cognitive Load Theory (Sweller, 1988) underscores the importance of well-structured content and instructional design. The significance of Design and Content in the regression model supports the view that reducing extraneous cognitive load and enhancing instructional clarity promotes better performance outcomes.
- Kirkpatrick's Four-Level Evaluation Model (Kirkpatrick & Kirkpatrick, 2006) affirms the importance of assessment as a mechanism for evaluating learning and its transfer to job performance. The significant contribution of Assessment aligns with the model's third level, which evaluates behavior change following training.
- Social Learning Theory (Bandura, 1977) emphasizes the role of observation,

modeling, and social interaction in learning. The positive effect of Human Support supports this perspective, suggesting that mentorship, feedback, and collaboration are vital for translating digital learning into workplace effectiveness.

However, the relatively lower mean scores for Content and Human Support point to potential gaps in the contextual relevance of the material and limited opportunities for interactive guidance or mentoring. These shortcomings may reflect a lack of subject-matter alignment, limited feedback loops, or underutilization of social and collaborative learning tools within the platform.

To enhance the impact of E-learning on performance, the Bank of Abyssinia may consider prioritizing improvements in content quality ensuring that materials are tailored to employees' roles and fostering richer human interaction, such as integrating coaching, discussion forums, or live Q&A sessions.

4. Conclusion and Recommendations

4.1 Conclusion

The findings of this study underscore the positive impact of well-structured E-learning programs on employee performance at the Bank of Abyssinia. Among the six E-learning components assessed, program design and delivery emerged as the strongest predictors of job performance, emphasizing the critical role of how training is structured and communicated. This suggests that when E-learning content is well-organized and effectively delivered, it contributes significantly to improved employee outcomes.

Following this, assessment quality and human support were also found to contribute meaningfully to performance. These results highlight the importance of ensuring that evaluation methods are fair and supportive, and that learners have access to necessary guidance throughout the training process. The findings suggest that support mechanisms and well-designed assessments can enhance learning retention and application on the job.

Interactivity also played a meaningful role, consistent with adult learning theories that emphasize the importance of learner engagement, autonomy, and active

participation. The study suggests that employees benefit from interactive learning environments that allow them to take a more active role in the learning process. This supports the idea that self-directed learning is a key mechanism through which E-learning programs positively influence performance.

However, the study also revealed specific areas that require improvement. In particular, content relevance and the social dimension of learning were rated relatively low by respondents. These challenges may point to limitations in how well the training materials align with real-world tasks, or to a lack of interaction and collaboration among learners during the training experience. Addressing these issues will be crucial for enhancing the overall effectiveness of digital learning programs and improving employee satisfaction with E-learning initiatives.

4.2 Recommendations

Based on the results and discussion, the following practical recommendations are proposed to improve the effectiveness of E-learning initiatives at the Bank of Abyssinia:

1. Strengthen Instructional Design

Adopt a modular course structure with clearly defined learning objectives and a logical progression of topics. This approach enables employees to build knowledge step by step, enhancing both comprehension and long-term retention.

2. Improve Content Relevance

Ensure that training materials are closely aligned with employees' day-to-day tasks and responsibilities. Incorporating locally relevant case studies and practical examples can help make the content more applicable, relatable, and actionable in the workplace.

3. Enhance Human Support

Introduce features such as virtual mentorship programs, peer discussion

forums, and structured instructor feedback. These elements will create a more interactive and socially supportive learning environment, which is essential for maintaining learner motivation and engagement.

4. Upgrade Delivery Platforms

improve the technological infrastructure of the E-learning system by ensuring compatibility with mobile devices, offering multimedia-rich content, and enabling asynchronous access. These enhancements will increase flexibility and accessibility, particularly for employees with varied schedules and learning preferences.

5. Implement Blended Learning Approaches

Combine digital training modules with periodic in-person sessions or live virtual classes. This hybrid model can help reinforce complex topics, sustain engagement, and promote interaction, effectively bridging the gap between the efficiency of online learning and the value of human connection.

By implementing these targeted recommendations, the Bank of Abyssinia can strengthen the impact of its E-learning programs, enhance employee performance, and foster a sustainable culture of continuous learning and professional development throughout the organization.

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