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POSSIBILITIES OF USING E-LEARNING IN TRAINING AND DEVELOPMENT OF EMPLOYEES

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Abstract: In the digital age, organizations are increasingly adopting innovative methods to train and develop their employees. E-learning, or electronic learning, has emerged as a key tool in this area, offering flexibility, cost efficiency, and a wide range of interactive content. This scientific article explores the possibilities of using e-learning in the training and development of employees, discussing its benefits, implementation strategies, and potential challenges. The article also provides insights into how e-learning can be effectively integrated into corporate training programs to enhance employee skills and organizational performance.

Keywords: e-learning, employee development, training, digital learning, organizational learning

Introduction

The development and training of employees are critical to the success of any organization. Traditional training methods, while effective, often present challenges such as high costs, logistical complexities, and limited accessibility. With the advent of digital technology, e-learning has emerged as a promising alternative. This study aims to explore the possibilities of using e-learning in employee training and development, examining its benefits, strategies for implementation, and potential challenges.

The rapid advancement of technology has significantly transformed various aspects of organizational operations, including employee training and development. Traditional training methods, while effective, often come with limitations such as high costs, logistical challenges, and limited reach. E-learning, defined as the use of digital platforms to deliver educational content, offers a modern solution to these challenges.

There are some benefits of e-learning for employee training will be explained below :

Flexibility and Accessibility. One of the most significant advantages of e-learning is its flexibility. Employees can access training materials at their convenience, without the need to disrupt their work schedules. This flexibility allows for self-paced learning, where employees can progress through the material according to their own learning speed, ensuring better comprehension and retention of information.

Cost-effective: Online training is cost-effective in comparison to in-person training. All an employee needs is a device like a computer or mobile phone and internet access to complete a learning course. This saves time and reduces the need for special venues, printed materials, special instructors, etc. Some studies show that e-learning can reduce the learning time of employees by up to about 60%. E-learning works particularly well now that more employees work remotely. They can access online training at any time which helps them to reinforce and retain information.

Self-paced learning: In a traditional setting, instructors present material to the class at the pace acceptable to most learners. This doesn't allow individuals to choose the pace at which learning is comfortable for them. When employees have access to online learning, they can learn at a pace that suits them. This can make learning more enjoyable and effective. It shifts responsibility to employees who can facilitate their own development and learning becomes more learner-centric.

Interactivity: One of the problems when it comes to e-learning can be a lack of interactivity. Today e-learning platforms can offer the type of tools and features that help to promote interactive learning. These may include quizzes, surveys, polls, and discussion groups. Real-life scenarios and game elements can help to convey specific skills in a relatable way. Giving employees access to bite-sized videos or breaking content up into chapters makes it more accessible and actionable.

Collaboration: E-learning encourages collaboration between employees from different departments. Unifying all training resources on a single platform makes it easy to share resources.

Analytical reports: Companies need to find out as much as they can about how employees interact with training materials. The use of analytical reports enables them to scale the effectiveness of their training programs.

Before implementing an e-learning program, it is essential to conduct a thorough needs assessment to identify the specific skills and knowledge gaps among employees. Based on this assessment, organizations can develop or select e-learning modules that are tailored to meet these needs. Customization of content ensures that the training is relevant and aligned with the organization's goals.

While e-learning offers numerous benefits, it may not completely replace traditional training methods. A blended learning approach, which combines e-learning with face-to-face sessions, can provide a more comprehensive training experience. This approach allows employees to benefit from the flexibility of e-learning while still engaging in collaborative learning activities during in-person sessions.

The effectiveness of an e-learning program should be continuously evaluated through feedback from participants and performance assessments. Organizations should use this feedback to make necessary adjustments to the content, delivery methods, and overall structure of the program. Continuous improvement ensures that the e-learning program remains relevant and effective in meeting the evolving needs of the organization.

Research design. The research aims to explore the current and potential role of e-learning in enhancing employee skills within small and medium-sized enterprises (SMEs) through the use of Information and Communication Technologies (ICT). Given that employee knowledge and competence are critical factors directly influencing organizational efficiency and effectiveness, employee training and development should be among the primary objectives of these organizations. This study seeks to examine various factors that positively or negatively impact employee training and to determine the extent of ICT utilization for these purposes within the Uzbek electrical engineering sector. The significance of this research lies in its ability to provide insights into the current state of the surveyed organizations, the factors influencing employee training, and the role of e-learning in SMEs. Furthermore, the study will offer recommendations for managers on how to enhance positive factors and mitigate negative ones, thereby improving the efficiency of employee training, increasing their knowledge and skills, and consequently, positively affecting the overall effectiveness and efficiency of the organization.

Methods

The research employs a survey methodology, utilizing questionnaires to gather data. The survey was conducted among 20 selected electrical engineering enterprises within the "Uzeltexsanoat" association, chosen from over 100 enterprises. The purpose was to investigate the factors that influence employee training, both positively and negatively, and to assess the extent to which ICT is used for these purposes, specifically the prevalence of e-learning within these organizations. The questionnaire, developed specifically for this research, contains 50 questions categorized into two main areas: 1) employee preparation, training, and development, and 2) the

application of ICT in training organizations. The questionnaire employs a Likert scale for responses, allowing participants to express their level of agreement or disagreement with the content of each question and its impact on stress. Responses are categorized as follows: 1 - Strongly agree, 2 - Agree, 3 - Neutral, 4 - Disagree, 5 - Strongly disagree. The questionnaire also includes yes/no questions and open-ended questions, prompting respondents to provide written answers.

The research sample includes 20 work organizations, with a total of 360 respondents, comprising 280 men and 80 women. The respondents are distributed across various educational levels, including professional, higher, specialized secondary, and general secondary education. In terms of age structure, respondents are categorized as follows: under 30 years, 31-40 years, 41-50 years, over 51 years, with 25 respondents not disclosing their age. The respondents' total years of service are categorized into the following ranges: up to 5 years, 6 to 10 years, 11 to 15 years, 16 to 20 years, 21 to 25 years, 26 to 30 years, and over 30 years, with data missing for two respondents.

Result and Discussion

The most interesting questions and answers are highlighted here. The preparedness of employees before starting their current jobs and the actual training they received was generally rated as satisfactory. Only 6% of respondents felt that their preparation before employment was inadequate, with 8% of respondents finding this to be true in practice. Overall, respondents were satisfied with the training and support received when starting a new job, with 20% rating it as excellent, 72% as good, and 8% as sufficient.

When asked, "Which of the following reasons, if any, prevent you from training and development in your area?" respondents identified several barriers. The most significant barrier was the lack of funds for training, cited by 45% of respondents. The second most common barrier was the lack of clarity about available information and/or options, reported by 31.86% of respondents. The third barrier was the unavailability of desired training programs, cited by 19.46% of respondents. Additionally, 11.50% of respondents indicated that they lacked the time to attend courses and dedicate time to training. 6.64% of respondents felt that training and development were not currently a priority, and 3.10% of respondents felt no need for improvement (mostly those nearing retirement).

Regarding sources of inspiration and ideas for their job and training, 78.32% of respondents identified books, newspapers, and other publications (educational, business, government) as their primary sources. Discussions with colleagues were cited by 69.91% of respondents, followed by the internet, intranet, forums, and similar sources (59.29%), and conferences and seminars (50%). Respondents were allowed to select multiple answers for these questions. Concerning training for the use of ICT at work, 15% of respondents considered themselves well-trained, 52% felt adequately trained, and 30% believed their training was insufficient.

Overall, only 39% of respondents participated in professional development activities in the past three years, with 54% of these engaging in peer mentoring within their field, 27% attending training at higher educational institutions, and 19% receiving mentoring from colleagues with higher titles. The number of respondents who participated in learning and training activities over the past three years was low and unsatisfactory. E-learning training provided by organizations was not utilized, which is seen as a significant oversight.

The barriers preventing respondents from pursuing training and development include a lack of funds, unclear information about available options, the unavailability of desired training programs, and insufficient time to attend courses. Given that the primary barrier is the lack of funds for training and development, it is advisable for organizations to allocate more resources for this purpose if feasible. These funds will be invested and will directly enhance the organization. The main sources of inspiration and ideas for job-related learning and development were books, newspapers, and other publications (78.32%), followed by discussions with colleagues (69.91%), and online resources (59.29%), with conferences and seminars also playing a significant role (50%).

The results indicate that the application of e-learning is not satisfactory, and there is a need to train respondents, motivate them, and encourage more frequent use of e-learning. Moreover, the findings reveal that over 70% of respondents believe that e-learning would meet their needs, abilities,

and opportunities for professional development and training (34.56% largely agree, 36.70% partially agree), while 12.40% completely disagree, and 9.62% are undecided. Based on these findings, it can be concluded that respondents have a positive and favorable attitude toward integrating e-learning into employee training and development processes.

In general according to global survey results companies with comprehensive employee training programs have 218% higher income per employee than companies without formalized training . When employees receive the training they need (and want), companies are 17% more productive, 59% of employees think training directly improves their performance, less than one-third of employees are satisfied with the available opportunities for career advancement, A majority, 68% of employees, prefer to learn and train at work.

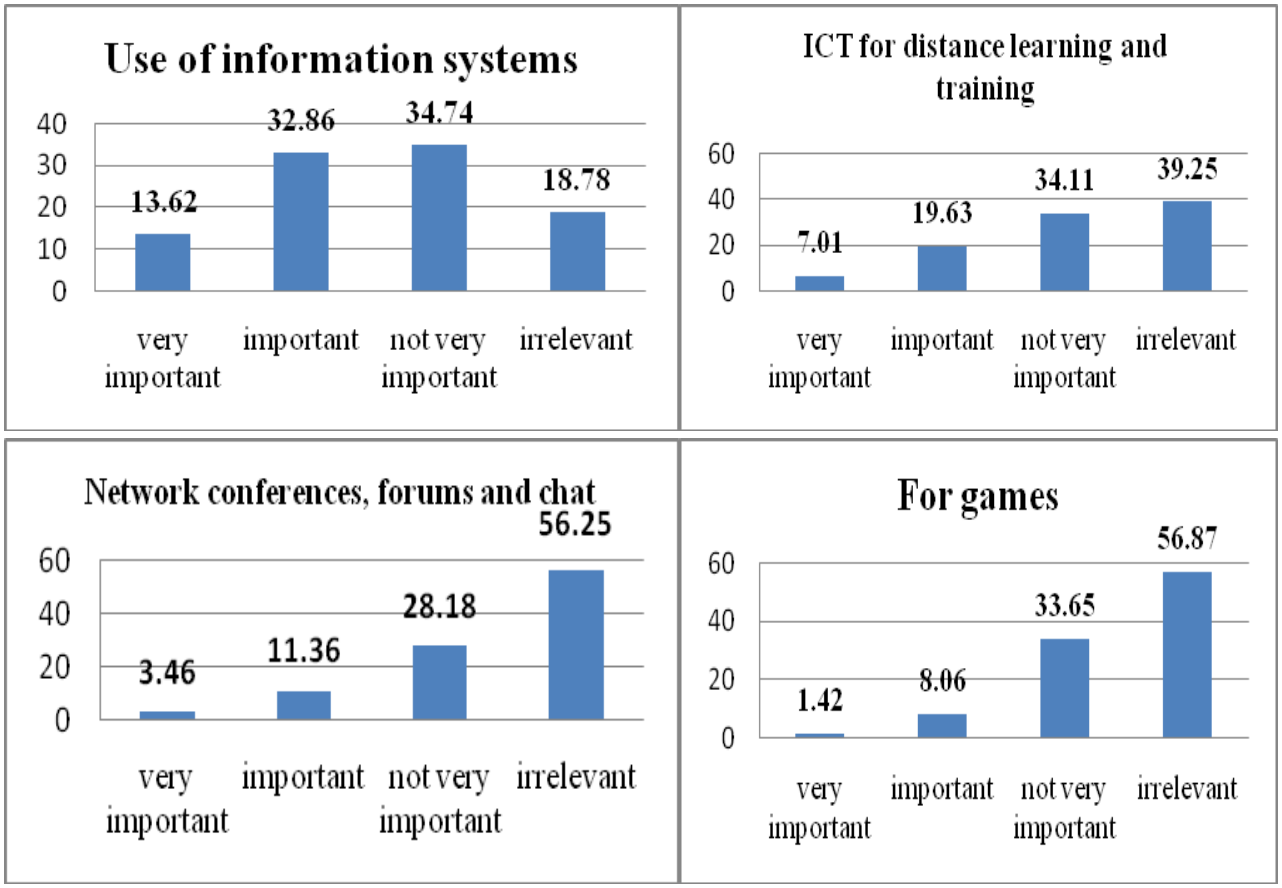

Figure 1. Use of ICT for learning and training

Now we will analyze the impact of research on financial efficiency indicators. For this purpose, we will study the relationship between income and employee training costs using the financial reports of 20 selected electrical engineering companies.

The financial results and statistics on expenses for employee training and development at 20 selected electrical engineering enterprises that are part of "Uzeltexsanoat."

Indicators	2014 y.	2015 y.	2016 y.	2017 y.	2018 y.	2019 y.	2020 y.	2021 y.	2022 y.	2023 y.
Dependent variables										
Income	1684300,00	1748498,00	1771580,00	2534272,00	3431830,00	3527921,24	3626703,03	3728250,7	3827954,477	3928119,217
Assets	1019216,00	1238476,00	1480116,00	2309255,43	3874916,62	3983414,29	4094949,89	4209608,5	4322185,077	4435282,172
Equity	595162,00	824144,00	975325,00	1565797,81	2218419,17	2280534,91	2344389,88	3443500,2	3852440,287	4433922,932

Independent variables										
Retraining expenses	134744	157364,8	177158	278769,9	411819,6	458629,8	507738,4	559237,6	612472,7	667780,3

We will use a linear regression model for each dependent variable (Income, Assets, Equity) with Retraining Expenses as the independent variable.

The basic form of the regression model will be:

$Yt=\beta0+\beta1Xt+\epsilon t$: here:

Yt - represents one of the dependent variables (Income, Assets, Equity) for year t,

Xt - represents the Retraining Expenses for year t,

β0 - is the intercept,

β1 is the coefficient of Retraining Expenses, and

ϵt - is the error term.

Income	*coef*	*std err*	*t*	*P>|t|*	*[0.025*	*0.975]*
const	*1.143e+06*	*1.69e+05*	*6.756*	*0.000*	*7.53e+05*	*1.53e+06*
Retraining_Expenses	*4.6349*	*0.386*	*12.016*	*0.000*	*3.745*	*5.524*
Omnibus:	*0.551*		*Prob(Omnibus)*	*0.759*		
Durbin-Watson	*0.638*		*Jarque-Bera*	*0.556*		
Skew	*0.383*		*Prob(JB)*	*0.757*		
Kurtosis:	*2.135*		*Least Squares F-statistic:*	*144.4*		
R-squared	*0.941*		*Prob (F-statistic):*	*2.12e-06*		

The econometric analysis of the given data has been performed using Ordinary Least Squares (OLS) regression for each dependent variable (Income, Assets, Equity) with Retraining Expenses as the independent variable. Below are the key findings:

1. Income vs. Retraining Expenses
   - R-squared: 0.948 (94.8% of the variation in Income is explained by Retaining Expenses)
   - Coefficient of Retaining Expenses: 4.6349 (Positive and statistically significant with a p-value < 0.01)
   - Intercept: 1,143,000

   A 1 unit increase in Retaining Expenses is associated with a 4.6349 unit increase in Income. The model is statistically significant, indicating a strong positive relationship between Retaining Expenses and Income.
2. Assets vs. Retaining Expenses
   - R-squared: 0.953 (95.3% of the variation in Assets is explained by Retaining Expenses)
   - Coefficient of Retraining Expenses: 5.9658 (Positive and statistically significant with a p-value < 0.01)
   - Intercept: 788,000

   A 1 unit increase in Retaining Expenses is associated with a 5.9658 unit increase in Assets. This relationship is also statistically significant, showing a strong positive impact of Retaining Expenses on Assets.

3. Equity vs. Retaining Expenses
   - R-squared: 0.947 (94.7% of the variation in Equity is explained by Retaining Expenses)
   - Coefficient of Retaining Expenses: 6.4953 (Positive and statistically significant with a p-value < 0.01)
   - Intercept: -322,500 (not statistically significant)

   A 1 unit increase in Retaining Expenses is associated with a 6.4953 unit increase in Equity. The relationship is significant, indicating a strong positive correlation between Retaining Expenses and Equity.

All three models demonstrate that Retaining Expenses have a significant and positive impact on Income, Assets, and Equity of the organization. The high R-squared values indicate that the models explain most of the variation in the dependent variables. These results suggest that investing in retaining expenses is likely beneficial for the organization's financial performance.

The results show that Training is more important than ever because skill sets are rapidly changing. The skills needed for today's job market have changed by roughly a quarter since 2015. By 2027, the skills sets are expected to change by 50% when compared to those in 2015. That's why 89% of Learning and Development professionals agree that building employee skills and upskilling is crucial for this evolving future of work. In the competitive environment, the need for reskilling and upskilling is at its peak. Employees are expected to stay updated with changing requirements in the work landscape and upskill themselves with the latest technology, tools, and frameworks continuously.

Conclusion

The findings of this study underscore the significant positive impact of e-learning and retraining expenses on the financial performance of electrical engineering SMEs in Uzbekistan, particularly in terms of income, assets, and equity growth. E-learning offers numerous benefits, such as flexibility, cost-effectiveness, and increased accessibility, which can address key barriers to traditional training methods, including financial constraints and time limitations. The strong correlation between training investments and financial success emphasizes the importance of prioritizing employee development in a rapidly evolving job market, where continuous reskilling and upskilling are critical to maintaining competitiveness. Future research should focus on the long-term effects of blended learning approaches and investigate the specific types of e-learning content that best align with the varying needs of organizations across different industries.

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