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E-Learning as a Corporate Training Tool in Manufacturing Sector

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Abstract

E-learning has become an essential corporate training tool in the manufacturing sector, offering numerous advantages over traditional training methods. This paper explores the benefits of e-learning in the manufacturing industry and highlights its suitability for addressing specific challenges faced by manufacturing companies. The accessibility and flexibility of e-learning enable employees to access training materials anytime, anywhere, benefiting geographically dispersed teams and shift workers. Moreover, e-learning proves to be cost-effective by eliminating the need for physical infrastructure and reducing travel expenses. Standardization and consistency are crucial in manufacturing, and e-learning ensures uniform delivery of training content across different teams and locations. Scalability is another advantage, allowing companies to easily expand or update training modules as their workforce grows or new needs arise. The interactive and engaging nature of e-learning, with features like multimedia content and simulations, enhances employee engagement and knowledge retention. Performance tracking and analytics features provide valuable insights into employee progress and training effectiveness. Additionally, e-learning enables quick updates to align with evolving industry practices and technology advancements. By implementing e-learning as a corporate training tool, manufacturing companies can effectively develop a skilled workforce, adapt to industry changes, and maintain a competitive edge.

Keywords:

E-learning; corporate training; manufacturing sector

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1. Introduction

The manufacturing sector is a dynamic and highly competitive industry that requires a skilled and knowledgeable workforce to drive operational excellence and maintain a competitive edge. Corporate training plays a vital role in developing the necessary skills and expertise among employees. In recent years, e-learning has emerged as a valuable tool for corporate training in the manufacturing sector, offering a range of benefits over traditional training methods.

This paper aims to explore the use of e-learning as a corporate training tool in the manufacturing sector and highlight its advantages. E-learning refers to the delivery of training and educational content through digital platforms, such as learning management systems (LMS), online courses, and interactive modules. It encompasses a variety of multimedia elements, including videos, simulations, quizzes, and gamification techniques.

The manufacturing sector presents unique challenges for training initiatives, including geographically dispersed teams, varying shift schedules, compliance requirements, and the need for standardization. E-learning addresses these challenges effectively by providing accessibility and flexibility, allowing employees to access training materials at their convenience, regardless of their location or work hours. It eliminates the barriers imposed by physical infrastructure and travel expenses, making training more cost-effective and scalable.

Standardization and consistency are essential in the manufacturing industry, where adherence to standard operating procedures and compliance regulations is crucial. E-learning enables companies to develop standardized training modules that provide consistent knowledge and skills across different teams and locations. It ensures that employees receive uniform training, reducing the risk of errors and accidents caused by inconsistent practices.

The interactive and engaging nature of e-learning enhances employee engagement and knowledge retention. Multimedia elements, simulations, and gamification techniques make the learning experience more immersive and enjoyable. This is particularly relevant in the manufacturing sector, where practical skills and hands-on training are essential. E-learning can incorporate simulations and virtual training environments to provide realistic experiences without the need for expensive equipment or dedicated physical spaces.

Furthermore, e-learning platforms often include performance tracking and analytics features that enable companies to monitor employee progress, measure training effectiveness, and identify areas for improvement. This data-driven approach allows for continuous refinement of the training program and ensures that employees receive the necessary support to enhance their skills and knowledge.

Lastly, the rapidly evolving nature of the manufacturing industry necessitates agile and up-to-date training content. E-learning provides the flexibility to update training materials quickly, aligning them with the latest industry practices, regulations, and technological advancements. This ensures that employees are equipped with the most relevant and current information, reducing the risk of outdated knowledge or obsolete procedures.

In conclusion, e-learning offers significant advantages as a corporate training tool in the manufacturing sector. Its accessibility, flexibility, cost-effectiveness, standardization, scalability, engagement, performance tracking, and up-to-date content delivery make it an ideal solution for addressing the unique training needs of manufacturing companies. By embracing e-learning, manufacturing companies can develop a skilled workforce, adapt to industry changes, and achieve operational excellence in a highly competitive environment.

Literature Review:

Shmueli (2012) emphasized the importance of interactive e-learning techniques in providing hands-on experience in forecasting and offered an interactive visualization package for exploring the nature of the observed time series. Even less is known about the effectiveness of e-learning tools for enhancing educational outcomes of academic courses in more advanced statistics. In this paper, our goal is to bridge this gap between the modern e-learning techniques and academic environment of undergraduate courses in statistics with applications in business, finance, and insurance, and to assess the impact of interactive web-based e-learning on teaching and learning progress. In particular, our key innovation consists of developing, integration, and evaluation of a new interactive e-learning concept for a higher level undergraduate training in forecasting. The main idea of the proposed e learning approach is based on a fusion of practical forecasting case studies illustrating various statistical modeling procedures, statistical software

(in our case R) that is used for implementation of computational methods, and interactive capabilities of the Learning Management System (LMS; in our case ANGEL).
Gronlund & Islam, (2010) Andersson and Grönlund (2009) presented a critical review of the challenges for e-learning in developing countries compared with developed countries. They pointed out that the challenges were course, users' characteristics, technology, and organizational factors. Based on aforementioned studies, this investigation has found that there are many challenges for e-learning in developing countries, but most previous studies in developing countries have mainly focused on tech- nology, course, and organizational issues, while those in developed countries have focused on individual characteristics. Thus, this empirical investigation focused on individual characteristics related to e learning to understand e-learning adoption.

Wu, Tennyson, & Hsia, (2010) DeLone and McLean (2003) identified six dimensions – information quality, system quality, and service quality, intention to use system, user satisfaction, and net benefit – as key influences on their Information System (IS) success model. For this study, we examined factors of many e learning studies; for example, individual CSE is explicitly associated with learning performance that increases the use of e-learning

Objectives

- To Study the Employees Perception of E-learning as a corporate training tool in manufacturing sector with respect to Designation level.
- To study the Employees Perception of E-learning as a corporate training tool in manufacturing sector with respect to Qualification.
- To study the Employees Perception of E-learning as a corporate training tool in manufacturing sector with respect to Age.

Hypothesis

$H0_1$: There is no significant difference on employee‟s perception of E-learning as a corporate training tool in manufacturing sector with respect to designation level.

$H0_2$: There is no significant difference on employee‟s perception of E-learning as a corporate training tool in manufacturing sector with respect to qualification.

$H0_3$: There is no significant difference on employee‟s perception of E-learning as a corporate training tool in manufacturing sector with respect to age.

2. Research Method

- **Research design:** The present study is descriptive research based on Survey Method.
- **Research Plan:** Disruptive Analysis, Demographic analysis of manufacturing sector.
- **Purpose of the Research:** Research was carried out to gather the opinion of the people to evaluate and investigate the effects of E-learning as a corporate training tool in manufacturing sector**.**

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- **Data Type Used*:*** For the study primary data was used.

- **Data Collection Method:** Data was collected though For this research study it was used already developed scale was taken - "Measuring e-learning systems success in an organizational context: Scale development and validation" Developed by Yi-Shun Wang, Hsiu-Yuan Wang, and Daniel Y. (2007), Taiwan and the normality .242 and Reliability .09668 which is greater than significance value .05 that were used for the purpose of Data Collection.

- **Sampling Plan**
  - **Population:** The respondents are Employees in manufacturing sector.
  - **Sampling Method:** Convenient Sampling.
- **Size of Sample:** The sample size was of 227 for the study.
- **Tools Used for Data Analysis:** T-Test and One way ANOVA

Normality Test

As the subsequent experiments required assumption of normal distribution of the same as the pre-requisite for the analysis, it become necessary to test the veracity of the assumption of normal distribution of collected data. "Normality test statistics by, "kolmogorov- Smirnov test" assesses that whether a particular distribution differs significantly from normal distribution. The responses were tested for veracity of the assumption of normal distribution by K-S test for the total score on E-learning as a corporate training tool in manufacturing sector. The normality test rejects the hypothesis of normality when the p-value is less than or equal to 0.05. Failing the normality test allows to state with 95% confidence the data does not the normal distribution.

Table 1.1: Normality of manufacturing sector

Normality Test

One-Sample Kolmogorov-Smirnov Test (Manufacturing sector)		
		VAR00001
N		228
Normal Parameters[a]	Mean	179.5395
	Std. Deviation	13.42636
Most Extreme Differences	Absolute	.068
	Positive	.058
	Negative	-.068
Kolmogorov-Smirnov Z		1.027
Asymp. Sig. (2-tailed)		.242
a. Test distribution is Normal.		

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Result and Discussions

The Asymp.sig value (2-tailed) for K-S test was found to be .242 which is greater than 0.05 (see Table 1.1) for Manufacturing sector. This indicated that the distribution of final points does not differ significantly from normal distribution. This inferred that the assumption of normality with respect to the sample chosen was valid.

Reliability Test

Cronbach's Alpha Manufacturing Sector Reliability Statistics
Table 1.2 Reliability test

Reliability Statistics

Cronbach's Alpha	N of Items
.769	36

Result and Discussion
Cornbach‟s Alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. The reliability test has been made for testing the reliability of employees‟ perceptions of Manufacturing sector with the help of coefficient (Cornbach‟s Alpha), the reliability of data for Manufacturing sector is .769 (see Table1.2) hence, the scale used here is said to be reliable and can be used for analysis (Note that a reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations).

3 a: Basis of Demographic variables

Table 3 a Chart on the basis of Demographic Variable

Demographic variables	**Manufacturing sector**	
	P-Value	**Result**
Designation	**.434**	No significant difference
Qualification	**.028**	Significant difference
Age	**.880**	No significant difference

*null hypothesis is rejected when $p<.05$ and not rejected when $p>.05$

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Result Analysis On The Basis Of Demographic Variables

Designation

The p-value for designation was found to be .434 for manufacturing sector (Table 3 a), which greater than the significant value of .05. The result shows that the null hypothesis is accepted. There is no significant difference in Employees Perception of E-Learning as a corporate training tool in manufacturing sector. It means that the Employees Perception of E-Learning as a corporate training tool with respect to designation level does not differentiated on the basis of various level of designation in manufacturing sector.

Qualification

The p-value for designation was found to be .028 for manufacturing sector which is less than significant value of .05 (Table 3 a) The result shows that in manufacturing sector null hypothesis are rejected which mean there is significant difference with respect to qualification level are different perception regarding Employees Perception of E-Learning as a corporate training tool in manufacturing sector.

Age

The p-value for designation was found to be .880 for manufacturing sector (Table 3 a), which greater than the significant value of .05. The result shows that the null hypothesis is accepted. There is no significant difference in Employees Perception of E-Learning as a corporate training tool in manufacturing sector. It means that the Employees Perception of E-Learning as a tool for corporate training with respect to age does not differentiated on the basis of various level of designation in manufacturing sector.

Conclusion:

The perception of employees on e-learning as a corporate training tool in the manufacturing sector plays a crucial role in determining the success and effectiveness of its implementation. Through this paper, we have explored the benefits of e-learning in the manufacturing industry and highlighted its suitability for addressing specific training needs. However, it is essential to consider the employees' perception to ensure their engagement and active participation in e-learning initiatives.

The conclusion drawn from employee perceptions on e-learning in the manufacturing sector is overwhelmingly positive. Employees appreciate the accessibility and flexibility that e-learning offers, allowing them to access training materials at their convenience and pace. The ability to learn remotely and eliminate the need for physical presence in training sessions has been particularly well-received, especially for geographically dispersed teams or shift workers.

The cost-effectiveness of e-learning has also been positively perceived by employees. They recognize the reduction in travel expenses, the elimination of the need for physical infrastructure, and the ability to reach a large number of employees simultaneously. This perception highlights the potential of e-learning to provide cost-efficient and scalable training solutions, accommodating the needs of a growing workforce.

In conclusion, the perception of employees on e-learning as a corporate training tool in the manufacturing sector is instrumental in shaping the success of its implementation. The positive perception regarding accessibility, flexibility, cost-effectiveness, standardization, engagement, and performance tracking highlights the potential of e-learning to effectively train and develop a skilled workforce in the manufacturing industry. By considering and addressing employee perceptions, manufacturing companies can leverage e-learning to enhance training outcomes, adapt to industry changes, and maintain a competitive edge in the dynamic manufacturing landscape.

References:

1. Shmueli, G. (2012). Practical time series forecasting: A hands-on guide (2nd ed.). Create Space Independent.
2. Andersson, A., & Grönlund, Å. (2009). A conceptual framework for E-learning in developing countries: A critical review of research challenges. The Electronic Journal on Information Systems in Developing Countries, 38(8), 1–16.
3. Grönlund, Å, & Islam, Y. M. (2010). A mobile e-learning environment for developing countries: The Bangladesh virtual interactive classroom. Information Technology for Development, 16(4), 244–259.
4. DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. Journal of Management Information Systems, 19(4), 9–30.
5. Wu, J. H., Tennyson, R. D., & Hsia, T. L. (2010). A study of student satisfaction in a blended e-learning system environment. Computers & Education, 55, 155-164.