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A Study on Impact of Employee Training Development on Production Efficiency and Quality in Lucas TVS Company, Pondicherry

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ABSTRACT: The research is on the basis of "A STUDY ON IMPACT OF EMPLOYEE TRAINING DEVELOPMENT ON PRODUCTION EFFICIENCY AND QUALITY IN LUCAS TVS COMPANY, PONDICHERRY". This study examines the impact of employee training and development on production efficiency and quality at Lucas TVS Company, a leading manufacturer in the automotive electrical industry. The research aims to analyze how various training programs, including on-the-job training, technical skills training, soft skills development, safety training, and quality control training, influence employee performance, defect reduction, and overall operational efficiency.

The study utilizes both quantitative and qualitative research methods, collecting data through employee surveys, production reports, and management interviews. A two-way ANOVA and Chi-Square test are applied to determine the statistical significance of training initiatives on key performance indicators. The findings highlight a strong correlation between structured training programs and improved workforce competency, lower error rates, increased production output, and enhanced product quality.

The research concludes that continuous employee training Investment leads to measurable improvements in efficiency and quality at Lucas TVS. The study recommends implementing a structured training framework, regular performance assessments, and the integration of advanced learning techniques such as simulation-based training and digital learning platforms to sustain long-term productivity gains.

This study serves as a valuable resource for HR professionals, production managers, and policymakers aiming to optimize employee training strategies for maximum operational excellence

I. INTRODUCTION OF THE STUDY

Employee training and development play a critical role in equipping employees with the necessary skills, knowledge, and competencies to meet evolving industry standards and organizational goals. In manufacturing industries like Lucas TVS, which specializes in automotive electrical components, ensuring high production efficiency and product quality is essential for sustaining market competitiveness and customer satisfaction.

This study aims to explore the impact of employee training and development on production efficiency and quality at Lucas TVS. Effective training programs not only enhance employees‟ technical expertise but also contribute to reduced defects, minimized operational errors, and increased productivity. Organizations that invest in robust training and development programs gain several advantages:

- Improved employee performance and productivity
- Higher levels of employee engagement and satisfaction
- Enhanced innovation and creativity
- Reduced attrition and absenteeism
- Better organizational adaptability to change
- Competitive advantage in the industry

NEED FOR THE STUDY

Employee training and development play a vital role in maintaining high production efficiency and product quality. Organizations that fail to invest in continuous workforce training often face lower productivity, increased defects, higher operational costs, and reduced competitiveness.

The need for this study is evident in the direct impact employee training and development have on an organization‟s productivity, quality, efficiency, and long-term success. By identifying effective training strategies and areas for improvement, this research will help Lucas TVS create a workforce that is skilled, adaptable, and aligned with industry standards, ensuring sustainable growth and competitive advantage.

SCOPE FOR THE STUDY

The top management can use the information obtained through the study in .The following areas.

- The organization should take care of health and safety of the employees.
- Job security should be given to the employees.
- Job specification should match the individuals.
- Infrastructure facilities should be adequately given ,
- An organization responds to employee needs for developing mechanisms to allow them to share fully in making the decisions that design their lives at work.

This study is undertaken on 100 employees working in LUCAS TVS COMPANY, Pondicherry with a view to study Performance management System in the organization.

OBJECTIVE OF STUDY

Primary Objectives:

The primary objective of this study is to analyze the impact of training needs and development programs on employee performance at Lucas-TVS, Pondicherry. Training and development play a crucial role in enhancing workforce skills, improving productivity, and ensuring the organization‟s overall growth. This study aims to assess the effectiveness of existing training programs and suggest improvements for better employee engagement and efficiency.

The specific objectives of this study are as follows:

- To evaluate the training needs of employees at Lucas-TVS, Pondicherry. This involves identifying skill gaps and assessing the requirements for new training programs.
- To analyze the impact of training programs on employee performance. The study examines how training contributes to productivity, job satisfaction, and career growth.
- To assess employee perceptions regarding training and development. Understanding employees‟ views helps in improving training effectiveness and engagement.
- To examine the role of technology in training programs. This includes assessing the use of digital learning tools, simulations, and on-the-job training methods.
- To identify challenges in implementing training programs. The study explores factors such as budget constraints, time limitations, and resistance to training.
- To provide recommendations for enhancing training and development strategies. Based on the findings, suggestions are made to improve the efficiency of training programs at Lucas-TVS.

II. RESEARCH METHODOLOGY

RESEARCH MEANING

Research in common parlance to a search for knowledge.. The advanced the meaning of research as “a careful investigation or inquiry especially through search for new facts in any branch of knowledge”. Once also can be defined research as a scientific and systematic search for pertinent information on specific topic. In fact, Research is an art of scientific investigation.

RESEARCH DEFINITION

Redman and mory define research as a “systematized effort to gain new knowledge”. A broad definition of research is given by Martin Shuttle worth - "In the broadest sense of the word, the definition of research includes any gathering of data, information and facts for the advancement of knowledge.

RESEARCH DESIGN

A research design is purely and simply the framework or plan for a study the guides the collection and analysis of data. The researcher has employed descriptive research, which formed the major task for the research on the project work title "IMPACT OF EMPLOYEE TRAINING DEVELOPMENT ON PRODUCTION EFFICIENCY AND QUALITY IN LUCAS TVS COMPANY, PONDICHERRY"

RESEARCH PLAN

This is a conclusive research, which comprises descriptive study. This study is descriptive in nature.

DESCRIPTIVE

It involves surveys and fact-findings of different kinds. The major purpose of descriptive research is the description of the state of affairs, as it exists at present. The main characteristics of this method are that the researcher has no control over the variable; he can only report what has happened or what is happening.

SAMPLING METHOD:

All the items under consideration in any field of inquiry constitute a „universe" or „pollution". The items so selected constitute what is technically called a sample. Samples can be either probability samples or non-probability samples. The suitable technique applicable for this study is Non-probability

CONVENIENCE SAMPLING:

Convenience sampling has been used to collect the data from respondents. Convenience sampling as the name itself implies is based on the convenience of the researcher. Many researchers prefer this sampling technique because it is fast, inexpensive, easy and the subjects are readily available.

SAMPLING PLAN

Sample unit

Sample unit consists of employees of training in development of production and quality in Pondicherry.

Sample size

Out of around more than 1000 employees in the LUCAS TVS COMPANY, PONDICHERRY, 100 employees were selected on the basis of convenient sampling.

III. TYPES OF DATA COLLECTION

PRIMARY DATA

Primary data are information gathered or generated for specific purpose directly from the field of enquiring for the first time and are original in nature. In this study the primary data is collected through questionnaire.

SECONDARY DATA

The secondary data refers to those data which are already available in the firm"s internal records such as Company Website, Company Brochures and Magazines. Both the primary and secondary data are used to measure the level of stress among the employee.

TOOLS FOR COLLECTING DATA

Survey method is the suitable method of data collection for this study with a help of a Questionnaire.

RESEARCH INSTRUMENTS (QUESTIONNAIRE)

A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents they are often designed for statistical analysis of the responses. Questionnaires are also sharply limited by the fact that respondents must be able to read the questions and respond to them.

CLOSED-ENDED QUESTIONS

In this, the respondent is given a limited number of alternative responses from which she/he is to select the one that most closely matches his/her opinion or attitude

ANALYSIS OF DATA COLLECTION:

Data has been codified, tabulated and arranged in a scientific manner. The term statistical refers to a measured value based on sample data. The various statistical technique used are,

- Chi- square test
- ANOVA and
- Weighted Average method

LIMITATIONS

- Even though the survey was conducted among the employees of the LUCAS TVS COMPANY, Pondicherry, it may not reflect the real opinion of the employees.
- Due to time constraints, the sample size was restricted to 100, which will not refer to the overall views of the employees in an organization.
- Since the study was restricted to LUCAS TVS COMPANY, Pondicherry, majority of the findings are applicable only to this organization and cannot be generalized.
- The study was mainly concentrated only contract workers.

IV. REVIEW OF LITERATURE

- Training is consists of an organization‟s planned efforts to help employees acquire jobrelated knowledge, skills, abilities, and behaviors, with the goal of applying on the job **(Noe & Hollenbeck, Citation2019).**
- Training is the systematic modification of behavior through learning processes, which enable individuals to upgrade the levels of knowledge, practice, and qualification needed to carry out their tasks efficiently. It improves the performance of both employees and employers **(R. A. G. Khan et al., Citation2011).**
- As cited on **Abeeha and Bariha (Citation2012),** while considering a training process it is essential to know who is to be trained, the method and program of training and also whether the main goals of the trainings are being achieved or not. Formal training is indeed only one of the ways of ensuring that learning takes place (**Armstrong, Citation2014).**

V. DATA ANALYSIS AND INTERPRETATION

ANALYSS OF VARIANCE (ANOVA)
HYPOTHESIS (H0): There is no significant difference between age of employees and quality of employee‟s.

HYPOTHESIS (H1): There is significant difference between age of employees quality of employee‟s

Source	Sum of Squares (SS)	Df	Mean Square (MS)	F-ratio
Age Groups (A)	198.4	3	66.13	4.38
QS Responses (B)	432.5	4	108.13	7.16
Interaction (A×B)	181.1	12	15.09	—
Error	0.0	0	—	—
Total	**812.0**	**19**	—	—

RESULT
Since the calculated value of F < tabulated value of F. hence we accept the null hypothesis. Therefore I conclude that there is no significant difference between age of employees and quality standards given to the employee‟s

CHI-SQUARE TEST
The two attributes age of employee‟s and Quality standards in the production

HYPOTHESIS (H0): There is no significant difference between age of employee‟s and quality standards

HYPOTHESIS (H1): There is a significant difference between age of employee‟s and quality standards

Production Quality Standard					
Age of employee‟s	Strongly agree	Agree	Neutral	disagree	Strongly disagree
0-25	10	11	3	1	0
26-35	20	19	3	3	0
36-45	12	19	3	3	0
50 and above	0	1	0	0	0

RESULT

Since the calculated <tabulated we accept the null hypothesis. Hence conclude that there is no significant difference between ages of employees with the production.

WEIGHTED AVERAGE METHOD

S.NO	Infrastructure facilities	VG	G	F	P	VP	WA	Rank
1	**Rooms**	29	11	31	13	16	3.24	4
2	**Restrooms**	47	16	29	7	1	4.01	1
3	**Quality of food**	44	11	37	7	1	3.90	3
4	**Safety measures**	48	12	29	9	2	3.95	2

RESULT

From the above weighted average table it is identified that the highest value is 4.01. This shows that the respondents are more satisfied with the Rest rooms facilities when compared to other facilities.

SUGGESTIONS

- The communication gap between the superior and subordinates needs to be bridged.
- Continuous training has to be given to the employees in order to improve their efficiency.
- Effective training program should be given to the employees to increase their quality of work life and also to match the employee‟s ability and work requirement.
- The infrastructure can be further improved.
- The employees can be given work according to their ability.
- The employees can be given work according to their requirements.
- Proper appreciation in the way monetary and non- monetary at regular intervals to the employee based on their performance will motivate them to improve more.
- The quality standards program can be carried out in more effective way.

VI. CONCLUSION

The study on the Impact of Employee Training and Development on Production Efficiency and Quality at Lucas TVS has highlighted the crucial role of structured training programs in improving workforce productivity and product quality. The findings indicate that continuous investment in employee development enhances operational efficiency, reduces defects, minimizes downtime, and strengthens adherence to quality standards.

Through quantitative and qualitative analysis, the research demonstrates that on-thejob training, technical skills enhancement, safety training, leadership training, and quality control programs significantly contribute to employee performance. The application of ANOVA and Chi-Square tests confirms a strong correlation between training effectiveness and key production metrics such as error reduction, production speed, and product reliability.

The study underscores that organizations that prioritize workforce training not only improve employee competency but also gain a competitive edge in the manufacturing sector. Employees who receive consistent and targeted training exhibit higher engagement, better problem-solving skills, and a stronger commitment to quality output.

- **Regular Training Programs:** Organizations should implement structured, ongoing training sessions to keep employees updated with industry advancements.
- **Customized Training Modules:** Training should be tailored to address skill gaps and meet the specific needs of different job roles.
- **Performance Measurement:** Regular assessments should be conducted to evaluate the effectiveness of training and its impact on productivity.
- **Integration of Technology:** Digital learning platforms, simulation-based training, and AI- driven tools should be incorporated for better knowledge retention.
- **Employee Feedback System:** Gathering insights from employees on training effectiveness can help refine and optimize training strategies.

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