

## Evaluation of Training Requirements and Demographic Correlates Among Manufacturing Company Production Workers: Implications for Workforce Development

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### Abstract

This study assesses the demographic data and training requirements of production workers in a manufacturing organization, with a focus on the consequences for workforce development. It emphasizes how important human resource management is to supporting the development and productivity of employees. According to the report, customized training programs are essential for keeping up with changing market demands and technology innovations. The study, which employs a descriptive-correlational methodology, finds that manufacturing workers have moderate needs for technical and analytical training and that these needs have strong connections with demographic characteristics. Customized training programs, ongoing skills development techniques, emphasizing safety training, and encouraging employee involvement are among the recommendations. The study identifies its shortcomings, including its concentration on a single business and possible biases in self-reported data, and recommends directions for further investigation into longitudinal patterns and qualitative insights. All things considered, it offers insightful information on improving training efficacy and encouraging organizational achievement in the manufacturing industry.

Keywords: Training needs, production workers, workforce development, tailored training programs, demographic factors

### 1. Introduction

Employees are the foundation of every successful business. This is why human resource (HR) management is so important. The Human Resource Department (HRD) performs a wide variety of duties and is responsible for helping employees feel safe, valued, and adequately supported. Exceptional human resource management ensures that the Human Resource Department runs smoothly and continues to evolve (Imm, 2021). Also, human resources played an essential role in developing, strengthening or reinforcing, and changing a company's old practices (Sands, 2021).

Since human resources are the primary drivers in the operation and overall sustainability of the company, they need to be knowledgeable in various tasks to run the organization. Also, the training would provide them with updated competencies and skills to address the changing market demand and trends. That is why organizations should come up with an employee training program. Moreover, employee training and development programs are essential to success. These programs offer opportunities for staff to improve their skills and for employers to enhance employee productivity and improve company culture. Employee training and development programs are critical for enhancing employee performance. Employee productivity is another area where the importance of training and development can be seen. Employees who take part in ineffective training and development programs work more efficiently. Providing training and development to employees allows employers to pinpoint the knowledge and skills they want their employees to have. Training and development programs can educate employees about new skills or update existing skills to enhance productivity (Maryville University, n.d.).

The nature of the modern business environment makes training more important today than ever. Rapid change, especially in technology, requires that employees continually learn new skills. With training so essential in modern organizations, it is essential to provide effective training. An effective training program that teaches what it is designed to teach teaches skills and behaviours that will help the organization achieve its goals (Noe et al., 2009). However, there are instances wherein the training given to the employees is not what they need to perform their job; as Annunziata (2019) explained, that training gap exists when there is a contrast between needed or required and genuine behavior or performance. This gap can arise on an individual, group, or hierarchical level. This gap can replicate an absence of skills, comprehension of occupation assumptions, and industry information. The unease was that a misalignment between the skills required by businesses and those accessible in the labor force would keep down work development. Once the significance of sufficient worker training or lack of training, at that point, it can seriously affect business accomplishment, camaraderie, monetary turnover, and the capacity to draw in and hold great employees (Martinelli, 2018). Hence, there are many adverse outcomes for lack of training or updated skills development in the working environment, which is also why organizations need to invest in the staff development plan and get the full advantages of a sufficiently trainable labor force. However, the organization's management cannot just send employees for training or conduct in-house training without knowing the actual training needs of each employee. First, it has to assess the training needed for each employee across various departments, which will be the basis for the organization's training program. Corpuz (2013) discoursed that the training objectives lead the training design considering that resources are always limited. It provides clear guidelines and develops the training program in less time because objectives focus specifically on needs. It helps in adhering to a plan.

If the training program is implemented without the training needs assessment, the company is risking its financial resources in spending on employees' training, in which their learning cannot be applied in the performance of their specific job function. According to Brown (2002), training needs assessment is an ongoing process of gathering data to determine what training needs exist to develop training to help the organization accomplish its objectives. Conducting a needs assessment is fundamental to the success of a training program. Often, organizations will develop and implement training without first conducting a needs analysis. These organizations risk overdoing training, doing too little training, or missing the point entirely. Training needs are looking at employees' knowledge, skills, and abilities to determine what types of training are needed to move the company towards its objectives (Hansen, 2019). This training needs will help figure out what analysis is needed applicable to the analysis of a structural, person, work/task, performance, content, training suitability, and cost-benefit analysis (Opleiding, 2016). This training needs assessment works best in a small to moderate-sized organization and provides a prompt assessment of the training needs of an employee group. Nevertheless, the need to keep the commitments created by the training needs process will expect the employee to receive significant training sessions with brainstorming to meet the objectives (Heathfield, 2019).



As an industrial engineer who has been working in a manufacturing company in the position of an operations manager for nine (9) years, the researcher has observed that employees who are assigned to the production area need training to develop and update their skills to ensure increased productivity and at the same time promote safety and wellness in the workplace. Also, it is imperative to provide the right amount of training, focusing on what employees need to meet the company's goals. The organization's quest to meet the customers' demand calls for more effort in intensifying the skills development of their workers to maintain efficiency and productivity since no matter how powerful the machines are, they need human resources who will maneuver and operate the machines. Furthermore, considering the demand for office furniture pieces, there is also a need to align the skills required for production and enhance the competencies of the production staff. Achieving this goal entails the conduct of training needs for the workforce in the production area of the manufacturing company with the end view of devising employee development based on the actual training needs and perspectives of the employees.

## **2. Theoretical Background**

Training is defined as a learning process that involves the acquisition of knowledge, sharpening of skills, concepts, and rules, or changing attitudes and behaviors to enhance the performance of employees. Training and development objectives were to improve productivity and the quality and quantity of output. This can increase an individual's skills in one or more areas of expertise and effectiveness in the present job. This involves increasing an individual's motivation to perform his or her job well. It creates more favorable attitudes such as loyalty and cooperation to help employees in their personal development and advancement by helping them acquire additional qualifications for a better job. Help organizations respond to dynamic market conditions and changing customer demands. Satisfy human resource planning requirements (Corpuz, 2013).

### **2.1. Analytical Training Needs**

The needs for analytical training are broad and include a wide range of competencies that are essential for navigating the changing corporate environment of today. To extract actionable insights from large data sets and support strategic decision-making and problem-solving, people need to be proficient in statistical analytic techniques, data visualization tools, and critical thinking (Jones & Smith, 2019; Wang & Liu, 2022). To bridge the gap between data analysis and corporate decision-making, these needs also include the capacity to comprehend statistical models, predictive analytics, and data mining approaches (Chen et al., 2018; Li & Zhang, 2020). An important aspect of these demands is the ability to effectively communicate findings to stakeholders.

Furthermore, analytical training emphasizes ethical considerations and data privacy while providing people with programming skills in languages like Python or R and advanced statistical techniques like machine learning algorithms (Sinha & Gupta, 2017; Patel & Shah, 2023). This multidisciplinary approach fosters not only technical competency but also critical and creative thinking in data analysis by integrating abilities from the areas of mathematics, computer science, and business. Moreover, analytical training highlights the significance of ongoing education and adjustment to changing technologies and approaches in the data analytics industry (Kumar & Mishra, 2018; Yang & Chen, 2021).

### **2.2. Presentation Training Needs**

The development of skills required to deliver engaging and convincing presentations in a variety of professional situations is covered by presentation training needs. To improve message delivery, this entails learning how to organize content, hold audiences' attention, and use visual aids skillfully (Johnson & Brown, 2017; Wang & Zhang, 2019). To convey powerful concepts, presenting training also places a strong emphasis on communication abilities like confidence, clarity, and building a connection with the audience. It entails using both verbal and nonverbal cues, such as body language and vocal modulation, along with storytelling techniques to captivate and inspire listeners. It also entails the ability to communicate complex ideas succinctly and persuasively to a variety of audiences (Liu & Wu, 2018; Smith & Johnson, 2020).

Presentation training, in the digital age of today, gives people the skills they need to create visually appealing slides, use presentation software, and deliver powerful virtual presentations. It also covers how to handle Q&A sessions and handle audience feedback in both virtual and physical environments (Gupta & Kumar, 2016; Zhang & Li, 2021). Through audience analysis and adaptation for effective communication and engagement, a holistic approach to communication is emphasized, integrating verbal, nonverbal, and visual elements to deliver persuasive messages and cultivate confidence and poise in public speaking (Chang & Wang, 2017; Tan & Lim, 2022).

## **Research Objectives**

The study aims to conduct a methodical investigation into the training requirements of a manufacturing organization, with a particular emphasis on the enhancement of analytical skills in production workers of the following: (a) *the study intends to carry out an extensive Training Needs Analysis (TNA) to pinpoint particular domains that need to be improved in terms of data visualization, statistical analysis methods, critical thinking, and other relevant competencies that are essential for making sound decisions*, (b) *it aims to determine any gaps that may exist between the skills that are needed and the capabilities that are now available by assessing the production staff's competency levels in these areas*, (c) *the study attempts to close the gaps found to increase output and promote workplace security. Additionally, it aims to explore the multidisciplinary aspects of analytical training requirements, including sophisticated statistical techniques, programming abilities, and ethical issues*, and (e) *to provide a customized training program that incorporates a variety of approaches to improve workers' competence and productivity when it comes to data analysis and decision-making in the industrial sector*.

HO1: There is no significant relationship between the age of the respondents and their training needs in technical aspects.

HO2: There is no significant relationship between the civil status of the respondents and their training needs in technical aspects.

HO3: There is no significant relationship between the length of service of the respondents and their training needs in technical aspects.



### 3. Methods

#### 3.1. Research Design

A descriptive-correlational research approach was used in this study to investigate the training requirements of production workers in a manufacturing environment. By using this method, the study sought to thoroughly evaluate the training needs and skill gaps that currently exist among workers involved in manufacturing processes. While the correlational component of the design allowed for the investigation of potential links between numerous variables connected to training efficacy and employee performance, the descriptive portion of the design made it easier to gather precise information regarding individual training needs.

An instrument designed by the researcher was used to gather pertinent data; it was intended to provide insights into different areas of training requirements that are pertinent to the workforce in production. This survey instrument was carefully crafted to elicit answers that would provide insightful information on the skill gaps and competence levels of production workers. This information would then be used to influence the creation of training interventions that are specifically targeted at these workers. Through the use of this methodological approach, the study sought to further our understanding of the training environment in manufacturing organizations and provide a foundation for the development of training programs that are specifically designed to meet the needs of production workers.

#### 3.2. Participants of the Study

The respondents of this study were the ninety (90) production employees of Fine Interiors Trading and Manufacturing, Incorporated. The respondents were from various production units, such as mass production, special production, retouching, glass, upholstery, aluminum and partition, warehouse, packing, quality control, and dispatching, and they were selected using the purposive sampling technique. Table 1 shows the distribution of the respondents.

**Table 1.** DISTRIBUTION OF RESPONDENTS (n=90)

Unit	Number of Respondents/ Sample Size (n)	Percentage (%)
Mass Production	26	28
Special	16	18
Retouching	12	13
Glass, Upholstery, Aluminum, and Partition	8	9
Warehouse	7	8
Packing	6	7
Quality control	5	6
Dispatching	10	11
<b>Total</b>	<b>90</b>	<b>100</b>

#### 3.3. Research Instrument

This study utilized a researcher-made questionnaire as the primary device to obtain data and information to answer the problem. The researcher-made questionnaire consists of three parts: the first part contained items about the profile of the respondents, which includes: age, gender, civil status, highest educational attainment, length of service, assignment area, and employment status. The second part of the instrument contains questions about the training needs of the employees in the aspect of the technical, which includes analytical and presentation skills.

#### 3.4. Data Analysis

The data collected from the questionnaire were analyzed, tallied tabulated, and subjected to the following statistical treatment: Frequency and a simple percentage were used to interpret the profile of the respondents. Weighted mean was used to interpret the gathered data on the training needs. Chi-square tests of independence were utilized to determine the significant relationship between the respondents' profile and their training needs.

#### 3.5 Ethical Consideration

Ethical considerations are an accumulation of values and principles that address what is good or bad. During the assessment, the respondents were not subjected to harm in any way whatsoever. Respect for the dignity of the respondents was prioritized, and all respondents were positively valued in their own right. Before the data collection, the researcher provided sufficient information about the study to the respondents in a language that was easily understood, and voluntary participation in the study was emphasized. After which, full consent was obtained from them before they were asked to answer the self-made questionnaire. Moreover, the respondents were informed that they have the right to withdraw from the study at any stage if they wish to do so. The protection of the privacy of the respondents was ensured by keeping private information confidential and securing all records through the use of password-protected files and encryption when sending the information. Any deception or exaggeration about the aims and objectives of the research was avoided. Any communication concerning the research was done with honesty and transparency. Any misleading information and presentation of primary data findings in a biased way were avoided.



#### 4. Results

The data shows that more of the production workers employed in the manufacturing company was aged more than 40 years old, comprising 28.29% of employees. On the contrary, only twelve (12) comprising 13.33% were 31-35 years old. The mean age of the respondents was 34.97 years old, with a standard deviation is 8.35. This result means that the production workers' predominant composition was at the maturity level and were expected to show mastery in a specific skill making or assembling the product items. Almost all or equivalent to 93.33% of the production workers were males. It can be noted that there were only six (6) female production workers. The manufacturing company preferred to hire male workers since the nature of the work in the production area is physically intensive in manufacturing pieces of furniture, which entails heavily cutting and assembling semi-finished products. It has been a practice by the company not to consider female applicants for cutting and assembling semi-finished products due to the risk of meeting an accident since in the manufacturing process, the items are heavy, bulky, and in big sizes. Also, the materials would be too much work for women to handle. In terms of the civil status of the respondents, the majority, or 63.33% of them, were already married at the time of the survey, while only 28.89% were single. It can be noted that separated respondents comprised only 6.67%, while the widowed comprised only 1.11%. It can be noted that the majority of the production workers were already in the late '40s and late '50s. Usually, a person typically has a family rather than staying single at this age. Also, it has been observed that a person at this stage in life tends to be responsible for the assigned tasks in the production area.

Table 2. PROFILE OF THE RESPONDENTS (n = 90)

Profile Indicators	Frequency (f)	Percentage (%)
<b>A. Age (in years)</b>		
21 - 25	13	14.44
26 - 30	21	23.33
31 - 35	12	13.33
36 - 40	18	20.00
More than 40	26	28.89
	Mean: 34.97	
	StDev : 8.35	
<b>B. Gender</b>		
Female	6	6.67
Male	84	93.33
<b>C. Civil Status</b>		
Married	57	63.33
Separated	6	6.67
Single	26	28.89
Widow	1	1.11
<b>D. Length of Service (in years)</b>		
1 - 3	50	55.56
More than 3	40	44.44
	Mean: 3.12	
	StDev : 0.92	
<b>E. Educational Attainment</b>		
College Graduate	1	1.11
College Level	7	7.78
High School Graduate	53	58.89
High School Level	17	18.89
Vocational	12	13.33
<b>F. Assignment Area</b>		
Dispatching Department	10	11.11
Glass, Upholstery, Aluminum, Partition	8	8.89
Mass Production Department	26	28.89
Packing Department	6	6.67
Quality Control Department	5	5.56
Retouching Department	12	13.33
Special Department	16	17.78
Warehouse Department	7	7.78
<b>G. Employment Status</b>		
Contractual	6	6.67
Probationary	20	22.22
Regular	64	71.11

In terms of length of service of the respondents, the data shows that most or 55.56% of them had been employed in the company for 1 to 3 years, while a few or 44.44% had been employed for more than three years. The mean length of service was 3.12 years, with a standard deviation is 0.92. Few workers could sustain the performance standards in the production area, while the majority would fail during the evaluation. Hence, they will not be renewed. Also, the demand for the product of the manufacturing firm is seasonal. Hence, the hiring of employees would depend on the number of orders. So those workers whose contracts were not renewed would tend to look for another job, and when the demand of the workforce surges, another group of workers would be hired in the production area. Moreover, many respondents were high school graduates, comprising



58.89% of production workers. It can be noted that there were only 13.33% of them finished a vocational course, 1.11% were college graduates, while 7.78% did not finish their baccalaureate course or considered college level. These pieces of information specify that most of the respondents had an academic background and high school diploma since the work of production workers does not require a college degree because the skills in making the furniture are the primordial requirement. Also, their work belongs to the blue-collar job in which physical strength, hard work, experience, and special skills are the elements of success.

In the aspect of the assignment area of the respondents involved and responsible for manufacturing the goods or products, 28.89% were assigned to the mass production department. This department has many production processes where bulky items are manufactured for huge projects. However, the lowest number of respondents was in the quality control department, consisting of 5.56%. Hence, only one (1) person from the quality control department will be designated in each area in production to check the quality of the product or output produced before shipping or selling to the customers. Furthermore, it can be noted that there were only a few employees in other different departments since these people are capable of multi-tasking as soon as the products are made. Unlike in the mass department, each process will be assigned to different workers for productivity and efficiency. Moreover, the data shows that most respondents had regular employment status, comprising 71.11%. It can be noted that the probationary employees comprised 22.22%, while only 6.67% were contractual employees. These data show that most production workers were under regular employment status since their function is needed in the company regularly, and they exhibited satisfactory performance.

**Table 3.** TRAINING NEEDS OF THE RESPONDENTS AS TO TECHNICAL ASPECT (n = 90)

Indicators	Mean	Description
The respondent needs training in:		
<b>A. Analytical</b>		
1. production processes and procedures	2.03	Less needed
2. quality control	2.19	Less needed
3. interpreting the perspective drawing	1.81	Less needed
4. interpreting the technical drawing	1.89	Less needed
5. proper use of measuring tools.	1.69	Not needed
6. making recommendations for improved productivity.	2.30	Less needed
<b>Aggregate Mean</b>	<b>1.99</b>	<b>Less needed</b>
<b>B. Presentation</b>		
1. executing of quality standards on furniture-making and furnishing	1.83	Less needed
2. interpreting of safety rules and factory regulations.	2.39	Less needed
3. identifying of production outputs needing rework or rejection	1.91	Less needed
4. organizing the tools and equipment in the production	1.88	Less needed
5. conforming to job specifications and supervisor's instructions	2.27	Less needed
6. maneuvering furniture-making machinery and equipment	1.68	Less needed
<b>Aggregate Mean</b>	<b>1.99</b>	<b>Less needed</b>
<b>Overall Aggregate Mean</b>	<b>1.99</b>	<b>Less needed</b>

Range: 1.00-1.74 Not needed; 1.75-2.49 Less needed; 2.50-3.24 Moderately needed; 3.25-4.00 Highly needed

For the respondents' training needs in the analytical aspect, the highest weighted mean of 2.30 indicates that the respondents needed training to a *lesser extent* in making recommendations for improved productivity. This result denotes that the workers in the production were knowledgeable enough in the technical aspects of making the specific furniture item since they were skilled in performing their assigned task, and they had been doing the same job for 1 to three years and even more. On the other hand, the lowest weighted mean of 1.69 indicates that the respondents needed training to a *lesser extent* regarding the proper use of measuring tools. This data denotes that the respondents had sufficient skills in gauging and calculating the material requirements in making a particular furniture design.

The aggregate mean of 1.99 indicates that the respondents needed training to a *lesser extent* in the analytical aspect of performing their jobs. This data denotes that the respondents' training expressed that their existing competence, skills, and length of experience in doing their specific job in the production are enough, and they do not need immediate training to update their technical skills or acquire more skills. In the course of performing their job, they could find the solution when they meet common problems and make informed decisions about which action to take. Moreover, for the respondents' training needs in the presentation aspect, the highest weighted mean of 2.39 indicates that the respondents needed training to a *lesser extent* in interpreting the safety rules and factory regulations. This data shows that the production workers fully understood the need to observe precautions in their job since their health and life may be at risk. They also manifest in recognition of their responsibility to keep themselves protected from harm and to prevent industrial accidents, injuries, and illnesses. Thereby, they no longer need more training related to safety measures because they already know what to do once they report to the production.

On the other hand, the lowest weighted mean of 1.68 indicates that the respondents needed training to a *lesser extent* in maneuvering furniture-making machinery and equipment. This data denotes that the respondents were well-trained in handling and operating the machines and equipment assigned to them appropriately. They also knew how to use those machines for their safety. The aggregate mean of 1.99 indicates that the respondents needed training to a *lesser extent* in the aspect presentation. It can be inferred from the results that the production workers possess enough skills to understand the norms of doing their assigned job, operating the machine correctly, and executing their tasks based on the company specifications. The overall aggregate mean of 1.99 further indicates that the respondents needed training to a *lesser extent* in the technical aspect of their job. This data signifies that the monthly reorientation of the production workers was enough for them to be reminded of the technical components of performing their job function.





The present technical level of technical skills of the production workers relates to the results of Carnevale et al. (1990), which shows that to perform technical work, employees need to have a theoretical understanding of their work and need the physical ability to perform these tasks according to established performance standards. By controlling and/or coordinating functions from a single location within the organization, technical training is centralized, ensures that training is consistent, supports corporate strategic goals, and prioritizes safety and quality. It also helps introduce new products or processing technologies that impact the entire organization since products are produced following strict standards. Even though the respondents expressed training needs to a lesser extent for technical skills, Schwaller and Slipy (1985) explained that technical training would become a more critical part of the overall training and development of the company. The leading emerging best practice is implementing an extensive training and continuous development plan to improve technical capabilities.

**Table 4.** RESULT OF THE TEST OF SIGNIFICANT RELATIONSHIP BETWEEN THE RESPONDENTS' PROFILE AND THEIR TRAINING NEEDS

Paired Variables	Computed Chi-Square	df	Critical Value	Significance	Result
<b>Training Needs in Terms of Technical &amp; Respondents Profile</b>					
Age	66.563	12	21.026	Significant	Ho rejected
Gender	3.571	3	7.815	Not significant	Ho accepted
Civil Status	28.923	9	16.919	Significant	Ho rejected
Length of Service	39.714	3	7.815	Significant	Ho rejected
Educational Attainment	17.668	12	21.026	Not significant	Ho accepted
Assignment Area	48.897	21	32.671	Significant	Ho rejected
Employment Status	44.950	6	12.592	Significant	Ho rejected

The paired variables study shows interesting correlations between respondents' assessed technical skill training needs and their demographic profile. First, chi-square values exceeding critical criteria show that age, civil status, length of service, assignment area, and employment status show significant relationships with training demands. In particular, different employees' perspectives of the requirement of training vary depending on their age, employment position, length of service, distinct assignment areas, and varied civil statuses. In contrast, there is no evidence to imply that gender or educational achievement has a substantial impact on training needs. This suggests that attitudes regarding the necessity of technical training may not be influenced by these characteristics. To maximize training effectiveness and employee performance, these findings highlight the significance of taking demographic characteristics into account when creating and implementing training programs. Specifically, interventions should be tailored to address needs related to age, civil status, length of service, assignment area, and employment status.

## 5. Discussion

The study's findings offer insightful information about the training requirements and demographics of the manufacturing company's production employees. First of all, the demographic study shows that a substantial section of the workforce is made up of people over 40, indicating a mature workforce with a great deal of experience in their positions. Furthermore, because of the physically demanding nature of the labor and the company's preference for selecting male personnel due to safety concerns and the nature of the tasks involved, the vast majority of production workers are men. In addition, a sizable portion of employees are married, indicating a stable and responsible work environment that may enhance employees' dedication and performance.

The data reveals a comparatively high turnover rate in terms of duration of service, with a sizable percentage of employees working for one to three years. The company's performance evaluation standards and seasonal variations in demand may be to blame for this turnover. In addition, the majority of the workforce has only completed high school, underscoring the value of experience and practical skills over formal education in the industrial sector.

The study's findings about training needs show that production workers typically have a moderate demand for technical and analytical training. Certain tasks, like reading safety guidelines and industrial laws and offering suggestions for increased production, are considered to require less training than others. This implies that employees are already proficient in these areas to some extent. Furthermore, there are noteworthy connections found in the analysis of the relationship between demographic variables and training demands, especially when it comes to age, work status, length of service, assignment region, and civil status. These results highlight how crucial it is to take individual characteristics into account when creating and executing training programs in order to maximize efficacy and improve worker performance in the industrial sector.

## 6. Recommendations

The study's conclusions allow for the formulation of several recommendations aimed at meeting the training requirements and enhancing the output of the manufacturing company's production workers. First and foremost, customized training curricula have to be designed, taking into account variables like age, tenure, region of assignment, and work standing. Because of this personalization, training materials and delivery strategies are made to be effective and relevant for a diverse workforce. Second, to keep production staff members abreast of market developments and optimal



procedures, a continual skills development strategy ought to be put into place. Frequent opportunities for practical training and refresher courses can improve their technical competencies. Thirdly, despite the perception that safety-related training is not as important, safety training programs must be given top priority in order to reduce workplace hazards and guarantee employee wellbeing. Every manufacturing worker should receive thorough training on occupational health and safety procedures.

Establishing a culture of employee participation and engagement is also crucial. Production staff participation in the creation of training programs promotes accountability and ownership of learning results. Programs for coaching and mentoring should be set up to help both new hires and seasoned workers develop their skills and share expertise. Frequent performance reviews help pinpoint areas for development and evaluate the success of training programs. It's also advised to be flexible and adaptable while modifying training curricula to take into account new issues and developments in technology. By putting these suggestions into practice, the manufacturing company can improve the performance, knowledge, and abilities of its production staff, which will improve employee happiness, operational effectiveness, and product quality.

## 7. Limitations and Future Research

Although this study provided insightful information, it is crucial to recognize that several constraints could have affected the results. First off, the results of the study did not apply to other industries or situations because it was limited to production employees working for a single manufacturing company. Furthermore, response bias and mistakes may be introduced by relying solely on self-reported data from survey tools, which would compromise the validity of the results. Moreover, the cross-sectional study design limits the capacity to prove causation or identify variations in training requirements over time.

Longitudinal studies may be used in subsequent research to monitor changes in production workers' performance and training needs over time. This would offer more thorough insights into the training interventions' efficacy and their long-term effects on the growth of employees. Qualitative research techniques, including focus groups and interviews, can also supplement quantitative data by collecting complex viewpoints and experiences about work performance and training needs. It would also improve our understanding of workforce development in manufacturing environments to investigate how organizational culture, leadership philosophies, and technical developments influence training requirements. Lastly, comparative studies conducted in various industries or geographical areas may provide insightful information on differences in training procedures and demands, leading to more all-encompassing approaches to improving worker productivity and skills.

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