Maximizing Training Outcomes: An Analysis of Factors Affecting Employee Training in Manufacturing Firms

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Abstract

Training effectiveness is crucial for employee and organizational growth. This study aims to explore the factors that affect employee training effectiveness in manufacturing companies in Ethiopia. The study focuses on trainers, training content, supervisor support, and the training environment as independent variables, with training effectiveness as the dependent variable. A quantitative research design was adopted, and data were collected from employees who recently underwent training at four manufacturing companies in Bishoftu City, Ethiopia. The findings revealed that competent trainers, well-organized training content, supportive supervisors, and a conducive training environment significantly influenced training effectiveness. The study contributes to addressing the gap in literature regarding the specific effects of these factors on the manufacturing industry in Ethiopia.

Keywords: Trainer, Training content, supervisor support, Training environment, Training effectiveness

1.   Introduction

Training is widely recognized as a crucial component for both employee and company growth. In the United States, expenditures on training surpassed $101.6 billion in 2021-2022 (Freifeld, 2022). These massive investments in training were undertaken in response to many difficulties that companies face today. It includes shifting demographics, advanced technologies, increased competition, and downsizing. However, the effectiveness of training programs in altering employee performance and behavior after implementation remains questionable. Studies show that only 10 to 20% of company training programs are applied to work, according to Broad & Newstrom, (1992). Companies are clearly spending more and more money on their employees training. The reason behind this is that they hope it will improve productivity and overall performance of the organization as noted by Olaniyan & Ojo, in 2008 and Sugiarti in 2022. But the fact is that training programs only yield results when the employees actually put into practice what they have learned during the training sessions (Arun Kumar et al., 2021; Diamantidis & Chatzoglou, 2014).

Despite this, there are substantial gains for both individuals and employers when companies invested in training (Arasanmi, 2019). Companies that invest in their employees through training programmes are better able to compete for and keep top talent, as well as boost employee engagement, productivity,

efficiency, and future organizational success (Guan & Frenkel, 2019; Karim et al., 2019). The investment a firm makes in its workers' develop and growth as professionals is rewarded with improved dedication and commitment from those who have received such training. Keeping ahead of industry developments requires a training programme that allows staff to gain new skills and expand their existing knowledge base (Arun Kumar et al., 2021; Kodwani, 2017).

In the past, researchers have conducted various factors affecting training effectiveness. These studies include works by Abich et al. (2021) found that trainers' competencies, such as expertise and communication skills, significantly impacted training effectiveness in the healthcare sector. According to Hou et al. (2018), training content's relevance, clarity, and practicality as crucial elements for positive outcomes in information technology training. Ibrahim et al. (2020) highlighted the role of supervisor support in enhancing training effectiveness and employee performance in the hospitality industry. Training effectiveness and job performance in the banking industry emphasized the combined effects of competent trainers, relevant training content, and supportive supervisors on training effectiveness and job performance (Yaqoot et al., 2021). These studies demonstrate the multifaceted nature of factors affecting training effectiveness across industries.

Many Ethiopian private and government organizations invest in training and development, to enhance their employees' skills and knowledge. These organizations provide their employees the necessary resources and information to serve the organization clients better (Asfaw et al., 2015). There are many benefits for organizations investing in time and money towards staff training (Woldeyohannes & Alebachew, 2020). After training it helps the organization to enhance productivity and efficiency, which is ultimately beneficial to the organizations overall performance. However, the effectiveness of training is under questioning, as there are various factors that can influence its impact.

Moreover, investing in employee training can be highly beneficial to both employees and companies. Organizations can deliver training to employees, increase employee engagement and efficiency, attract and retain top talent, save money, and influence the organization's future. Offering training shows employees that the company cares about their professional development, leading to increased loyalty and hard work. The best training programs empower employees to become multi-skilled and continuously updated, and refining training programs can help keep the organization ahead of industry trends. Employees, supervisors, and the organizations should all share responsibility for providing proper employee training since, when done well, it may lead to significant development for everyone involved.

The existing literature suggests that trainers skills, relevant and well-structured training content, supervisor support, and a conducive training environment play crucial roles in determining training effectiveness. However, research on the specific effects of these characteristics in the context of manufacturing firms is lacking. To fill this need, this research focuses on relationships between trainers, training content, supervisor support, training environment, and training effectiveness specifically in the manufacturing industry. By addressing this gap, the current study contributes to a more comprehensive understanding of the factors that can optimize training outcomes in manufacturing organizations. Furthermore, by examining these factors, the study aims to provide insights into how training can be made more effective and beneficial for employees in this companies.
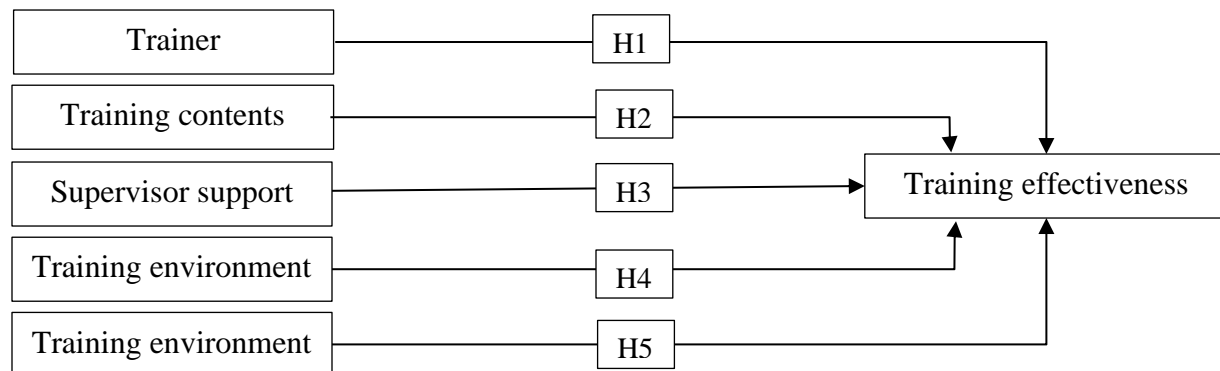
Figure 1: Conceptual framework

2. Literature review

2.1 Training

According to Ericsson et al. (2003), training is any deliberate, systematic effort to increase one's knowledge, skill, and attitude through experience learning in order to perform an activity effectively. Training may have many different meanings, as seen by this quick summary. Training is the process of developing one's potential through teaching and practice to the point where an individual's achievement can be evaluated. Training is a method used in organizations to improve workers' abilities. Training helps an employee improve their performance in some way. Ozkeser (2019) argues that training programs are essential for the success of any business. Managerial obsolescence may be avoided with the use of these programs, which boost employee performance in the workplace by updating employee knowledge and enhancing personal skills (Rodgers et al., 2020). With the use of training, it is simpler for management to assess worker performance and act accordingly in areas like promotion, wage increases, rewards, and other benefits.

2.2 Training effectiveness

A person's behavioral and emotional skills can be improved by training (Ghosh et al., 2011). It is an essential procedure that promotes organizational growth and guarantees ongoing success. Both people and companies gain from learning new abilities through training since it keeps them up to speed on the most recent developments in their respective sectors (Lourenco & Ferreira, 2019). In this approach, training serves as an investment for businesses, allowing them to take advantage of the new skills their personnel have acquired (Abich et al., 2021).

In earlier literature, the idea of training efficacy has been examined in a variety of ways. Effectiveness is one definition, while another is the assessment of the results of learning. According to Cannon-Bowers et al. (1995), effectiveness may be judged by gauging the degree to which predefined objectives are actually met. Ganesh & Indradevi (2015) define effectiveness as the extent to which something achieves the targeted outcome. The influence of training on a person's behavior, knowledge, and competence inside the company is essentially measured by training effectiveness (Ganesh & Indradevi, 2015). The results of this study

indicate that good outcomes that are in line with the goals of a particular training program are indicative of effective training. Any program that succeeds in its intended goal is regarded as influential and successful.

2.3 Trainer

Noe & Schmitt (1986) argue that a trainer has expertise in the specific topic they are delivering. In order to facilitate learning, trainers must give clear instructions, recognize trainees' areas for professional growth, and present information in a way that is easily understandable (Ghosh et al., 2011). The trainer's specialty and expertise are reflected in the fact that they were recruited for the express purpose of improving the employability of trainees (Yaqoot et al., 2021). Trainers play a crucial role in each training program. The most impressive quality a trainer has is expertise in a certain area relevant to the training program being required. However, competence alone is not sufficient. It should go hand in hand with the capacity to articulate it precisely for the target audience (Ghosh et al., 2011). According to Arun Kumar et al. (2021) and Kaur (2016) the role of the trainer is crucial in shaping the attitudes and skills that will serve trainees well in the workplace.

The quality of training and the progress of the organization are largely dependent on the subject knowledge of the trainers. If an ineffective or unqualified trainer is hired, the training will likely fail before it even begins. The mindset and motivation of the trainees are potential components of the success of the training. Trainers have a significant impact on trainees, which in turn affects training outcomes and organizational outcomes (Andoh et al., 2022). It is the trainer's responsibility to remove the trainee's hesitancy, any unpleasant experiences and encourage the trainee to learn. Training program success was also often attributed to the trainer's personality traits (Lee, 2020). Knowledge transmission is hindered while attempting to demonstrate something. An effective trainer is one who can communicate concepts clearly and illustrate them with relevant examples from the trainee's own experience (Luo et al., 2019).

Studies indicate that training options and variety are lacking in Ethiopia (Asfaw et al., 2015), Primarily because it is impossible to deliver adequate and constantly improving training programs without a sufficient number of qualified trainers. This highlights two problems: a scarcity of available trainers and a lack of trainer capability in the public and private sectors of Ethiopia. Arasanmi (2019) argued that the trainer's presentation and training method together constitute the most supportive elements for the achievement of the training aim. Additionally, to providing training, the trainer's role includes attracting and retaining business clients through the successful completion of their training-related goals. The trainer determines the nature and quality of the interaction.

Researchers Hajjar and Alkhanaizi (2018) and Yaqoot et al. (2021) looked at the impact of the trainer on the quality of the training they provided. They claimed it significantly improved the efficiency of their training. On the other hand, research by Chatzoglou et al. (2013) found no significant influence from the trainer on training effectiveness. This suggests the need for more empirical investigations to validate the applicability of the findings in the public sector context and reveal the nature of the link that exists between training effectiveness and trainers.

H1: The presence of a highly skilled and effective trainer positively influences the effectiveness of training programs.

2.4 Training contents

The effectiveness of training is significantly influenced by the content of the training. The importance of choosing training activities that will undeniably enhance the training process has been emphasized by Hajjar and Alkhanaizi (2018). These activities include self-directed, web-based training, computer-based training, and instructor-led sessions, interactive, or multimedia-inspired classes. Training program participants may be able to improve their abilities, knowledge, and attitude by choosing the best media and resources.

Material covered in a training course plays a crucial role in the ability to learn relevant skills and use those skills on the job. Casner-Lotto and Barrington (2006) recommended, assessing the contents of training programs to the workplace can provide insights into their applicability. In addition, the assessment findings should be used to revise the training material, aligning it better reflects standard workplace procedures. This approach enhances employee's engagement and consequently, training outcomes.

Bramley (1991) further supports the idea that training programs are more likely to succeed if they are conducted in conditions that are comparable to and representative of the real workplace. According to Bramley, the greater the similarities between the training and worker need, the greater the improvement in job performance following training. Training was more successful if participants were applying what they were learning to their actual jobs, if they believed the material was relevant and applicable. During the development process, the training design must be tested to make sure the learners can understand and use the information. Some of the most important things to look at when designing a training program are whether or not the information is accurate, the sequence of events is reasonable, the course is feasible, and the training program has realistic learning objectives and results.

H2: The effectiveness of training is significantly influenced by the content of the training.

2.5 Supervisor support

Supervision and instruction from superiors play a significant role in training effectiveness. In the context of training, trainees see their managers or supervisors as resource planning systems. Research on the use of training after return to work was done by Bates and colleagues, who stressed the need of supervisor support (Arasanmi, 2019). Effective supervisory assistance includes a variety of components such as discussion, encouragement, recognition, coaching, and chances for trainees to use new abilities on the job (Tziner et al., 2007).

Numerous studies underline the critical role of managers and supervisors support as a key aspect for success and transfer performance. In workplace, supervisors perform a number of functions that facilitate knowledge transmission, discussion of training, assistance with skill development, feedback, and a conducive environment to give a chance for skill application (Jackson, 2015).

During and after training, trainees need managers and supervisors support in various forms, such as hardware and software support, user assistance, strategic guidance, and the allocation of resources (Ibrahim et al., 2020). Studies have shown that trainees must return to a supportive work setting to properly utilize their new abilities. Chiaburu and Tekleab (2005) found that the availability of assistance at all levels

significantly influences employees' performance. Providing adequate assistance by organizations makes employees more likely to be motivated to train.

Furthermore, Kodwani (2017) found that having a supportive supervisor was associated with higher motivation and training effectiveness at both the individual and group levels. A manager's level of support, direction, authority, and resources may impact the motivation of employees, allowing them to effectively utilize the knowledge they gain from training. Several studies have shown that having a supportive supervisor may significantly improve training effectiveness (Arasanmi, 2019; Chiaburu & Tekleab, 2005; Tziner et al., 2007). Based on the prior literature, the hypothesis is proposed as follows:

H3: The level of supervision and instruction provided by managers or supervisors positively influences the effectiveness of training in the workplace.

2.6 Training environment

The state or surroundings of the medium in which the training program is conducted make up the training environment. It encompasses audio quality, appropriate lighting, color and intensity, functional hardware tools, such as computers, site setups, such as U-shaped table arrangements or group setups, such as parking, and other learning resources (Hajjar & Alkhanaizi, 2018). Learning environment refers to the connection between learning and the space designated for training. It encompasses the layout, the structure, the information, the management, and the application of these premises for learning. There aren't enough studies on how the environment affects training effectiveness to cover the significance of factors like lighting (natural from sunlight or artificial), brightness, color, sound clarity, echo, angle, and other noise sources (Yaqoot et al., 2017). It is one of the main elements accountable for the training programs' effective execution. In addition to other elements like (presentation approach, trainer, materials/handouts, and training audio-visuals), it is measured depending on how trainees respond in Kirkpatrick's evaluation model. An insufficiently designed training environment distracted the participant's attention. It has been discovered to affect the effectiveness and learning outcomes favorably and is one of the elements used to construct the training program (Champney et al., 2017; Yaqoot et al., 2021).

All organizations strive to provide high-quality training programs. Effective program components, including the venue's setting, are necessary for effective training. According to Graham et al., (2005), a portion of the instructional activity of the program can indicate the quality level in terms of a comfortable learning environment, classroom convenience, arrangement of the chairs, easily accessible water, toilets, and fresh air, among other factors. Training efficiency in any business was discovered to be significantly influenced by the training environment. It was also discovered to have functional control over trainees' anticipated outcomes. On the other hand, training effectiveness was found to have a strong association with the work environment and the training environment as independent variables. In order to increase the likelihood that the program will be successful, it is crucial to identify every component that might influence the results while the aim is being created.

H4: The quality and suitability of the training environment significantly impact the effectiveness of training programs.

## 3.	Research methodology

3.1 Research design

The study will adopt a quantitative research design to explore the factors that influence employee training effectiveness in manufacturing companies. A cross-sectional approach will be employed to gather data from employees who have recently received training opportunities in four manufacturing companies located in Bishoftu City, Ethiopia.

3.2 Population and sample

The total population consists of 947 employees working in the selected manufacturing companies. Using the sample size selection table created by Krejcie and Morgan (1970), a sample of 274 people was selected from the total population. The sample will be selected from employees who have participated in training programs within the past four months. A purposive sampling technique will be used to ensure that the sample includes individuals with recent training experiences.

3.3 Data collection

Data was collected through a research instrument adapted and modified from previous studies. The questionnaires will include items related to the independent variables: trainers, training environment, supervisor support, and training content. The dependent variable, training effectiveness, will also be measured using appropriate scales or indicators. The measures of trainer, training environment and training effectiveness were adapted from Yaqoot et al. (2021), supervisor support were adapted from Arasanmi (2019) and training content were modified from Hajjar & Taan (2014). We used a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" to measure these factors.

Structured questionnaires will be used to gather data. To guarantee a high return rate, the completed questionnaires were collected by a researcher friend who volunteered to help with data collecting. Out of 274 distributed questionnaires, 13 had more than 5% of the questions incomplete and were removed; this left a total of 261 usable questionnaires with a response rate of almost 95%.

3.4 Data analysis

The collected data will be analyzed using two software tools: SPSS 26 and SmartPLS 4. SPSS 26 will be used for descriptive statistics, and reliability analysis. SmartPLS 4, a partial least squares structural equation modeling (PLS-SEM) software, will be employed for testing the structural relationships among the variables and assessing the overall model fit.

## 4.	Data analysis and results

4.1 Measurement model

To evaluate the reliability of the indicators for each construct, SEM's measurement model is crucial. A statistical method called confirmatory factor analysis (CFA) examines how accurately the indicators capture the unobserved constructs' distinctive differences from one another.
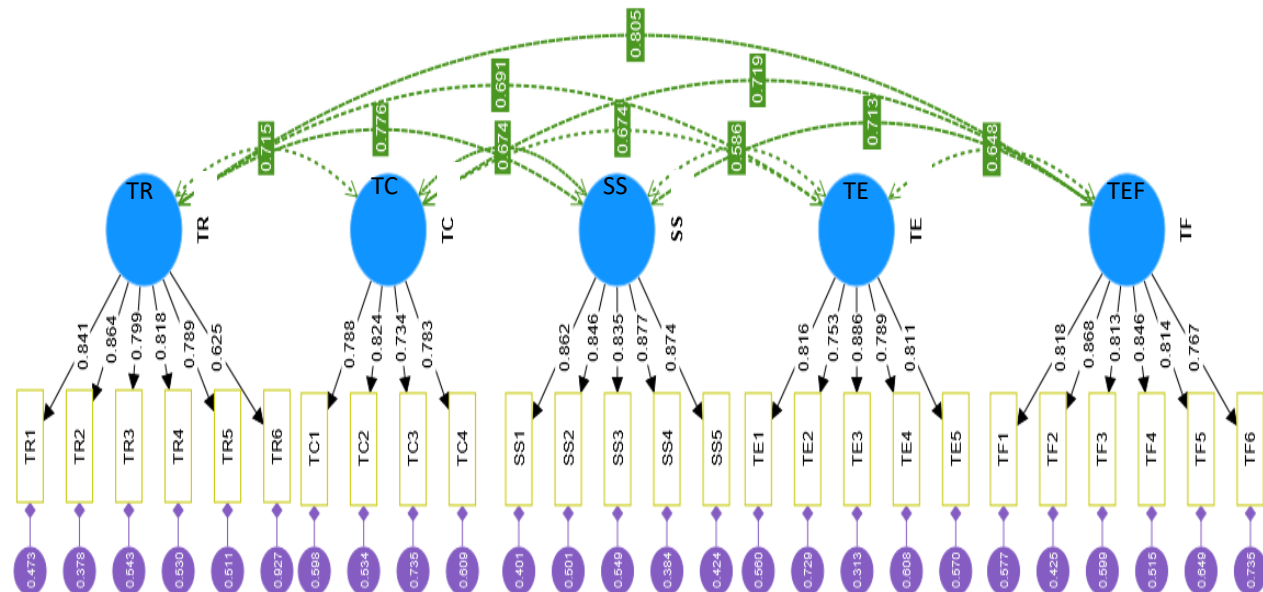
Figure 2: Standardized path estimates for the hypothesized

As shown in Figure 2 and Table 1, internal consistency measures are utilized to determine the validity and reliability of measurements. As a measurement, the outer loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE) were evaluated. In this study, the measurability of trainers, Training Contents, Supervisor Support, Training Environment, and Training Effectiveness were evaluated.

The items outer loadings were analyzed to see how much each contributed to the overall construct. High outer loadings were observed for all items, ranging from 0.789 to 0.864 for trainer, 0.734 to 0.824 for training contents, 0.835 to 0.877 for supervisor support, 0.753 to 0.886 for training environment, and 0.767 to 0.868 for training effectiveness.

Internal consistency reliability was evaluated using Cronbach's alpha coefficients, which demonstrated high internal consistency for all constructs. The reliability and validity of the measurement constructs were assessed. Cronbach's alpha value indicated high internal consistency for all constructs: trainer (α = 0.903), training contents (α = 0.863), supervisor support (α = 0.934), training environment (α = 0.906), and training effectiveness (α = 0.925).

Composite reliability values were calculated to further assess the internal consistency of the constructs. These values provide a more stringent measure of reliability as they account for both the reliability of the indicators and the shared variance among the indicators. The composite reliability coefficients for all constructs were above the recommended threshold of 0.7, indicating strong internal consistency. Composite reliability values were also satisfactory for all constructs, demonstrating good internal consistency: trainer (0.91), training contents (0.864), supervisor support (0.933), training environment (0.905), and training effectiveness (0.925).

Convergent validity was examined using the average variance extracted (AVE), which assesses the amount of variance captured by the construct relative to the measurement error. The AVE values for all constructs exceeded the recommended threshold of 0.5, indicating satisfactory convergent validity. Convergent validity was established as the average variance extracted (AVE) exceeded the recommended threshold of 0.5 for all constructs. Therefore, these results evidence of the reliability and validity of the measurement constructs, indicating that the questionnaire items effectively capture the intended constructs in the study.

Table 1: Constructs Measurement Outer Loadings, Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE)

Constructs	Measurement	Outer loadings	C. alpha	CR	AVE
Trainer	TR1: The trainer sets goals and objectives for training.	0.841	0.903	0.91	0.629
	TR2: The trainer keeps current and up to date on the subject of the training.	0.864			
	TR3: The trainer blends different training techniques.	0.799			
	TR4: The trainer facilitates group learning activities.	0.818			
	TR5: The trainer clearly explains concepts.	0.789			
	TR6: The trainer recognizes and attends to individual differences of the trainees.	0.625			
Training contents	TC1: Training contents are presented in a logical sequence.	0.788	0.863	0.864	0.613
	TC2: The content is well organized.	0.824			
	TC3: Presenters covered extensive content with practical exercises.	0.734			
	TC4: The topic covered is relevant to trainee.	0.783			
Supervisor support	SS1: My supervisor helps me when I seek advice on how to apply the learned skills in my job tasks.	0.862	0.934	0.933	0.738
	SS2: I feel comfortable approaching my supervisor for assistance when applying the newly acquired skills on the job.	0.846			
	SS3: My supervisor actively assigns tasks that align with the skills I have acquired through training.	0.835			
	SS4: My supervisor creates opportunities for me to utilize the learned skills on job tasks and projects.	0.877			
	SS5: My supervisor provides recognition or incentives for effectively utilizing the learned skills to enhance performance and productivity.	0.874			
	TE1: The room temperature was comfortable.	0.816	0.906	0.905	0.66
	TE2: The visual aids were suitably placed.	0.753			

Training Environment	TE3: The training facility was easily accessible\reachable	0.886			
	TE4: The hospitality provided during training was suitable	0.789			
	TE5: The training facility provided everything I needed to assist in my learning.	0.811			
Training Effectiveness	TFF1: After attending this training programme, I believe the productivity of the organization has improved.	0.818	0.925	0.925	0.675
	TEF2: After attending this training programme, I believe the quality of the product/service at my line has improved.	0.868			
	TEF3: After attending this training programme, I believe the waste generated by the company has reduced.	0.813			
	TEF4: After attending this training programme, I believe the process cycle-time at my line has improved.	0.846			
	TEF5: After attending this training programme, I believe the manufacturing cost has reduced.	0.814			
	TEF6: After attending this training programme, I believe the machine downtime has reduced.	0.767			

To assess the discriminant validity of the measurement model, the Fornell-Larcker criterion was employed. Table 2 displays the square root of the average variance extracted (AVE) values in the diagonal and the correlations between constructs off-diagonal. According to Hair et al. (2017), discriminant validity is supported when the square root of the AVE for each construct is greater than its correlation with other constructs. This indicates that discriminant validity is supported, suggesting that the constructs are distinct from one another.

Table 2: Fornell-Larcker criterion

	SS	TC	TE	TF	TR
SS	0.859				
TC	0.674	0.783			
TE	0.586	0.674	0.812		
TF	0.713	0.719	0.648	0.821	
TR	0.776	0.715	0.691	0.705	0.793

A Heterotrait-Monotrait Ratio (HTMT) analysis was conducted to assess the discriminant validity between the constructs. Table 3 presents the HTMT values for each pair of constructs. The HTMT values ranged from 0.588 to 0.859, indicating acceptable discriminant validity among the constructs. The values below

the recommended threshold of 0.9 (Hair, Hult, Ringle, & Sarstedt, 2017) indicate that the constructs are distinct from each other and measure different underlying concepts. Hence, the results of the HTMT analysis support the discriminant validity of the constructs in the study, confirming that the Self-Service, Tangibility, Empathy, Assurance, and Responsiveness are distinct constructs.

Table 3: Heterotrait-monotrait ratio (HTMT)

	SS	TC	TE	TF	TR
SS					
TC	0.677				
TE	0.588	0.670			
TF	0.715	0.722	0.658		
TR	0.790	0.737	0.745	0.818	

4.2 Structural model

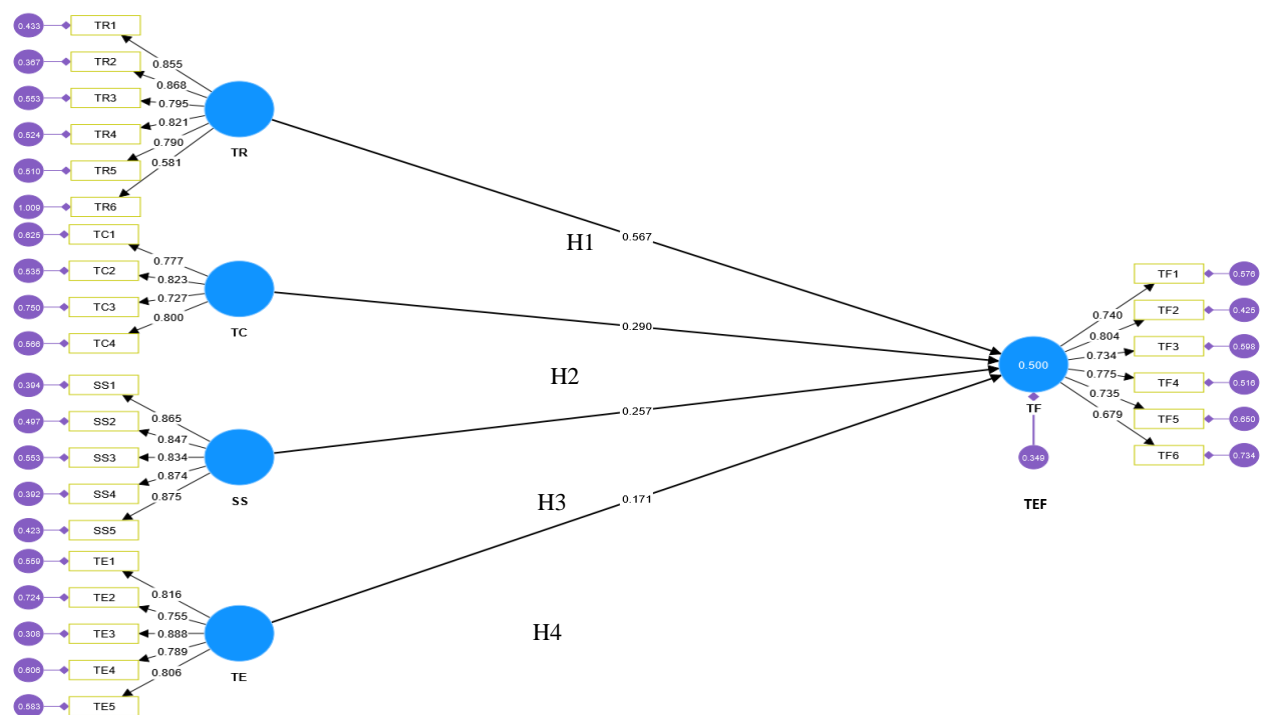The structural model is concerned with the influence and significance between constructs.

Figure 3: Hypothesized SEM model

Table 4: Analysis of hypothesis tests

Hyp.	From-to	Standardized Estimates	estimates	T values	P values
H1	Trainer → Training Effectiveness	0.567	0.436	6.361	0.000

H2	Training contents → Training Effectiveness	0.290	0.248	3.724	0.000
H3	Supervisor Support → Training Effectiveness	0.257	0.198	3.283	0.001
H4	Training Environment → Training Effectiveness	0.171	0.136	2.387	0.018

The relationship (paths) between the constructs in the proposed study model are shown in the structural model. H1 evaluate whether trainers significantly impact training effectiveness. The result show that trainer significantly impacted training effectiveness ($\beta = 0.567$, $p < 0.001$, $T = 6.361$). consequently, H1 was supported. H2 evaluates whether training contents are significantly impact training effectiveness. The results revealed that the relationship between training contents and training effectiveness was significant ($\beta = 0.290$, $p < 0.001$, $T = 3.724$). This indicates training contents had a significant effect on training effectiveness. Hence, H2 was supported. H3 evaluate whether supervisor support significantly influences training effectiveness. The result show that supervisor support has a significant impact on training effectiveness ($\beta = 0.257$, $p = 0.001$, $T = 3.283$). Consequently, H3 was supported. H4 evaluates whether training environment significantly impacts on training effectiveness. The result indicate that training environment had a significant impact on training effectiveness ($\beta = 0.171$, $p = 0.018$, $T = 2.387$). Consequently, H4 is accepted. Therefore, these results revealed that the trainer, training contents, supervisor support, and training environment all have significant positive effects on training effectiveness. The trainer was found to have the strongest influence, followed by training contents, supervisor support, and training environment (See Figure 3 and Table 4).

5. Discussion

The effectiveness of training has been studied due to its relevance to individual and institutional development. However, it has not been thoroughly investigated in the manufacturing sectors of Ethiopia (Yaqoot et al., 2021). In addition, the researchers did not expressly address the interaction of variables in the same model. This study addresses a significant knowledge gap by providing the substantial finding for the field. By adding additional components to the model proposed in the literature by Hajjar and Alkhanaizi (2018), the effectiveness of training was significantly increased. Therefore, the current study examined how various factors influence the training effectiveness in Ethiopian manufacturing firms.

One of the most critical factors in reaching the goal is the trainer's capacity to make the transfer of new knowledge simple. The results support the trainer's beneficial influence on training efficacy (H1), which is consistent with prior studies (Yaqoot et al., 2021). This implies that an educated and professional trainer can improve the efficacy of training initiatives, perhaps by their proficiency in delivering information, organizing conversations, and offering assistance and support to trainees. This is possible with careful planning, understandable language, and simple explanations. A trainer can encourage their learners to actively participate by paying close attention to their queries and comments.

The study found that training content is a key factor in determining training effectiveness (H2). Training programs' contents have been carefully considered, selected, and customized to participant needs are more likely to enhance performance. This emphasizes how crucial it is to choose and create training material with attention in order to make sure the target audience will find it relevant and applicable. The inclusion

of practical exercises and extensive coverage of content further enhances the effectiveness of training (Hou et al., 2018).

The importance of supervisors in providing a supportive learning environment is highlighted by the considerable positive connection between supervisor support and training success (H3). Employees feel empowered and inspired to use their newly gained abilities on the work when managers offer them support, direction, and resources. This emphasizes the significance of supervisor engagement and their dedication to fostering employees' growth and learning. The results align with earlier studies (Kodwani, 2017) that show how important supervisor support is for helping employees learn and do their jobs better. When supervisors help and follow trainees to use the skills they have learned, it creates a good learning setting.

Moreover, training environment was found as a factor in determining training effectiveness. The perception of training effectiveness among participants was reportedly influenced by factors such as comfortable room temperature, suitable placement of visual aids, easy accessibility of the training facility, and appropriate hospitality. These results align with other research that has stressed the value of a conducive learning environment (H4) (Arasanmi, 2019; Tziner et al., 2007; Yaqoot et al., 2021). It improves their involvement, attentiveness, and general contentment with the training program when learners are given a relaxing and encouraging learning environment.

In general, these findings show that key influences on training efficacy in manufacturing businesses include the teacher, training material, supervisor support, and training environment. The results show that manufacturing businesses must recruit skilled trainers, carefully organize training materials, promote supportive supervisor behaviors, and establish optimal learning settings if they want their training programs to influence employee performance significantly.

6. Conclusion

This research set out to identify what characteristics affect training success in Ethiopian manufacturing companies. A number of elements were shown to substantially affect the perceived efficacy of the training program. These factors included the trainer, the training topics, the support of supervisors, and the training environment. The effectiveness of the training was shown to be positively impacted by the trainer's knowledge and instructional approaches, including goal-setting, maintaining knowledge of the material, using a variety of training methodologies, and enabling group learning activities. The findings of training effectiveness were highly influenced by well-organized and relevant training content as well as by practical activities. Supportive managers and supervisors who gave direction created opportunities for skill utilization, and acknowledged and rewarded the use of newly acquired abilities were also essential in boosting the effectiveness of training. likewise, a conducive training environment was characterized by a conducive training environment, defined by elements like a comfortable room temperature, suitable placement of visual aids, easy accessibility of the training facility, and appropriate hospitality, which positively influenced participants' perceptions of training effectiveness.

The findings of the study have substantial implications to improve the effectiveness of training for manufacturing companies. By recognizing the significance of the factors affecting effectiveness of the training, organizations can strategically design and implement training initiatives that maximize employee

learning and performance outcomes. Investing in the development of trainers' skills, ensuring the relevance and practicality of training materials, fostering supervisor support and recognition, and creating a positive and comfortable learning environment can collectively contribute to the success of training programs, ultimately leading to improved productivity, product/service quality, reduced waste, and enhanced overall organizational performance.

7.   Research limitations and future research directions

The study contains several limitations that must be recognized. Firstly, the result are found based on self-reported perceptions of training effectiveness, which may be subject to bias. Future research could employ objective performance measures to supplement subjective assessments. Additionally, this study focused on manufacturing companies in a specific context, which may limit generalizability. Further research can explore the factors influencing training effectiveness in different industries and geographical locations to enhance the external validity of the findings.

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