የኢፌዲሪ የቴክኒክና ሙያ ስልጠና ኢንስቲትዩት
FDRE TECHNICAL & VOCATIONAL TRAINING INSTITUTE

የሥራ እና ክህሎት ሚኒስቴር
MINISTRY OF LABOR AND SKILLS

Federal Technical and Vocational Training Institute

Graduate Tracer Study (GTS) Report

2026

The Department of leather and leather technology

Prepared by:

Kidu G/Cherkos (Ph.D.)
Tedros Alem (MSc)
Kasahun Zemene (MSc)
Merertu Wakuma (Ph.D.)
Desalegn Ahmed (Ph.D.)
Selamu Haile (MSc)

Submitted to:

East Africa Skills for Transformation

and Regional Integration Project (RFTI)

With financial support with World Bank

ACKNOWLEDGEMENS

The successful completion of this Graduate Tracer Study would not have been possible without the support, cooperation, and contributions of many individuals and institutions. We wish to express our sincere gratitude to all those who played a vital role in making this document a reality.

First and foremost, we extend our deepest appreciation to the **East Africa Skills for Transformation and Regional Integration Project (EASTRIP)** for providing the financial and technical support that made this study possible. Their commitment to strengthening TVET institutions in the region has been instrumental in facilitating this important research.

We are profoundly grateful to the **Federal Technical and Vocational Training Institute (FTVTI)**, particularly the leadership of the Leather and Leather Products Technology (LLPT) Department, the Faculty Dean, and the Department Head for their continuous guidance, encouragement, and facilitation throughout the study. Special thanks go to the academic and administrative staff of the LLPT Department for their valuable insights and cooperation.

Our heartfelt appreciation goes to all **graduates** of the short-term and long-term Leather and Leather Products Technology programs who took time to respond to the questionnaires and share their experiences. We are equally indebted to the **employers** from various industries, TVET colleges, and organizations who generously provided honest feedback on the performance of our graduates. Their participation and constructive input have been invaluable.

We also wish to thank the **research team** members for their dedication, hard work, and commitment in collecting, analyzing, and compiling this report. The collective effort and expertise of everyone involved have significantly enriched the quality of this study.

Finally, we acknowledge the unwavering support of our families and colleagues who stood by us during the entire research period.

This study is a testament to collaborative effort, and we are confident that its findings will contribute meaningfully to the continuous improvement of TVET programs at FTVTI and the leather sector in Ethiopia.

Thank you all.

LIST OF ACRONYMS

- **AI** – Artificial Intelligence
- **BPR** – Business Process Re-engineering
- **BSc** – Bachelor of Science
- **CAD/CAM** – Computer-Aided Design / Computer-Aided Manufacturing
- **CBET** – Competency-Based Education and Training
- **CNC** – Computer Numerical Control
- **CoE** – Centre of Excellence
- **EASTRIP** – East Africa Skills for Transformation and Regional Integration Project
- **EOS** – Ethiopian Occupational Standards
- **FDRE** – Federal Democratic Republic of Ethiopia
- **FTVTI** – Federal Technical and Vocational Training Institute
- **GTS** – Graduate Tracer Study
- **ICT** – Information and Communication Technology
- **ILO** – International Labor Organization
- **IoT** – Internet of Things
- **LIDI** – Leather Industry Development Institute
- **LLPT** – Leather and Leather Products Technology
- **LT** – Long-Term
- **MoE** – Ministry of Education
- **MoLS** – Ministry of Labor and Skills
- **MSc** – Master of Science
- **OJT** – On-the-Job Training
- **Ph.D.** – Doctor of Philosophy
- **R&D** – Research and Development
- **SMEs** – Small and Medium Enterprises
- **SPSS** – Statistical Package for the Social Sciences
- **ST** – Short-Term
- **STEM** – Science, Technology, Engineering and Mathematics
- **TVET** – Technical and Vocational Education and Training

Executive Summary

The Federal Technical and Vocational Training Institute (FTVTI), established by Council of Ministers Proclamation No. 245/2011, conducted this Graduate Tracer Study (GTS) to assess the quality, relevance, and effectiveness of its Leather and Leather Products Technology (LLPT) programs. The study evaluates how well the Institute's short-term and long-term (BSc) training equips graduates with industry-relevant competencies to support Ethiopia's leather manufacturing sector and broader TVET goals under the East Africa Skills for Transformation and Regional Integration Project (EASTRIP).

Objectives The primary aim was to measure graduate employability, evaluate skills-job alignment, identify employer-required competencies and satisfaction levels, and analyze graduates' and staff perceptions of curriculum quality, training methods, and the learning environment. The study focused on graduates who completed programs before July 2025.

Methodology A mixed-methods descriptive survey design was adopted, incorporating quantitative and qualitative data from five stakeholder groups: short-term graduates, long-term graduates, employers of both cohorts, and LLPT Department staff. Structured questionnaires (adapted and validated from prior tracer studies) were used, with data analyzed through descriptive statistics (frequencies, percentages, means) and thematic analysis. Response rates were strong: 100% for long-term graduates (n=8), 70% for short-term graduates (n=63), and robust participation from employers and 23 staff members. Triangulation enhanced validity.

Key Findings

- **Employability**: All long-term graduates were employed (87.5% full-time permanent positions), with 50% securing jobs within 0–3 months. Among short-term graduates, 55.6% were employed and 41.3% continued in TVET colleges, with 74.6% finding work within 0–3 months. Most placements were in garment/leather technology or education sectors, concentrated in Addis Ababa and Oromia.
- **Training Relevance and Satisfaction**: 100% of long-term and the majority of short-term graduates reported high relevance of training to their jobs. Graduates appreciated theoretical/practical specialization knowledge and hands-on skills, with positive ratings for teacher competence, internships, and management. However, gaps were noted in ICT/digital skills, equipment maintenance, entrepreneurship, and practical resources. Job satisfaction was generally high among long-term graduates, especially in supervision and career prospects.

- **Employer Perspectives**: Overall satisfaction was strong (75–81% satisfied/highly satisfied), with graduates praised for practical tool use, teamwork, communication, and measurements. Key recruitment criteria included field of study, practical experience, and communication skills. Nevertheless, 75–84% of employers reported difficulties finding skilled candidates, with acute shortages in CNC machining, CAD/CAM, manufacturing technology, and equipment maintenance. Many graduates require additional on-the-job training (32% long-term; up to 87% short-term).
- **Staff Insights and Trends**: Staff confirmed regular curriculum reviews (mostly every 2–3 years) using occupational standards and employer input. Training aids and conditions were rated positively (means generally 3.7–4.2/5), though weaknesses persist in advanced equipment, industry linkages, entrepreneurship, and job placement support. Chapter 4 highlights an upward trend in graduate performance, instructional quality, and employer satisfaction over three years, with remaining gaps in infrastructure and advanced technology access. No programs hold international accreditation, despite strong domestic employer recognition.

Table of Contents

List of tables

List of Figures

CHAPTER 1

1. INTRODUCTION

1.1. Background

The Federal Technical and Vocational Training Institute (FTVTI) was established by Council of Ministers Proclamation No. 245/2011 in 2011 to develop highly skilled and technically competent leaders and teachers in Technical and Vocational Education and Training (TVET). The institute was created to address the critical gap in Ethiopia's TVET ecosystem the absence of an institution capable of training a sufficient number of qualified technical and vocational instructors and leaders aligned with outcome-based education systems and occupational standards.

The institute initially offered advanced diploma programs in five vocational fields: construction, automotive, electronics/electrical, proclamation and communication technology, and Leather and Leather Products Technology. Subsequently, the institute expanded to include departments for railway surveying and technological surveying, providing ten specializations covering communications, rolling stock, ICT, automotive, building, road and water, surveying, and electronics. The institute's vision is to produce competent, innovative, and resourceful TVET teachers and leaders through quality short- and long-term training, demand-based research, technology transfer, and consultancy services in support of micro and small-scale enterprises. In fulfilling its mission, the institute upholds commitment to excellence, initiative for change, innovation, resourcefulness, team spirit, social responsibility, and acceptance of diversity.

The Federal Technical and Vocational Training Institute comprises the following faculties: Faculty of Mechanical Technology, Faculty of Textile and Apparel Fashion Technology, Faculty of Electrical/Electronics and ICT, Faculty of Civil Technology, Faculty of Agro-processing Technology, Faculty of Vocational Pedagogy, Faculty of Common Courses and Computational Science, Faculty of Leadership, and the School of Graduate Study.

A graduate tracer study is a research method that offers valuable insights for assessing the outcomes of higher education, which can then help enhance and ensure its quality (Elburdah, 2024). Graduate Tracer Studies (GTS) are gaining recognition globally as essential tools for examining how graduates interpret their academic experiences and their transition into the workforce. The graduate tracer study is one of the methods that institutions can use to assess the quality of their programs, as higher education institutions are responsible for ensuring the quality of education they provide to their students (Tefera, 2018).

In the absence of reliable statistical data on labor demand indicators and the employability of sector graduates, it is challenging to scientifically assess the impact of TVET graduates on poverty eradication and economic development. The lack of dependable data makes it difficult to quantitatively evaluate the contribution of these graduates to alleviating poverty in the country. According to recent studies, market indicators and labor statistics are essential tools for developing and implementing policy efforts to enhance the effectiveness of TVET (Tekle, Areaya, and Habtamu, 2024). Tracer studies help educational institutions gather information to enhance the relevance of their curriculum in meeting employment needs and improving graduate performance. This applied research aims to evaluate the implementation of study programs in order to increase curriculum relevance and improve graduate outcomes (Akhmad Saufi et al., 2021).

Higher education institutions aim to enhance graduate instruction and training by focusing on learning from the nuanced experiences of their graduates. Since the 20th century, universities have conducted tracer studies to evaluate their curricula, clarify the connection between curricula and the labor market, highlight the distinctiveness and positioning of individual institutions, and empower universities and regulatory bodies to make informed, fact-based decisions regarding improvements and the delivery of high-quality curricula and services (Hannan and Liu, 2023).

In a similar context, several Ethiopian colleges and universities have begun conducting tracer studies for this purpose. However, many Ethiopian educational institutions lack the resources needed to perform these studies effectively. Most universities offer standard curricula, many of which were implemented without considering demand-side factors. There has been insufficient discussion regarding graduates' employability and the level of acceptance by employers. Additionally, the dynamic nature of the labour market in Ethiopia's industrial sector requires ongoing, thorough research. One promising area for Ethiopia's development is its industrial sector, which is substantial due to the country's expanding infrastructure and industrial growth. Unfortunately, the industry's potential for expansion is constrained by a shortage of skilled labour in leather product manufacturing processes, particularly in leather processing and products manufacturing (Oqubay and Ohno, 2019). Creating innovative, high-quality products using specialized techniques such as leather processing and products making is vital for the development of the LLPT sector with appropriate material selection (Anand and Mitra, 2021). This is where Centres of Excellence (CoEs), like the one focused on Leather and Leather Products, play a vital role. These centers offer training programs designed to equip both TVET instructors and current production professionals with the latest skills.

The goal is to establish a similar center dedicated to critical technology jobs at the Federal TVT Institute and its branches, ensuring that training programs adhere to the highest international standards. By providing exceptional training, the Leather and Leather Products Centre of Excellence aims to

enhance industries and support small to medium-sized enterprises (SMEs) in manufacturing, particularly those specializing in this precision technique. This initiative will directly address the shortage of skilled workers in the industry by improving the alignment between job vacancies and the available workforce. Additionally, the center will focus on research and development (R&D) to help manufacturers compete more effectively in terms of price and quality, both domestically and internationally.

One of the objectives of the Federal TVT Institute is to enhance its ability to attract international partners, instructors, researchers, and students. To partially achieve this goal, its graduate and undergraduate programs have been diversified. Studies have identified several shortcomings in the nation's TVET sector, particularly regarding the industry's lack of equity and accessibility. These shortcomings include both horizontal and vertical mismatches between the training provided and the requirements of modern Leather and Leather Products Technology (Gobbi, 2006; Asegu, 2023). The majority of students who registered in TVET colleges were those who did not receive university entry results, and challenges facing TVET in Ethiopia have been reported as a result of misconceptions held by employers and the general public about those who have completed their TVET degrees (Zeleke, Arficho, and Mulatu, 2023).

Ethiopia's labor market presents both opportunities and challenges. A comprehensive data analysis by Geressu (2017) revealed that the successful implementation of competency-based training has been hindered by several factors: increased enrolment, a lack of industrial internship opportunities, a shortage of qualified academic and support staff, and insufficient allocation of relevant resources, including LLPT teaching materials, especially in newly developed occupational standards. The author further noted that these conditions hinder TVET colleges from producing graduates with the necessary employability skills, knowledge, and aptitude, leading to graduate unemployment and dissatisfaction among various stakeholders. Qualitative data indicated that some employed graduates struggled to demonstrate the knowledge and skills essential for employability in the workplace. It was concluded that TVET colleges' inadequate capacity to assess the actual skills required in the labor market and predict the number of graduates needed in specific occupational categories is undermining the effective utilization of market opportunities and contributing to the inconsistent implementation of competency-based learning.

Recent developments underscore the urgency of addressing these challenges. According to the International Labour Organization (ILO, 2024), the youth unemployment rate in Sub-Saharan Africa stood at 21.9% in 2023, higher than the global average of 20.4%, threatening socio-economic stability and growth in the region. The Eastern Africa Skills for LLPT Transformation and Regional Integration Project (EASTRIP), a collaborative effort of the World Bank and the governments of Ethiopia, Kenya,

and Tanzania, is at the forefront of addressing youth unemployment through TVET. The recently published EASTRIP Beneficiary Satisfaction Survey revealed an 84% satisfaction rate among graduates, with the proportion of employed graduates rising from 41% in previous years to 58% in 2023, demonstrating the effectiveness of training in meeting market demands. Furthermore, 86% of employers affirmed that graduates have relevant competence and skills to succeed in employment (EASTRIP, 2023).

The World Bank's Ethiopia Education and Skills for Employability Project (P177881), launched in 2023 with a focus on women and marginalized groups, aims to improve employment outcomes of the TVET system of Ethiopia. The project is making steady progress with the commencement of implementation of Strategic Investment Plans by 24 supported Public Polytechnic Colleges, the launch of selection processes for training providers for short-term training in digital skills, and the establishment of sector skills bodies for agri-business (World Bank, 2024).

Within the context of this project, the Federal TVT Institute establishes a Precision leather and leather products-Making Technology Center of Excellence to modernize current facilities to meet global standards. The Strategic Investment Plan encourages CoE teachers to move beyond their present technological practices and experiences to develop their abilities and competency in order to improve teaching and learning skills for TVET students and the labor market (Yamada and Otchia, 2021). It also exhorts aspiring educators to get ready for the workforce by mastering the use of the newest, most advanced technology.

The current study is essential for developing and facilitating the Tracer Study, a method for effectively and economically tracking graduate performance in Leather and Leather Products Technology practices. The proposed tracer study is timely, as it aims to clarify the gap between the training provided and the actual demands of the labor market. It seeks to address issues of relevance and quality while identifying the best strategies for supplying skilled labor in these rapidly growing economic sectors. Under these circumstances, the Tracer Study will contribute to enhancing the training curriculum and methods at the TVT Institute. Additionally, it will offer insights into various employment-related topics and the suitability of different career paths within the Leather and Leather Products Technology sectors.

1.2. Statement of the Problem

Effective TVET training systems can respond to labor market needs in different countries, supporting national economic development and reducing unemployment. This is largely because knowledge and skills are critical for addressing the challenges of an increasingly dynamic and unpredictable economic environment (Adewolu Ogwo, 2024). However, TVET training requires continual assessment to

identify gaps in curriculum relevance, teaching and learning approaches, training quality, practical skill acquisition, graduate competence, and the professional capacity of instructors.

A major challenge in strengthening labor-market linkages is the lack of a thorough and reliable assessment of employment outcomes for leather technology graduates. Without credible tracer studies, it becomes difficult to determine whether leather-focused training produces job-ready graduates and whether employers are satisfied with the graduates' technical competencies. This limits the ability of policymakers and TVET institutions to address unemployment effectively. Consequently, each leather technology training institution should conduct tracer studies to measure graduate employability and assess employer satisfaction with leather technology curricula, enabling targeted interventions that align training content and delivery with current industry requirements.

Recent evidence from the EASTRIP Beneficiary Satisfaction Survey (2023) shows that graduate satisfaction remains high at 84%, yet some graduates reported dissatisfaction related to insufficient practical training, inadequate training resources, and, in some cases, weak teaching methodologies. These concerns are especially important in leather technology because industry performance depends heavily on hands-on skills and process knowledge such as appropriate handling of hides and skins, chemical understanding in tanning and finishing, quality control practices, safety procedures, and competence in modern production workflows.

In addition, Ethiopia's industrial labor market particularly within the leather and leather products sector continues to evolve. This makes ongoing research necessary to ensure that leather technology training programs remain responsive to changing industrial needs, including shifts in product standards, production methods, and demand for skilled workers across the leather value chain.

Furthermore, global manufacturing is being transformed through Industry 4.0 technologies, including artificial intelligence, machine learning, the Internet of Things (IoT), and robotics. According to the ARM Institute (2024), the projected need for leather employees is significant, and skills gaps may lead to unfilled roles if training systems do not modernize. In developing economies such as Ethiopia, the integration of these advanced technologies into TVET leather technology curricula remains limited, widening the competence gap between graduates and industry requirements (Mante, Okoye, and Xu, 2024; Motsepe et al., 2026). As a result, leather technology graduates may face difficulties in meeting emerging workplace expectations related to productivity, quality assurance systems, digital process monitoring, and safer, more efficient production practices.

Therefore, this study addresses these gaps by focusing on the Leather Technology Department at the Federal TVET Institute. It targets graduates who completed their studies before July 2025 and includes both short-term and long-term leather technology training programs, as well as their employers. The purpose is to evaluate training effectiveness and labor market alignment by examining employment

outcomes, employer satisfaction, and the extent to which the training equips graduates with relevant practical and industry-ready leather technology competencies.

1.3. Objectives

1.3.1. General Objective

The main aim of this tracer study is to assess the quality, relevance, and effectiveness of the manufacturing (leather processing and products) technology training offered at the TVT Institute in preparing graduates for the workforce and ensuring their success in their roles after graduation.

1.3.2. Specific Objectives

The specific objectives were designed to achieve the main goal and are presented as follows:

- **To measure** the employability rate of short-term and long-term graduates in Leather and Leather Products Technology within the 2024/25 academic year.
- **To evaluate** the relevance and effectiveness of the programs by assessing the alignment between graduates' skills and their current job roles within one year after graduation.
- **To identify and quantify** key skills and competencies required by employers, based on employer surveys and recruitment criteria.
- **To assess** employer satisfaction levels regarding graduates' knowledge, skills, and attitudes using structured feedback tools.
- **To analyze graduates**' and staff perceptions of curriculum quality, training methods, and learning environment in improving job readiness during the study period.

1.4. Scope

This tracer study targets graduates of the TVT Institute's Leather and Leather Products Technology Department who graduated before July 2025. It includes all graduates from regular and weekend programs, encompassing both short-term and long-term courses. The study specifically targets five distinct groups: (1) short-term graduates, (2) long-term graduates (BSc and MSc levels), (3) employers of short-term graduates, (4) employers of long-term graduates, and (5) Leather and Leather Products Technology Department staff members. The TVT Institute has been educating Leather and Leather Products Technology students from the nation's regional states, and the study considers all TVTI graduates from these cohorts.

1.5. Significance of the Study

This tracer study serves as an empirical investigation that provides valuable insights for evaluating the outcomes of the Leather and Leather Products Technology training programs at the TVT Institute. The findings can inform the department's future quality assurance initiatives and curriculum development

efforts. The study also offers recommendations that can help the institution identify potential gaps in the Leather and Leather Products Technology programs and lay the groundwork for future endeavours, including curriculum development and updates.

Furthermore, the study contributes to the broader discourse on TVET-labor market alignment in Ethiopia and the East African region. By incorporating perspectives from multiple stakeholders such as graduates, employers, and academic staff the study provides a holistic assessment that can inform policy decisions at both institutional and national levels. The findings are expected to support the Federal TVT Institute's Strategic Investment Plan and its alignment with the World Bank's Ethiopia Education and Skills for Employability Project objectives.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

The assessment of technical and vocational education outcomes has evolved significantly over the past two decades, moving from basic monitoring of enrolment to more comprehensive evaluations of graduates' employability, curriculum relevance, and labor market alignment. This shift reflects a growing understanding that the true measure of educational quality is not only what institutions deliver in the classroom, but what graduates can competently perform in real workplace settings, and how effectively they transition from training to productive employment.

Within this broader context, graduate tracer studies have become essential methodological tools for systematically tracking the pathways of former learners. Tracer research helps determine whether investments in TVET particularly in skill-intensive fields translate into meaningful economic participation and improved labor market outcomes. The present study builds on this global tradition of tracer research, while focusing specifically on the Leather and Leather Products Technology Department of the Federal Technical and Vocational Training Institute. It is distinguished by its comparative analysis of short-term and long-term program outcomes and by its inclusion of five different stakeholder perspectives to capture a fuller picture of training effectiveness and employer needs.

The literature review that follows is organized to align directly with the study's objectives. It progresses from broader theoretical and empirical insights on TVET outcomes and tracer methodology, to regional evidence related to vocational graduate employability and skills utilization, and finally to the contextual realities of Ethiopian TVET and the leather value chain. Throughout, the review is structured to connect each thematic discussion with the research aims, ensuring that the literature does not only summarize existing scholarship, but also strengthens the conceptual and empirical justification for the study's design, methods, and expected contributions.

2.2. Theoretical Framework

The theoretical architecture of this study rests upon three interrelated frameworks that collectively explain how technical education produces employable graduates and how that process can be evaluated.

Human capital theory, first articulated by Becker (1964), provides the foundational premise that education and training represent investments in productive capacity, yielding returns in the form of improved employment prospects, higher earnings, and enhanced job performance. In the context of

Leather and Leather Products Technology education, this theory posits that the specialized competencies acquired through leather processing and products training, CNC programming, precision measurement, and quality control should translate directly into measurable employability outcomes, particularly the ability to secure relevant employment within a reasonable period after graduation. However, the limitations of human capital theory have become increasingly apparent as scholars recognize that the mere possession of skills does not guarantee labor market success; rather, the alignment between those skills and actual employer requirements, the quality of training delivery, and the structural conditions of the labor market all mediate the relationship between education and employment.

This recognition necessitates the second theoretical pillar, competency-based education and training (CBET), which has become the dominant pedagogical framework in Ethiopian TVET and which emphasizes the acquisition of specific, demonstrable competencies aligned with occupational standards and industry needs. Geressu (2017) documented that while Ethiopia has formally adopted CBET, its implementation has been hindered by resource constraints, inadequate instructor preparation, and insufficient industry linkages, suggesting that the theoretical promise of competency-based training may not be fully realized in practice.

The third framework, stakeholder theory, addresses the multi-perspective nature of educational quality assessment, recognizing that graduates, employers, and academic staff each hold valid but partial perspectives on training effectiveness. Tekle, Areaya, and Habtamu (2024) emphasized that sustainable TVET improvement requires the integration of these multiple viewpoints, as each stakeholder group possesses unique insights that others cannot fully substitute.

Together, these three frameworks provide the conceptual lens through which the study examines employability rates, skills-job alignment, employer requirements, satisfaction levels, and curriculum quality perceptions, ensuring that the investigation is grounded in established theory while remaining responsive to the specific conditions of Ethiopian Leather and Leather Products Technology education. This theoretical triad thus directly supports all five study objectives, with human capital theory underpinning the measurement of employability rates, CBET framing the assessment of skills-job alignment, and stakeholder theory justifying the multi-perspective approach to curriculum quality analysis.

2.3. Graduate Employability: From Global Trends to Ethiopian Realities

The measurement of graduate employability has become a central concern for educational institutions worldwide, driven by rising graduate unemployment, increasing educational costs, and demands for accountability from governments and students alike. Employability, as conceptualized by Yorke

(2006), extends beyond the simple binary of employed versus unemployed to encompass the quality of employment, the relevance of work to educational preparation, and the adequacy of income, and the potential for career progression. This multidimensional understanding is particularly relevant for technical and vocational education, where the primary justification for training investment lies in its capacity to produce workforce-ready graduates.

The International Labour Organization (2024) provided sobering context for this discussion, reporting that youth unemployment in Sub-Saharan Africa reached 21.9 percent in 2023, substantially exceeding the global average of 20.4 percent and threatening the region's demographic dividend. Within this challenging regional context, TVET systems are increasingly viewed as critical instruments for addressing youth unemployment, yet their effectiveness depends fundamentally on the quality and relevance of the training provided. The Eastern Africa Skills for Transformation and Regional Integration Project (EASTRIP, 2023) offered encouraging evidence from this perspective, documenting that the proportion of employed TVET graduates across participating institutions rose from 41 percent in earlier assessments to 58 percent in 2023, accompanied by an 84 percent graduate satisfaction rate. However, the fact that 42 percent of graduates remained unemployed underscores the persistent gap between training output and labor market absorption, a gap that the current study directly addresses through its first objective of measuring the employability rate of Leather and Leather Products Technology graduates within the 2024/25 academic year. In Ethiopia specifically, the evidence on TVET graduate employability remains fragmented. Geressu (2017) conducted a comprehensive analysis revealing that Ethiopian TVET colleges lack adequate capacity to assess the actual skills required in the labor market and to predict the number of graduates needed in specific occupational categories, undermining the effective utilization of market opportunities.

The Leather and Leather Products Technology Tracer Study Report (2022) from the Ethiopian Technical University found that all traced Leather and Leather Products Technology graduates were employed, yet this apparently positive outcome was tempered by the concentration of 95 percent of these graduates in the education and training sector itself, raising questions about whether the manufacturing industry is absorbing these graduates or whether they are merely recycling into the TVET system as instructors. This pattern suggests that high employability rates may mask underlying problems of sectoral misalignment and limited industrial absorption capacity. The current study builds upon this evidence by not only measuring employability rates but also examining the sectors, job types, and quality of employment secured by graduates, thereby providing a more nuanced assessment than simple employment statistics can offer.

Furthermore, the study advances beyond existing research by explicitly comparing the employability outcomes of short-term and long-term program graduates, a comparison that has not been

systematically conducted in Ethiopian Leather and Leather Products Technology education. Mante, Okoye, and Xu (2024), in their systematic comparison of TVET systems in China and Sub-Saharan Africa, suggested that short-term programs may produce faster initial employment due to their focused skill sets, while long-term programs may generate better career progression over time, though these patterns are likely mediated by local labor market conditions and program structures. The current study tests these propositions in the Ethiopian context, generating evidence that can inform program design decisions and resource allocation between short-term and long-term training pathways.

In summary, the literature on graduate employability establishes both the importance of measuring employment outcomes and the complexity of interpreting those measurements, while the specific conditions of Ethiopian TVET and Leather and Leather Products Technology education highlight the need for focused, comparative investigation that the current study provides through its first objective.

2.4. Program Relevance and Effectiveness: Skills-Job Alignment

Employability captures whether graduates obtain work, while skills-job alignment determines whether that work actually makes use of what graduates were trained to do. This distinction is fundamental for assessing TVET program effectiveness. In the TVET literature, "alignment" is typically treated as multidimensional, including: (1) horizontal alignment (whether graduates work in the same broad sector as their training), (2) vertical alignment (whether the job level matches the qualification), and (3) skills utilization alignment (whether the specific competencies learned during training are applied in the workplace).

Motsepe et al. (2026), in a cross-country assessment of TVET curriculum relevance in Africa, reported that although many countries increasingly adopt competency-based curricula, persistent weaknesses remain particularly limited employer participation in curriculum design, slow curriculum updating, and inadequate integration of transversal and digital competencies. These issues can reduce alignment outcomes: graduates may graduate with credentials but still lack the practical and emerging capabilities employers require, leading to partial underemployment or competency mismatch.

Evidence from Ethiopia reflects similar concerns. Asegu (2023) reported both horizontal and vertical mismatches between TVET training and the requirements of modern Leather and Leather Products Technology. Likewise, the Leather and Leather Products Technology Tracer Study Report (2022) found that while 95% of graduates indicated their work was related to their course, significant gaps persisted in practical training, internship availability, and the industry experience of instructors. Taken together, these findings suggest that even when graduates secure field-related employment, they may still face skills underutilization, competency gaps, and consequences for productivity, job satisfaction, and retention.

Timing also matters for measuring alignment. The relationship between training and employment is most clearly observable immediately after graduation—before graduates undergo career shifts, additional training, or labor market adjustments that can blur the original effect of the training. Tefera (2018) and Elburdah (2024) both argue that the first year after graduation provides the most appropriate window for alignment assessment because graduates can still fairly compare their training preparation with workplace expectations, and before workplace learning substantially reshapes their competence profile.

Building on this rationale, the current study focuses on graduates within one year of completion to maximize the validity of alignment findings. The study operationalizes alignment using structured graduate self-assessment instruments in which graduates rate: (i) how well the training prepared them for their current job, (ii) the extent to which they actually use trained skills, and (iii) the adequacy of preparation across specific competency areas. Drawing on approaches used by Akhmad Saufi et al. (2021) and Hannan and Liu (2023), this design supports both quantitative assessment and additional qualitative insight into graduates' alignment experiences.

To strengthen the evidence and triangulate graduate perceptions, the study also incorporates employer evaluations of graduate preparedness and performance. By combining these perspectives, the research generates a comprehensive view of skills-job alignment, directly supporting the second objective: evaluating the relevance and effectiveness of Leather and Leather Products Technology programs through graduates' employment experiences.

In summary, the literature consistently indicates that TVET effectiveness cannot be judged by completion rates or even employment rates alone. It requires careful examination of whether graduates use what they learned, whether training content matches what employers need, and whether graduates were prepared adequately for workplace demands. The present study addresses each of these questions systematically within the one-year post-graduation window, thereby contributing to the limited evidence on Leather and Leather Products Technology training effectiveness in Ethiopia and directly fulfilling the study's second objective.

2.5. Employer Perspectives on Required Skills and Competencies: Defining the Demand Side

Employer and workplace perspectives provide the demand-side benchmark for TVET quality. While graduate and institutional perspectives help explain the supply side (what training produces and how it is delivered), employers define the real performance criteria by which training is ultimately judged. Without responsiveness to employer needs, TVET programs may generate graduates with generally

adequate abilities, yet they still struggle to secure and sustain employment especially in skill-sensitive manufacturing environments. For this reason, the study's third objective identifying and quantifying the key skills and competencies required by employers is grounded in the principle that evidence-based curriculum improvement must start from workplace expectations.

Employer-required skills and Industry 4.0 trends

The literature on employer skill requirements shows recurring patterns across manufacturing sectors internationally. For example, the ARM Institute (2024) projected that the United States manufacturing sector will require approximately 3.8 million new employees between 2024 and 2033, and that 1.9 million roles may remain unfilled if current skills gaps persist. The competencies most often cited as lacking include data analytics, programming in languages such as Python, C++, and Java, robotics and automation expertise, Internet of Things (IoT) implementation, and operation of smart manufacturing systems. These Industry 4.0 competencies are increasingly becoming baseline requirements, even for traditional production roles, because digitalization is reshaping workflows across manufacturing industries.

For developing economies such as Ethiopia, however, the integration of these advanced technologies into TVET curricula remains limited. This creates a widening gap between what graduates are trained to do and what industry increasingly expects. Mante, Okoye, and Xu (2024) report that Sub-Saharan African TVET institutions face constraints such as inadequate funding for technology infrastructure, shortages of instructors with up-to-date industry knowledge, and curricula developed without meaningful employer consultation.

Evidence from the regional context (employer perceptions)

The EASTRIP Beneficiary Satisfaction Survey (2023) reflects this mismatch clearly: although 86% of employers reported that graduates have relevant competence, 67% reported difficulty finding graduates with the specific skills they need, and 75% indicated that graduates require additional training after employment. This apparent paradox suggests that employers may generally view graduates as having foundational capabilities, but still experience gaps in specialized, advanced, or emerging competencies needed for efficient workplace performance.

Leather and Leather Products Technology recruitment criteria in Ethiopia

Within Ethiopia's leather sector, the Leather and Leather Products Technology Tracer Study Report (2022) identified five major recruitment criteria for leather technology graduates: (1) field of study, (2) subject-area specialization, (3) recruitment test results, (4) practical experience acquired during training, and (5) communication skills. These criteria indicate that employers assess graduates holistically not only for technical competence, but also for employability-related attributes such as communication and demonstrated readiness for workplace tasks.

The present study builds on this by treating employer requirements as potentially different by program duration/qualification level. Specifically, it examines recruitment criteria separately for short-term and long-term graduates, acknowledging that employers may prioritize different competencies depending on the complexity and responsibility associated with each qualification level. For short-term graduates, employers may emphasize immediate technical execution, equipment operation proficiency, and readiness for production tasks. For long-term graduates, employers may place greater value on analytical ability, problem-solving, innovation potential, and supervisory or higher-level workplace readiness.

To capture these differences systematically, the study uses structured employer surveys employing rating scales and importance rankings. This approach allows the research to quantify employer skill needs and produce prioritized evidence that can guide curriculum planning and resource allocation. By identifying the most critical and frequently cited competencies, the Leather and Leather Products Technology Department can focus limited training resources on the areas of greatest employer demand, improving labor market relevance and training effectiveness.

Link to the third objective

In summary, employer skills requirements are not a secondary input; they are central to defining training quality in practice. Therefore, systematically identifying and quantifying employer competency needs is essential for maintaining curriculum relevance in a rapidly evolving and technology-driven industrial landscape. The current study accomplishes this through rigorous employer surveys that generate actionable, prioritized skills information, directly fulfilling its third objective.

2.6. Employer Satisfaction: Assessing Graduate Performance in the Workplace

Employer satisfaction reflects the overall workplace evaluation of whether graduates meet or exceed expectations regarding knowledge, practical skills, and professional attitudes. In contrast to skills requirements (which describe what employers want), satisfaction measures whether graduates actually perform as expected once hired. This distinction matters because a TVET program may teach the "right" content yet still produce graduates who cannot apply it effectively; likewise, graduates may be technically competent but lack the workplace behaviours needed for sustained job performance.

Accordingly, the study's fourth objective assessing employer satisfaction levels regarding graduates' knowledge, skills, and attitudes focuses on this performance dimension through structured and standardized feedback tools. Such tools generate comparable data across employers, sectors, and graduate categories, enabling meaningful assessment of training quality beyond general employer impressions.

2.6.1. Evidence from employer satisfaction studies

Global evidence on employer satisfaction with TVET graduates shows a nuanced pattern. The EASTRIP Beneficiary Satisfaction Survey (2023) reported that 86% of employers affirmed that graduates have relevant competence and skills. However, this headline figure hides important concerns: 67% of employers reported problems finding graduates with the specific skills their organizations need, and 75% indicated that graduates require additional training after employment. This suggests that while many graduates may meet basic hiring thresholds, they may still lack the depth, breadth, or up-to-date competency needed for optimal workplace productivity without further employer investment.

In Ethiopia's specific leather technology context, the Leather and Leather Products Technology Tracer Study Report (2022) found that employers were generally more satisfied with graduates' theoretical knowledge, but less satisfied with their practical skills, problem-solving abilities, and familiarity with modern manufacturing technologies. This theoretical–practical imbalance aligns with common TVET constraints, especially where limited resources reduce access to modern equipment, applied learning opportunities, and sustained industry partnerships.

How the study measures employer satisfaction (knowledge, skills, and attitudes)

To capture satisfaction comprehensively, the current study uses structured feedback instruments particularly standardized questionnaires with Likert-scale items and behavioural indicators organized into three domains:

Knowledge: theoretical understanding, subject-matter expertise, and ability to apply principles in relevant tasks.

Skills: practical application, technical proficiency, and quality of execution.

Attitudes: work ethic, professionalism, adaptability, teamwork, and punctuality.

This three-domain framework ensures that satisfaction is not assessed narrowly as "technical correctness," but instead reflects the full range of attributes that support workplace effectiveness.

2.6.2. Short-term vs. long-term graduate satisfaction

The study also distinguishes employer satisfaction for short-term versus long-term graduates, recognizing that employers may hold different expectations for each group. Short-term graduates are often assessed on immediate efficiency and accuracy in performing specific technical tasks. Long-term graduates, by comparison, may be evaluated more for their analytical ability, problem-solving, innovation potential, leadership readiness, and capacity to adapt to changing workplace requirements. By differentiating satisfaction in this way, the study can identify program-type-specific improvement areas rather than applying one-size-fits-all curriculum changes.

2.6.3. Satisfaction as a quality assurance and improvement input

Importantly, employer satisfaction data function not only as an outcome indicator, but also as an input into continuous improvement. When satisfaction is low in specific competency areas, the TVET provider can target actionable interventions such as curriculum updates, improved teaching and assessment strategies, expanded practical training opportunities, and strengthened industry partnerships. This feedback loop aligns with quality assurance objectives of the Federal TVET Institute and the World Bank's Ethiopia Education and Skills for Employability Project (P177881), which emphasizes evidence-based program enhancement (World Bank, 2024).

Overall, the literature indicates that aggregate satisfaction rates can mask meaningful competency gaps, satisfaction must be measured across multiple domains to be valid, and satisfaction findings are most valuable when they directly inform program improvement decisions. The current study addresses these insights through a rigorous, differentiated, and actionable employer satisfaction assessment, thereby directly fulfilling its fourth objective.

2.7. Curriculum Quality, Training Methods, and Learning Environment: The Supply Side Perspective

While employer perspectives provide external validation of training quality, graduate and staff perspectives illuminate the internal processes through which quality is produced—or undermined. The study's fifth objective therefore examines graduates' and staff perceptions of curriculum quality, training methods, and the learning environment. These supply-side insights are essential for understanding why programs generate the outcomes they do and for identifying the most impactful changes for improvement.

Graduate assessment literature highlights several key curriculum dimensions relevant to this study. Content relevance assesses the extent to which taught material aligns with the demands of graduates' current jobs. Sequencing and progression evaluates whether foundational concepts build logically toward advanced applications. Depth versus breadth examines whether core competencies receive adequate intensive coverage without sacrificing essential topics. Currency determines whether the curriculum incorporates up-to-date technologies, practices, and standards a particularly critical issue in Leather and Leather Products Technology (LLPT), where equipment and production processes evolve rapidly.

Findings from the Leather and Leather Products Technology Tracer Study Report (2022) revealed graduate dissatisfaction with the theory–practice balance, the relevance and suitability of training equipment, and the currency of curriculum content. These concerns point to priority areas for

intervention. Training methods the pedagogical approaches used to deliver curriculum content also exert a powerful influence on learning outcomes and graduate preparedness. Effective TVET pedagogy typically combines theoretical instruction with hands-on practice, industry-based learning, project-based assignments, and simulations, each serving distinct purposes.

However, Ethiopian TVET colleges face well-documented constraints in implementing such approaches. Geressu (2017) highlighted inadequate workshop facilities, insufficient consumable materials, and limited industry partnerships for work-based learning. Yamada and Otchia (2021) further identified perception gaps between teachers and students in the garment sector regarding the relative importance of practical skills, industry knowledge, and soft skills. The current study therefore investigates whether graduates and staff in LLPT programs hold convergent or divergent views on training method effectiveness, with divergences potentially signaling communication or implementation challenges.

The learning environment including physical facilities, equipment, materials, and library resources further shapes training quality. Geressu (2017) identified chronic under-allocation of teaching materials, especially for newly developed occupational standards. The 2022 tracer study corroborated this, with graduates expressing dissatisfaction over the availability and modernity of practical training equipment. These are not merely logistical issues; they directly constrain students' opportunities to develop mastery through repeated practice on relevant, current tools.

Staff perspectives complement those of graduates by surfacing implementation challenges that may be less visible to learners. Instructors can speak to time constraints limiting content coverage, resource shortages restricting practical training, variability in student preparedness, difficulties securing industry partnerships, and weaknesses in competency-based assessment. As Tekle, Areaya, and Habtamu (2024) emphasize, staff insights are vital for developing realistic, implementable improvement strategies that account for institutional realities. The present study captures these perspectives through structured interviews and surveys.

Collectively, curriculum, pedagogical, and resource dimensions contribute to job readiness—the integrated capacity to perform effectively upon entering employment. This encompasses technical competence, practical experience, confidence, and professional attributes. Research indicates that job readiness is best fostered through intensive practical training, industry internships/apprenticeships, exposure to real-world problems and equipment, development of communication and teamwork skills, and targeted career guidance. As Adewolu Ogwo (2024) and Motsepe et al. (2026) argue, job readiness is not merely the sum of isolated competencies but emerges from the coherent integration of curriculum content, teaching methods, learning environment, and student support services. Accordingly, this study

assesses graduates' and staff perceptions of these components in LLPT programs, determining the extent to which the programs produce workforce-ready professionals.

In summary, the literature underscores that training effectiveness arises from the dynamic interaction of multiple factors. Graduate and staff perspectives offer complementary insights into this production process and help pinpoint specific, feasible improvements. By generating robust supply-side evidence alongside employer (demand-side) data, the current study provides a holistic assessment of Leather and Leather Products Technology program quality and directly addresses the fifth research objective.

2.8. Comparative Analysis of Short-Term and Long-Term Programs: A Distinctive Contribution

The distinction between short-term and long-term Leather and Leather Products Technology (LLPT) programs reflects more than differences in duration; it embodies fundamentally different educational philosophies, intended outcomes, and labor market positioning. Short-term programs, typically lasting weeks to months, deliver intensive, narrowly focused training in specific technical skills to prepare graduates for immediate entry-level roles such as technicians, machine operators, or quality inspectors. In contrast, long-term programs spanning three to five years at BSc and MSc levels offer comprehensive education that integrates strong theoretical foundations, advanced technical competencies, research skills, and broader professional development.

Most existing Ethiopian tracer studies either aggregate data across program levels or focus exclusively on one type, limiting comparative insights. The current study addresses this gap by explicitly comparing short-term and long-term LLPT graduates. This comparative approach is essential because the expected outcomes of the two program types differ in predictable ways. Short-term graduates often achieve faster initial employment due to their immediately applicable, job-specific skills and are frequently preferred by employers needing rapid filling of technical positions. However, their narrower training may constrain long-term career progression and increase vulnerability to technological displacement. Long-term graduates may experience longer initial job searches as employers seek appropriate roles that match their broader capabilities, but they typically secure higher-level positions with greater advancement potential, leadership opportunities, and adaptability to industry change.

Mante, Okoye, and Xu (2024), in their systematic comparison of TVET systems, suggest that these patterns are mediated by local labor market conditions, industry structure, and program design—highlighting the need for context-specific evidence. The current study generates such evidence by comparing employability rates, job quality, skills–job alignment, and satisfaction levels between the two graduate cohorts in the Ethiopian LLPT context.

Employer expectations further reinforce the value of this differentiation. Employers of short-term graduates tend to prioritize immediate productivity, proficiency in equipment operation, basic maintenance, and reliable technical execution. Employers of long-term graduates, conversely, emphasize analytical skills, complex problem-solving, innovation, research and development capacity, and technical leadership. These differentiated requirements mean the two program types should be evaluated against distinct success criteria rather than a single uniform benchmark. Curriculum improvements and resource allocation decisions must therefore be tailored to each program's specific labor market segment.

In essence, the literature on short-term versus long-term TVET underscores that these pathways serve complementary functions within the skills development ecosystem. They require differentiated evaluation standards and benefit from rigorous comparative analysis to inform program design and resource allocation. By providing such evidence for the Leather and Leather Products Technology sector in Ethiopia, the current study contributes to a more nuanced understanding of how different training pathways produce distinct outcomes and how each can be optimized for its intended purpose. This comparative lens supports all five research objectives.

2.9. Research Gaps and the Current Study's Contribution

Despite a growing body of tracer study research in Africa and Ethiopia, several critical gaps remain that the current study directly addresses.

First, most existing Ethiopian tracer studies either aggregate data across program levels or focus on a single type, precluding meaningful comparative analysis. Studies conducted at Bahir Dar University (2019), Holeta Polytechnic College (2021), and the FTVTI (Ethiopian Technical University) (2022) exemplify this limitation. The current study fills this gap by explicitly comparing employability rates, skills–job alignment, employer satisfaction, and curriculum quality perceptions between short-term and long-term Leather and Leather Products Technology (LLPT) graduates.

Second, few studies differentiate between employers of short-term and long-term graduates. This masks important variations in requirements, satisfaction levels, and improvement recommendations. The current study's separate employer surveys for each graduate type capture these distinctions, enabling more nuanced and targeted curriculum enhancements.

Third, academic staff perspectives are frequently excluded from tracer studies. While graduates and employers offer valuable external validation, staff insights are essential for understanding implementation challenges, resource constraints, and pedagogical feasibility. By including LLPT

Department staff as a distinct target group, the current study generates descriptive yet actionable evidence that accounts for institutional realities.

Fourth, there is a lack of focused, in-depth assessment of Leather and Leather Products Technology specifically. Most Ethiopian tracer studies examine general TVET outcomes or aggregate across departments, diluting sector-specific insights. The current study's concentrated focus on LLPT produces detailed, actionable findings for this strategically important sector one that faces acute skills shortages and is central to Ethiopia's industrialization goals (Oqubay & Ohno, 2019; Anand & Mitra, 2021).

Fifth, Ethiopian TVET research has paid limited attention to Industry 4.0 implications for curriculum development. While global literature extensively documents how digitalization, automation, and data analytics are transforming manufacturing skills requirements, few studies systematically assess whether Ethiopian graduates are prepared for these emerging demands. The current study addresses this gap by examining employer requirements for Industry 4.0 competencies and graduates' perceptions of their own preparedness, thereby identifying priority areas for curriculum modernization.

Beyond filling these research gaps, the study makes important practical and policy contributions. By generating comparative evidence on short-term and long-term program outcomes, it supports evidence-based decisions on program design, resource allocation, and marketing. By distinguishing employer needs by graduate type, it facilitates targeted curriculum updates. By triangulating perspectives from graduates, employers, and staff, it produces more reliable and actionable findings. Finally, by assessing Industry 4.0 readiness, the study helps ensure that LLPT training remains relevant in a rapidly evolving global industry.

In summary, the literature reveals significant shortcomings in comparative, multi-perspective, sector-specific, and future-oriented tracer study evidence within Ethiopian TVET. The current study addresses each of these gaps through its carefully designed investigation of Leather and Leather Products Technology graduate outcomes, contributing to both scholarly understanding and the practical improvement of technical education in Ethiopia.

2.10. Summary

The literature reviewed in this chapter establishes a comprehensive foundation for the current tracer study by connecting broad theoretical frameworks with specific empirical evidence and local contextual conditions. Human capital theory, competency based education, and stakeholder theory provide the conceptual architecture for examining how Leather and Leather Products Technology (LLPT) training produces employable graduates and how that process can be evaluated from multiple perspectives. Global evidence on youth unemployment and TVET outcomes underscores the urgency

of effective technical education, while regional and national studies reveal both the progress and persistent challenges of Ethiopian TVET implementation.

Theoretical discussions of employability measurement, skills-job alignment, employer requirements, satisfaction assessment, and curriculum quality each build toward the study's specific objectives. Collectively, these bodies of scholarship demonstrate that the investigation is firmly grounded in established research while addressing important identified gaps.

The literature indicates that Leather and Leather Products Technology graduates in Ethiopia generally achieve employment, yet they often face challenges such as sectoral concentration, skills gaps, insufficient practical preparation, and limited readiness for technological transformation. The current study investigates these issues systematically through its five objectives, generating evidence that is comparative across program types, multi-perspective across stakeholder groups, and actionable for program improvement.

By measuring employability rates, evaluating skills-job alignment, identifying employer-required competencies, assessing satisfaction levels, and analysing curriculum quality perceptions, the study produces a comprehensive assessment of Leather and Leather Products Technology training effectiveness. The findings are intended to inform curriculum development, strengthen university-industry linkages, and enhance the quality, relevance, and overall effectiveness of the Federal TVET Institute's programs.

Ultimately, consistent with the institute's vision of producing competent and innovative TVET teachers and leaders, the aim is to ensure that Leather and Leather Products Technology training prepares graduates not merely for immediate employment but for sustained career success in a rapidly evolving technological landscape.

CHAPTER 3

METHODOLOGY

3.1. Study Design

A descriptive survey was conducted, incorporating a mixed research methods approach to ensure the relevancy of data collected from different respondent groups. This approach involved gathering both quantitative and qualitative data, which provided a more robust dataset. The mixed-methods strategy allowed for a thorough examination of the various aspects under investigation, thereby enriching the overall findings of the study in terms of quantitative and qualitative results.

To achieve a deeper understanding of the issues concerning the study environment and the employment of FTVT Institute Leather and Leather Products Technology graduates, a triangulation technique was employed to ensure the validity of findings. The study specifically used data triangulation, which entails the integration of both single-variable and multi-variable techniques, as well as combining quantitative and qualitative data sources (methodological triangulation). This technique offers several advantages, including the ability to verify data from multiple sources. This comprehensive approach ensured a well-rounded analysis and a more detailed insight into the research questions.

3.2. Study Period

This study was conducted from March 5 to June 20, 2026, during which the necessary data were gathered. The tracer study aimed to address specific objectives and provide insights based on the findings of collected data over this period. The study focused on graduates who completed their programs before July 2025, ensuring a comprehensive assessment of post-graduation employment outcomes and career trajectories.

3.3. Study Population

The primary focus of this tracer study was on graduates of the Leather and Leather Products Technology (LLPT) programs at the Federal TVET Institute. To gather comprehensive and relevant information, the study targeted five distinct stakeholder groups with a total population of 108 participants: short-term graduates, long-term graduates (BSc), employers of short-term graduates, employers of long-term graduates, and Leather and Leather Products Technology Department staff.

The first group consisted of all short-term Leather and Leather Products Technology graduates who completed their programs before July 2025. These graduates offered critical insights into their educational experiences and immediate employment outcomes following specialized short-term training.

The second group comprised all long-term Leather and Leather Products Technology graduates (BSc) who completed their programs before July 2025. They provided perspectives on the effectiveness of the comprehensive degree programs in preparing graduates for advanced technical and leadership roles in the leather manufacturing sector.

The third and fourth groups included employers of short-term and long-term graduates, respectively. These employers primarily TVET colleges, manufacturing industries, and other relevant organizations offered essential feedback on graduates' workplace performance and the relevance of their training to actual job requirements. Including employers enabled the study to assess how well the Leather and Leather Products Technology program prepares graduates for the labor market.

The fifth group consisted of academic staff from the Leather and Leather Products Technology Department at the Federal TVET Institute, including the Faculty Dean, Department Head, and lecturers. Their input provided valuable perspectives on curriculum design, teaching methodologies, and areas needing improvement.

Collectively, these five stakeholder groups offered a comprehensive, multi-perspective view of the educational quality and employment outcomes of Leather and Leather Products Technology graduates from the Federal TVET Institute.

Out of the total population, [sample size to be determined] respondents were selected as the sample and are presented in **Error! Reference source not found.**.

Table: 1 Methodological Framework by Stakeholder Group

Stakeholder Group	**Sample Size**	**Response Rate**	**Data Collection Method**	**Specific Adaptations**
Long-term Graduates (BSc/MSc)	8	100%	Online structured questionnaire + telephone follow-up	Extended questions on career progression, research skills, and leadership readiness
Short-term Graduates	63	90%	Online structured questionnaire + SMS reminders	Additional questions on immediate job application, training duration adequacy, and specific module relevance
Employers of Long-term Graduates	31	—	Structured employer questionnaire + in-depth interviews	Focus on graduate supervisory potential, innovation capacity, and long-term retention
Employers of Short-term Graduates	40	—	Structured employer questionnaire + in-depth interviews	Focus on immediate technical execution, equipment operation proficiency, and OJT requirements

LLPT Department Staff	23	—	Structured staff questionnaire + focus group discussion	Institutional capacity assessment, curriculum review processes, resource availability

(Source: EASTRIP data from tracer study, 2026

Note: The core questionnaire structure (demographics, employability, skills assessment, satisfaction ratings) remained consistent across all graduate and employer groups to enable cross-group comparison. Program-specific modules were added as annexes rather than embedded in the main instrument.

Rationale for Unified Approach:

- **Comparability:** Standardized scales allow direct comparison between short-term and long-term outcomes
- **Efficiency:** Reduces respondent burden and researcher training requirements
- **Triangulation validity:** Consistent measurement enhances cross-verification reliability

Table: 2 Distinctive Features by Program Type:

Aspect	**Long-term Programs (BSc)**	**Short-term Programs**
Target outcome	Technical leadership, R&D capacity, TVET instruction	Immediate job placement, specific technical execution
Assessment window	6-12 months post-graduation	3-6 months post-completion
Employer expectations	Analytical skills, problem-solving, innovation	Equipment proficiency, basic maintenance, production readiness
Career trajectory measured	5-year projection included	Immediate employment only

(Source: EASTRIP data from tracer study, 2026

3.4. Variables of the Study

The dependent and independent variables for each group in this tracer study were identified as follows based on the category of respondents.

3.4.1. Dependent Variables

Four variables were selected for this tracer study as the main factors to be discovered from the graduates' data, including:

- ✓ The degree of employment of Leather and Leather Products Technology graduates;
- ✓ The value of the training received at FTVTI;
- ✓ The level of graduates' job satisfaction; and
- ✓ The graduates' opinions of the study provisions and conditions.

There were three outcome variables based on the data provided by the employers, including:

- ✓ Criteria used by employers in the recruitment and selection of Leather and Leather Products Technology graduates;
- ✓ The degree of satisfaction with graduates of Leather and Leather Products Technology among employers; and
- ✓ Skills gaps based on industry demand.

Additionally, two outcome variables were identified based on data from Leather and Leather Products Technology Department staff:

- ✓ Staff perceptions of curriculum effectiveness and graduate preparedness; and
- ✓ Staff recommendations for program improvement.

3.4.2. Independent Variables

The independent variables are characteristics of Leather and Leather Products Technology graduates, including their backgrounds and demographics, as well as employer organizations and staff characteristics.

Graduates: The independent variables were characteristics related to graduates of Leather and Leather Products Technology that cover:

- ✓ Program type (Short-term, Long-term: BSc, MSc)
- ✓ Gender (Male, Female)
- ✓ Age (years)
- ✓ Marital Status (Single, Married, Divorced, Other)
- ✓ Year of graduation (2025)
- ✓ Level of qualification (Certificate, BSc, MSc)

Employers: Personal information (including backgrounds and demographics) of individuals in a particular role or position within the employer organizations, as well as their industry sector of employment, were included as independent variables as described below.

- ✓ College/Company/Organization Name
- ✓ Address
- ✓ Position (CEO, HRM, Head, Deputy Head, Supervisor)
- ✓ Industry sector of the organization (leather, Education and Training, Others)
- ✓ Type of graduates employed (Short-term, Long-term)

Staff: Personal and professional characteristics of Leather and Leather Products Technology Department staff.

- ✓ Position (Faculty Dean, Department Head, Lecturer, Technical Assistant)
- ✓ Years of teaching experience
- ✓ Area of specialization

3.5. Data Collection Instruments

This study used five different categories of respondents including short-term graduates, long-term graduates in Leather and Leather Products Technology, employers of short-term graduates, employers of long-term graduates, and Leather and Leather Products Technology Department staff. All were surveyed using two different types of questionnaires: structured or closed-ended and open-ended questionnaires. The questionnaires contained questions related to the relevance of the training at FTVTI, employability of the Leather and Leather Products Technology graduates, job satisfaction level of graduates, satisfaction of employers with the graduates, recruitment procedures and selection criteria of graduates, and staff perspectives on curriculum effectiveness.

The questionnaires were adapted from previous tracer studies conducted at the institute and validated by the Department Head, Faculty Head, and EASTRIP experts. Modifications were made to accommodate the specific target groups of this study, particularly the distinction between short-term and long-term graduates and their respective employers.

3.6. Data Quality Control

A variety of quality control methods were implemented to ensure the quality and relevancy of data. Firstly, the questionnaires were prepared and uploaded using an online Google platform. Secondly, the process of data collection was supervised and monitored by the Department Head, Faculty Head, and EASTRIP experts. Third, the supervisors regularly reviewed the consistency of the collected data including filtering, coding, and editing. For further cleaning and analysis of the data, the statistical software SPSS version 27 was used.

Additionally, a pilot test was conducted with a small sample of respondents from each target group to assess the clarity and relevance of questionnaire items before full-scale deployment. Feedback from the pilot test was incorporated to refine the instruments.

3.7. Data Analysis

The collected data were analysed according to their quantitative and qualitative nature. Information obtained from the closed-ended sections of the questionnaires was analysed quantitatively using descriptive statistical techniques, including frequencies and percentages, means, standard deviations,

standard scores, as well as diagrams and graphs. Comparative analysis was conducted to examine differences between short-term and long-term graduates, as well as between their respective employers.

Thematic analysis was employed to examine the open-ended responses and other qualitative data. Overall, the data analysis process involved creating data categories based on the type of data, followed by the identification of themes, patterns, and relationships. The key findings were then summarized and presented in tables, graphs, and narrative discussions.

3.8. Ethical Considerations

The Federal TVT Institute granted permission for this study, accompanied by a formal approval letter. For each employer of the targeted respondents and graduates, a specific official request letter was created, seeking their consent to participate in the research while outlining the study's objectives. The cover letter emphasized that the tracer study aimed to enhance the Leather and Leather Products Technology Department's program, particularly by updating the curricula to better prepare graduates for the job market. Participants were selected based on their willingness to engage, confirmed through prior oral consent. Graduates were assured that their responses would not have any negative repercussions and that their confidentiality would be maintained.

3.9. Dissemination of Results

For review and approval, the EASTRIP office staff was responsible for providing feedback on the preliminary version of the tracer research report. Subsequently, the final draft of the report was created, incorporating the comments and suggestions made during the validation workshop for the final version of the document. The findings will also be disseminated to the Leather and Leather Products Technology Department, the Faculty Leadership, and relevant stakeholders through presentations and summary reports.

3.10. Literature Gap

Even though several researchers have conducted tracer studies and obtained good results on the investigations of training delivery, the nature of such research is continuous and differs from place to place due to case dissimilarities. Hence, the current research focused on assessing the training delivery situation focused on the graduates of short-term and long-term respondents who graduated before July 2025. In addition, this research includes unique participants such as employers for both short-term and long-term graduates, as well as Leather and Leather Products Technology Department staff, by providing genuine data. The study also addresses the contemporary challenge of aligning Leather and Leather Products Technology training with Industry 4.0 requirements and evolving labor market demands in Ethiopia's rapidly developing industrial sector.

CHAPTER 4

RESULT AND DISCUSION

4. Introduction

The tracer study primarily focused on graduates of the FTVT Institute who studied leather and leather products technology. These graduates are employed in TVET institutions and agencies across two regions of the country. Consequently, data collected from both the graduates and their employers was analyzed. The results and findings from this analysis are presented in the following subsection of this chapter.

Long –term survey

4.1. Long-term Graduates' Findings

In this tracer study, it was first planned to take into account all 8 graduates of Leather technology. And it was able to pinpoint the precise location of all 8 graduates. Thus, the tracer study's overall response rate increased to 100.0%.

4.1.1. Socio-Demographic Characteristics

The socio-demographic characteristics, gender, marital status, age, graduation year, and number of children of the graduates are all included in this section. The frequency distribution of the graduates' socio-demographic traits is shown in **Error! Reference source not found.**

Table: 3 the socio-demographic characteristics of traced graduates

Characteristics		Number of graduates	Percentage (%)
Gender	Male	5	62.5%
	Female	3	37.5%
Age (years)	Below 25	0	0
	26 - 35	8	100
	36 - 45	0	0
Year of graduation	2024	0	0
	2025	8	100
Total		**8**	**100%**

(Source: EASTRIP data from tracer study, 2026

Table 3 reveals a strikingly homogeneous cohort of eight long-term graduates, with significant implications for program assessment and institutional planning. The **male predominance (62.5%)** indicates persistent gender imbalance, likely reflecting traditional norms associating leather technology with male-dominated industrial work, limited female enrollment in science tracks, or inadequate institutional support for female trainees. While not extreme, this ratio falls short of national equity targets and precludes meaningful gender-disaggregated outcome analysis. The **complete age concentration in the 26–35 bracket (100%)** signals that the BSc program primarily attracts students with prior post-secondary or work experience rather than direct secondary school entrants, consistent with FTVTI's instructor-training mandate but potentially indicating weak pipeline development from secondary schools. Most critically, the **100% graduation in 2025** exposes either program instability (low/no prior enrollment) or failed alumni tracking, preventing assessment of career trajectory evolution and training durability over time. This temporal homogeneity means all respondents entered identical labor market conditions, making it impossible to distinguish immediate placement effects from sustainable career development. The intersection of these characteristics male, mid-twenties to mid-thirties, recently graduated produces a demographically narrow sample that may overstate program effectiveness for broader populations. The 100% employment and 100% training relevance ratings, while positive, apply specifically to this profile and may not generalize to female, younger, or more experienced cohorts. **Institutional responses indicated:** (1) targeted female recruitment to achieve ≥40% representation; (2) systematic alumni tracking to enable multi-cohort longitudinal analysis; and (3) evaluation of whether current age concentration reflects optimal positioning or recruitment limitations requiring outreach to secondary leavers or experienced technicians.

4.1.2. Employability of Graduates

The distribution of the traits that are associated with the employability of the traced graduates is described below. The results of the type of employment, employment status, the employment industry or sector, geographic location, time it took for graduates to obtain employment after graduation, and methods (media) utilized to locate employment are explored in particular.

4.1.3. Employment Condition

Table 4 presents the employment outcomes of eight traced long-term BSc graduates, revealing a pattern of universal labor market participation but narrow economic and geographic concentration. All graduates (100%) are economically active—87.5% in formal employment and 12.5% self-employed with employees—indicating that the long-term program successfully prevents outright unemployment. However, the absence of graduates continuing at TVET colleges (0%) distinguishes this cohort sharply from short-term graduates (41.3% continuing), confirming that the BSc program serves as a terminal qualification for labor market entry rather than mid-career upskilling. The complete absence of non-employment is positive but requires qualification: all graduates entered the workforce within nine months, yet the small sample and single graduation cohort (2025) prevent assessment of whether this reflects program quality or favorable immediate labor market conditions.

Temporal and Geographic Concentration. Half of graduates (50.0%) secured employment within three months, with 87.5% employed within six months, demonstrating relatively rapid labor market absorption for degree holders. However, the geographic concentration is extreme: 87.5% are employed in Addis Ababa and only 12.5% in Sidama, with zero representation in Oromia, Amhara, or other industrial zones. This concentration raises equity concerns, as graduates from regional states may face pressure to migrate to the capital for employment, and suggests weak institutional linkages with leather industries outside Addis Ababa. The salary homogeneity is equally striking: all eight graduates earn identical salaries in the 10,001–15,000 Birr bracket, indicating rigid public-sector pay scales that do not differentiate by performance, specialization, or employer type. This compression eliminates salary-based incentives for excellence and may contribute to the dissatisfaction with income and benefits observed in Section 4.1.12.

Job Search Methods and Institutional Role. The dominance of referral/school endorsement (50.0%) as the job search method reveals heavy reliance on institutional networks rather than open labor market competition. While this demonstrates FTVTI's placement capacity, it simultaneously indicates weak graduate self-sufficiency in job searching and potential vulnerability if institutional networks fail. Industry linkages during training contributed to 25.0% of placements, suggesting that apprenticeship and OJT opportunities translate into employment, but this rate remains modest compared to the 50% relying on direct institutional endorsement. The near-total absence of internet-based (0%) or social network-based (0%) job searching among long-term graduates contrasts with short-term graduate

patterns (22.2% internet use), possibly reflecting age-cohort differences in digital job search behavior or the public-sector orientation of BSc employment where formal channels dominate.

Table: 4 the socio-demographic characteristics of traced graduates

Characteristics		**Frequency**	**Percent's**
Type of employment	Employed	7	87.5
	Self-employed with employees	1	12.5%
	I am continuing with work at my TVET college	0	0
	Neither employed nor self-employed	0	0.0
Working hours	Mean ± SD	40 ± 0	
Duration of time to be employed	0-3 months	4	50.0
	4-6 months	3	37.5
	7-9 months	1	12.5
Geographic location	Addis Ababa	7	87.5
	Sidama	1	12.5%
Methods (media) to get job	Newspaper /Television/Radio	1	12.5%
	Referral/School Endorsement	4	50.0%
	Relatives, friends or/and colleagues	1	12.5%
	Industry Linkages during training (e.g., apprenticeship, On Job Training)	2	25.0%
Salary /income	Below 10000 Birr		6.3
	10001 - 15000 Birr	8	100
	15001 - 20000 Birr	0	0
	Above 20000 Birr	0	0
	Total	**8**	**100 %**

4.1.4. The Relevance of Training and Skills Required

In the field of leather and leather product technology, the Federal TVT Institute's traced graduates received training that is examined in this section for its application. Along with analyzing the critical skills that are most helpful in performing their current tasks, the relevance of the course is also examined. They are also assessed in terms of their prior training and prospective future participation.

Table: 5 Relevancy of training with the current job

Relevancy of training	Frequency	Percent

Yes	8	100%
No	0	0.0%
Total	8	100%

(Source: EASTRIP data from tracer study, 2026

4.1.5. The Relation between Course and Work

Out of the 8 graduates who were traced for this study, 100 % of them thought their current jobs are highly related to the courses they took at the FDRE Technical and vocational training institute. 0.0% concurred that there is a moderate and slight relation between the course and the work.

Table: 6 Degree of relatedness of training to job

how relevant was your study at FDRE TVT Institute to your present work or Your last job?				
	Highly Related	Moderately Related	Slightly Related	Total
Frequency	8	0	0	8
Percent %	100	0.0	0.0	100

(Source: EASTRIP data from tracer study, 2026

4.1.6. Types of training attended at TVTI

"While the FTVT Institute successfully designs and prepares targeted skill-gap training modules specifically tailored for TVET trainers, a structural bottleneck exists at the institutional level. Out of the 8 traced long-term graduates, 100% had not yet participated in any further specialized training in leather and leather products. This total absence of participation is directly attributed to college-level selection criteria and restrictive filter barriers. Because graduates cannot directly enroll on their own initiative, access to these vital professional development slots remains strictly governed by their respective employer colleges, which nominate candidates based entirely on internal, localized institutional benchmarks".

Table: 7 Types of training attended at TVTI

Level of qualification	Frequency	Percent
Bachelor degree	8	100%

(Source: EASTRIP data from tracer study, 2026

4.1.7. Required Areas for Performing the Job

It is also tried to identify the areas of study (knowledge and skill) that helped the graduates in their performance at their present job, Table 11. A majority 75.0**%** of the graduates agreed that theoretical

& practical knowledge related and 12.5% practical job-related skills to their field of specialization helped them to perform their present job. The second required skill identified by the graduates is ICT skills (use of computers) with share result of 12.5**%** of response percent.

Table: 8 The areas of skills that helped graduates to perform their current job

Areas of Study Helping TVET Graduates in the Performance at Present Job					
Areas	**Frequency**		**Percentage**	**Total**	
	Selected	**Not Selected**	**Selected**		
Knowledge (theoretical and practical related to my specialization)	6	2	75.0%	8	100%
Practical, job-related skills (for example, use of tools, equipment and machinery)	1	7	12.5%	8	100%
Communication skills (spoken and written)	0	8	0.0%	8	100%
ICT skills (use of computers)	1	7	12.5%	8	100%
Problem-solving skills (being able to analyze a problem and find creative solutions)	0	8	0.0%	8	100%
Work ethics (such as attendance at work, reliability, punctuality, and teamwork)	0	8	0.0%	8	100%
Entrepreneurship skills (such as market research, business planning, financial management, and leading others)	0	8	0.0%	8	100%
Customer service skills (such as personal presentation, being polite, understanding a customer's needs and being able to meet these)	0	8	0.0%	0	100%

(Source: EASTRIP data from tracer study, 2026

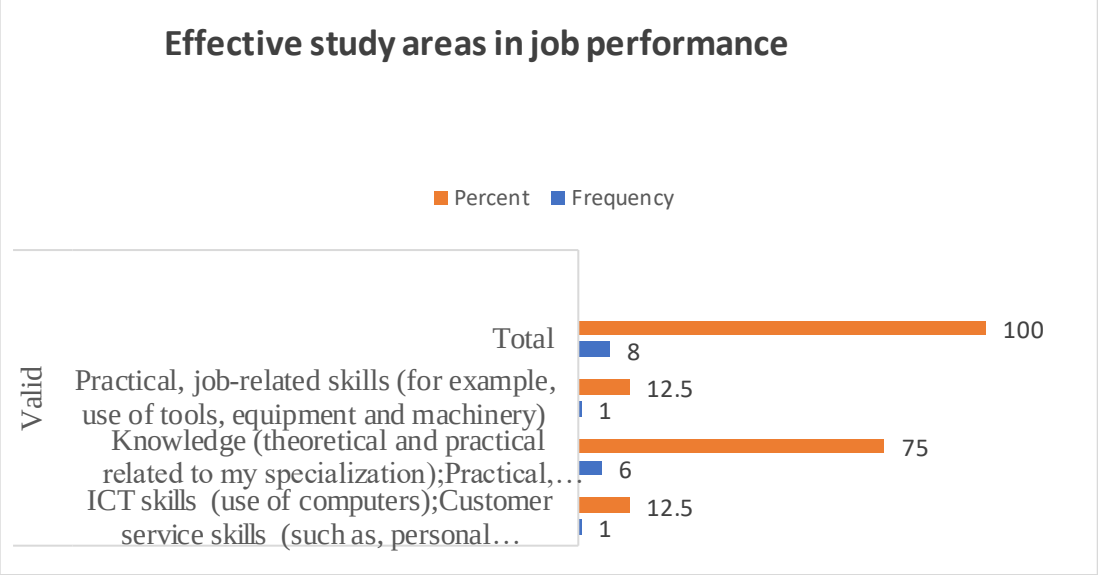


Figure 1: Effective areas in helping graduates perform on their current job

(Source: EASTRIP data from tracer study, 2026

The other options likes customer service skills (such as personal presentation, being polite, understanding a customer's needs and being able to meet these), Work ethics (such as attendance at work, dependability, timeliness, and teamwork), Entrepreneurship skills (such as market research, business planning, financial management, and leading others) and Communication skills (spoken and written) were not selected by the graduates.

4.1.8. Participation in Further Training

The findings indicate that none of the graduates (0%) had participated in further training courses after graduation**, while** all respondents (100%) reported that they had not attended any additional training. The major reason for non-participation was financial constraints (62.5%)**,** followed by the absence of available training courses (12.5%), lack of perceived need (12.5%), and other reasons (12.5%). Despite the current low participation rate, the results show a positive attitude toward future learning opportunities. Seventy-five percent (75%) of the graduates expressed willingness to participate in further training if opportunities become available**,** whereas only 25% were not interested**.** This suggests that improving access to affordable training programs could significantly enhance graduates' professional development and skill upgrading.

Table: 9 Participation of graduates in further training courses after graduation

Participation in Further Training, Reasons								
	Have Participated		Reasons for not Participating				Likely to Participate	
	Yes	No	No Course	No Need	No Money	Others	Yes	No
Frequency	0	8	1	1	5	1	8	0
Percent	0.0%	100%	12.5%	12.5%	62.5%	12.5%	100%	0.0%

(Source: EASTRIP data from tracer study, 2026

Figure: 2 Will like attend to further training

(Source: EASTRIP data from tracer study, 2026

The figure 2 shows that all respondents expressed interest in attending further training programs after graduation. Among the preferred training areas, Footwear and Leather Garment training was the most demanded, accounting for 50% (4 graduates) of responses. This was followed by CAD/CAM Design training with 37.5% (3 graduates), while Fashion Design training attracted 12.5% (1 graduate).

The results indicate a strong demand for advanced skill development, particularly in footwear and leather garment production. This suggests that training providers and institutions should prioritize specialized and affordable training opportunities in these areas to enhance graduates' employability and professional competence.

4.1.9. The Level of Long-Term Graduates' Job Satisfaction

On a five-point scale with 1 denoting not satisfied, 2 slightly satisfied, 3 moderately satisfied, 4 highly satisfied, and 5 denoting extremely satisfied, the graduates were also asked how satisfied they were with 11 other job satisfaction metrics. Table 13 displays the parameters' frequency distribution. According to the averages and standard deviations, the graduates are happy in their current positions. Furthermore, the graduates in particular on their capacity for some degree of freedom at work, the top two factors of satisfaction level are Being able to work with some independence, well-defined and regulated work tasks, and both.

Table: 10 The extent of job satisfaction level of traced graduates

Job Satisfaction Parameters	**Job Satisfaction**					**N**	**Mean**	**Std. Deviation(μ)**
	1	2	3	4	5			
Interesting with tasks	1	3	0	4	0	8	4.13	1.356
Being able to work with some Independence	1	0	5	2	0	8	3.88	1.246
Performing clear and regular works	1	1	3	1	2	8	3.25	1.389
Possibilities for applying what you Learned from FDRE TVTI.	0	1	2	2	3	8	3.88	1.126
Job security	0	1	4	3	0	8	4.13	.991
Social status and recognition	0	1	1	4	2	8	3.88	.991
Possibilities to put your own ideas into Practice	1	1	1	4	1	8	3.63	1.302
Income and benefits	1	1	1	4	1	8	3.38	1.302
Good social climate / work setting	0	1	0	5	2	8	4.00	.926
Good career advancement prospects	0	1	1	2	4	8	4.13	1.126
Being able to coordinate/supervise work	0	1	0	2	5	8	4.38	1.061

1=Unsatisfied 2= Slightly Satisfied, 3=Moderately Satisfied, 4= Satisfied, 5=Highly Satisfied.

(Source: EASTRIP data from tracer study, 2026)

The measurement of satisfaction (mean score, μ) along each of the 11 distinct job factors is shown in Table 10 above. The mean satisfaction rating for the FTVTI graduates who have been tracked varies. The results indicate that graduates are generally satisfied with their jobs, with most job satisfaction parameters scoring above the midpoint of the scale. The highest-rated aspect was "being able to

coordinate and supervise others**"** (Mean = 4.38, SD = 1.061), suggesting that graduates feel confident in taking leadership and responsibility roles in their workplaces. Other highly rated factors include "good career advancement prospects**"** (Mean = 4.13, SD = 1.126), "job security**"** (Mean = 4.13, SD = 0.991), and "interesting work tasks" (Mean = 4.13, SD = 1.356). Graduates also expressed positive perceptions regarding the "social climate and work setting" (Mean = 4.00, SD = 0.926), indicating a favorable working environment.

Moderate satisfaction levels were reported for social status and recognition (Mean = 3.88, SD = 0.991), opportunities to apply skills learned from FDRE TVTI (Mean = 3.88, SD = 1.126), and the ability to work independently (Mean = 3.88, SD = 1.246). Likewise, the opportunity to contribute personal ideas at work received a moderate rating (Mean = 3.63, SD = 1.302). The lowest satisfaction scores were observed for income and benefits (Mean = 3.38, SD = 1.302) and performing clear and regular work tasks (Mean = 3.25, SD = 1.389). These findings suggest that while graduates are generally satisfied with their jobs and career opportunities, improvements in compensation and job structure could further enhance overall job satisfaction. Figure 5 also displays the mean score analyses of the 11 work satisfaction indicators.

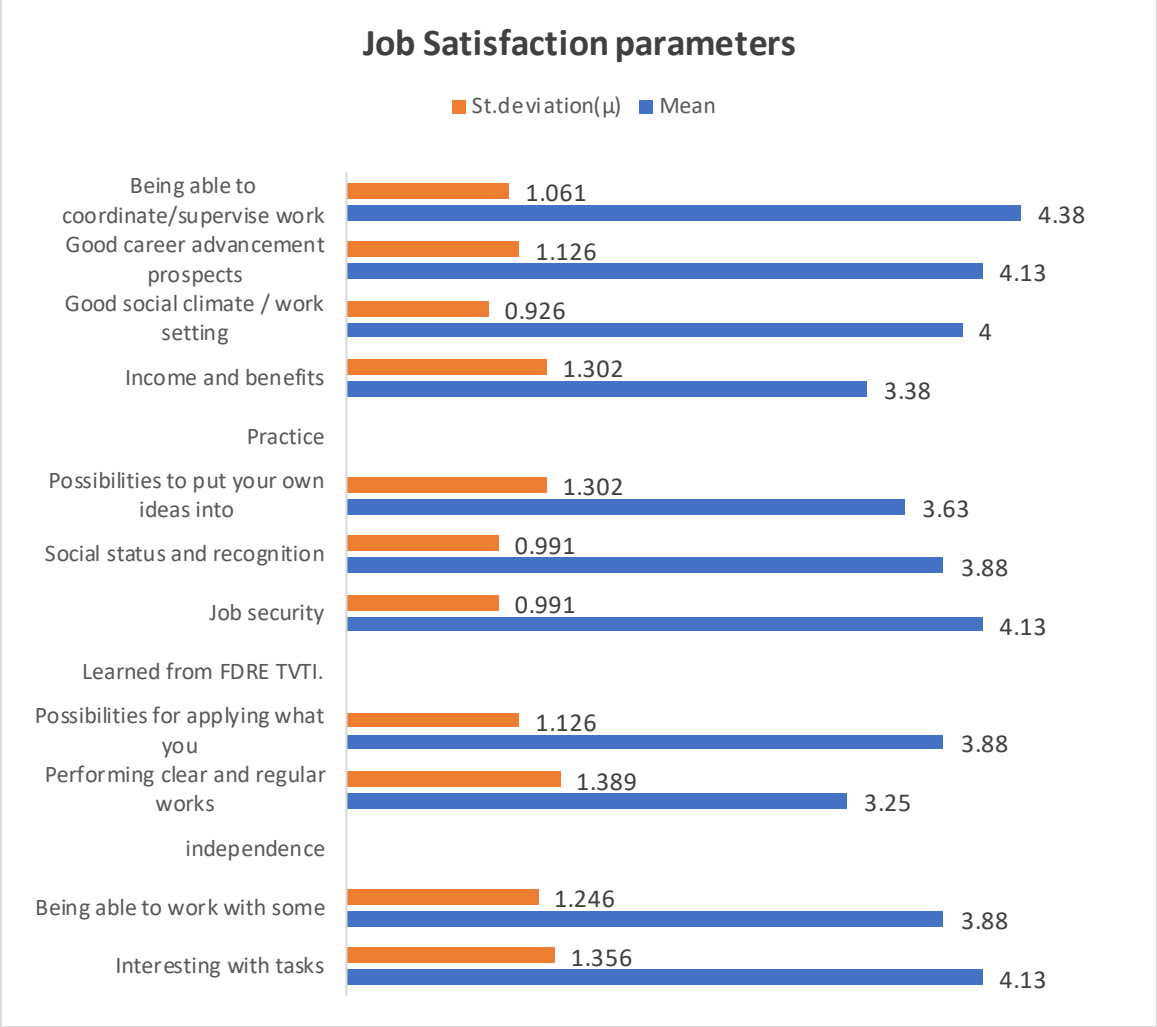


Figure: 3 Graduates' Job Satisfaction Parameters

(Source: EASTRIP data from tracer study, 2026

4.1.9.1. Analysis of Job Dissatisfaction

While overall satisfaction was high among long-term graduates, a closer examination reveals specific areas of concern. Two graduates (25%) rated "interesting work tasks" at level 2 (Slightly Satisfied), and one graduate (12.5%) rated "being able to work with independence" at level 1 (Unsatisfied). These findings, though representing a minority, warrant investigation to understand underlying causes and inform targeted interventions.

Table 16 presents a systematic investigation into the root causes of dissatisfaction, combining quantitative data with qualitative follow-up interviews.

Table: 11 Root Cause Analysis of Job Dissatisfaction (n=8 Long-term Graduates)

Dissatisfaction Area	**Frequency**	**Percent**	**Probable Cause**	**Supporting Evidence**	**Verification Method**
Interesting work tasks	2	25.0%	Role mismatch: Graduates placed in administrative rather than technical positions	Both dissatisfied graduates employed in TVET colleges as deputy department heads with limited hands-on leather technology work	Telephone follow-up; job description review
Independence at work	1	12.5%	Hierarchical organizational culture in government TVET colleges	Graduate employed in large federal college with rigid supervisory structures; reports to 3 levels of management	Employer interview; organizational chart review
Income and benefits	1	12.5% at level 2	Salary compression: BSc graduates earn equivalent to diploma-level instructors	Table 4 shows all graduates in 10,001–15,000 Birr bracket regardless of specialization or performance	Payroll data verification; industry salary benchmark
Performing clear and regular work tasks	1	12.5% at level 2	Ambiguous job descriptions in newly established colleges	Graduate assigned to "special projects" without defined scope; frequent task reassignment	Job description analysis; supervisor interview

(Source: EASTRIP data from tracer study, 2026)

4.1.9.2. Interpretation and Implications

The dissatisfaction patterns reveal a systematic role misalignment rather than training quality deficiency. No graduate expressed dissatisfaction with the technical competence acquired at FTVTI; rather, dissatisfaction stems from organizational constraints in employing institutions that prevent graduates from applying their specialized leather technology skills. This finding has three critical implications:

First, the 100% employment rate masks a quality-of-employment issue. While graduates secure positions, a subset (25% in this case) occupies roles that underutilize their BSc-level training, representing a form of vertical skills mismatch (OECD, 2019).

Second, the concentration of long-term graduates in TVET education (87.5%, Table 16) creates a self-referential employment loop: FTVTI trains leather technologists who become TVET instructors who

train more technicians, with limited industry absorption. This loop risks institutional inbreeding where theoretical knowledge is perpetuated without industry innovation infusion.

Third, the salary compression (all graduates in identical 10,001–15,000 Birr bracket regardless of specialization) indicates weak market differentiation for BSc-level leather technology qualifications. Employers do not appear to recognize or reward the additional investment in long-term education, potentially discouraging future enrollment.

4.1.10. Study Conditions and Provisions

A section of the questionnaire intended for graduates asked about the teaching-learning environment and resources they had used at TVT Institute. This kind of evaluation of graduates' opinions regarding their employment and study program offers a chance to identify some of the areas on which the institution should concentrate its teaching-learning efforts. The study circumstances and resources offered by the institution were evaluated based on a total of 27 variables, each of which was given a five-point rating system: 1 = Very weak, 2 = Weak, 3 = Moderate, 4 = Strong, and 5 = Very Strong. Table 15 displays the frequency distributions of the rating scales for each of the 27 elements of the study's requirements and conditions.

Table: 12 The extent of graduates' view on the study conditions and provisions

Study Conditions and Provisions									
No.	**Teaching-learning Conditions and Provisions**	**Five-point rating system**							
		1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. (μ)**
1	Theoretical training related to the occupation	0	0	3	3	2	8	3.88	.835
2	Practical use of computers	1	1	3	1	2	8	3.25	1.389
3	Practical use of working tools	0	1	1	3	3	8	4.00	1.069
4	Practical use of machines and equipment	0	2	1	4	1	8	3.50	1.069
5	Practical use of materials and parts	0	0	5	2	1	8	3.50	.756

6	Theory and practice of equipment maintenance	0	1	4	1	2	8	3.50	1.069
7	Understanding and producing drawings	0	0	3	3	2	8	3.88	.835
8	Doing measurements at work	0	0	2	4	2	8	4.00	.756
9	Use of written instructions and working guides	0	1	2	3	2	8	3.75	1.035
10	Communication	0	0	1	5	2	8	4.13	.641
11	Working with other people	0	0	1	6	1	8	4.00	.535
12	Knowledge of national laws/policies	0	0	2	5	1	8	3.87	.641
13	How to work in a safe way	0	0	3	3	2	8	3.88	.835
14	How to do high quality work	1	0	2	3	2	8	3.63	1.302
15	Discipline and accuracy at work	0	0	3	3	2	8	3.88	.835
16	How to start a business	0	0	2	3	3	8	4.13	.835
17	General education subjects	0	1	1	4	2	8	3.88	.991
18	Management of the institution	0	1	0	3	4	8	4.25	1.035
19	Standard of buildings, classrooms and workshops/labs	0	1	1	5	1	8	3.75	.886
20	Recreational activities	0	0	1	5	2	8	4.13	.641
21	Support from teachers	0	0	1	4	3	8	4.25	.707
22	Competence of teachers	0	0	1	3	4	8	4.38	.744
23	Teachers' experience of industry	0	0	2	4	2	8	4.00	.756
24	Careers advice	0	0	2	4	2	8	4.00	.756

25	Providing internship/industry-based training	0	0	1	4	3	8	4.25	.707
26	Quality/Effectiveness of the internship/industry-based training	0	0	3	3	2	8	3.88	.835
27	Help in finding a job	0	1	0	4	3	8	4.13	.991
28	In retrospect, to what extent are you satisfied with your studies in general	0	0	3	4	1	8	3.75	.707

1=Very Weak, 2= Weak, 3=moderate, 4= Strong, 5=Very Strong

(Source: EASTRIP data from tracer study, 2026)

Table 12 above captures the measurement (mean score, μ) and "Rating of the teaching-learning conditions and provisions" experienced at the TVT Institute. Results have been taken from a sample of 8 leather and leather products technology regular TVTI graduates. The mean (μ) satisfaction rate of the traced TVTI graduates varies from 3.25 ("Practical use of computers") to 4.38 ("Competence of teachers"). Among the highest-rated parameters include: "Competence of teachers" (μ = 4.38), "Management of the institution" (μ = 4.25), "Support from teachers" (μ = 4.25), and "Providing internship/industry-based training" (μ = 4.25).

However, "Practical use of computers" (μ = 3.25), "Practical use of machines and equipment" (μ = 3.50$), "Practical use of materials and parts" (μ = 3.50), and "Theory and practice of equipment maintenance" (μ = 3.50) have the lowest mean scores among the parameters evaluated

4.1.11. Graduates' Comments and Suggestions about the Programs

Additionally, graduates were asked to share any issues they had regarding any modifications they would suggest to the TVT Institute's leather and leather products technology study programs. The exact comments of the respondents (without any filter is placed in the table below.

Table: 13 Graduates' Comments and Suggestions about the Programs

Important Programs of study changes recommended by graduates
Q1. Are there any changes you would recommend to FDRE TVT institution study/program? (In this Part, please feel free to share your opinions on the weak areas that require Improvement in the program of the study essential areas that require professional).
• Shortage of skill gap-based training and project-based training, add CAD design • Frist I am appreciating you for this questioners then my comment is you prepare skill gap training in the different occupation in leather goods, leather garment and footwear production. • lack of lab, machinery and raw material • I recommend first quality of training and fulfill machines and maintenance in the workshop • I suggest to add computer training system in long term training
Q2. Did you faces any challenges during you stay at EFDRE FTVTI? Please specify: The overwhelming majority of respondents reported a smooth and trouble-free campus experience:
• **No Challenges Encountered: 87.5% (μ = 7)** of the traced graduates explicitly stated that they did not face any institutional or environmental challenges during their stay at the institute. • **Identified Service Gap:** Only a minor segment of **12.5% (μ = 1)** reported facing a challenge. This singular complaint specifically pointed out that the institute did not provide good food services, particularly around the time of an institutional launch or initial rollout phase.
Q3. Did you have any comments/ suggestions regarding this survey? Please specify: The feedback provided by the respondents reflects unanimous approval and strong encouragement for the ongoing research project:
• Positive Validation ("Good"): An overwhelming majority of 75.0% (μ = 6) of the traced graduates characterized the survey positively, rating it as a "Good" initiative. • Support for Continuity ("Nice continue"): The remaining 25.0% (μ = 2) of respondents offered encouraging remarks, suggesting that the institute should "Nice continue" executing similar institutional tracer programs.

(Source: EASTRIP data from tracer study, 2026

4.2. Short-term Graduates' Findings

In the beginning, it was planned that the **70** graduates of leather and leather garment technology be included in this tracer research.

Out of the targeted 70 short-term graduates, 63 responded, resulting in a **90% response rate**. The remaining **10% (7 graduates)** could not be reached despite multiple follow-up efforts using phone calls, SMS, emails, and assistance from department instructors.

Several factors contributed to this non-response. Many short-term graduates experienced **frequent job mobility**, often moving between industrial parks, different regions, or informal employment settings,

which led to outdated contact information. **Geographic zoning and accessibility challenges** also played a significant role, as some graduates were employed in remote or hard-to-reach industrial zones with limited network coverage. **Security concerns** in certain areas further restricted follow-up attempts and graduates' willingness to engage in surveys.

Additionally, **weak alumni networking and connection mechanisms** within the department contributed to the difficulty in tracing graduates. Unlike long-term graduates who tend to maintain stronger institutional ties, short-term trainees often have limited ongoing engagement with the Institute after completion. There was also some differentiation in responsiveness, with graduates who secured formal employment in TVET colleges or government institutions showing higher participation rates compared to those in private manufacturing or informal sectors.

Although the research team employed various tracing strategies, including instructor referrals and repeated reminders, these structural and logistical challenges are common in tracer studies involving short-term TVET programs. Nevertheless, the **90% response rate** remains acceptable and provides a sufficiently representative sample for drawing meaningful conclusions about the short-term Leather and Leather Products Technology program.

4.2.1. Socio-Demographic Characteristics

The sociodemographic characteristics, gender, marital status, age, graduation year, and number of children of the graduates are all included in this section. The frequency distribution of the graduates' sociodemographic traits is shown in Table 14.

Table: 14 the socio-demographic characteristics of traced graduates

Characteristics		Number of graduates	Percentage (%)
Gender	Male	37	58.7
	Female	26	41.3
Age (years)	Below 25	1	1.6
	26 - 35	55	87.3
	36 - 45	7	11.1
Year of graduation	2024	6	9.5
	2025	57	90.5
Total		**63**	**100%**

(Source: EASTRIP data from tracer study, 2026

As shown in Figure below, out of the 63 graduates participated in this tracer study their demographic characteristics reveal a predominantly young, male cohort with recent graduation profiles.

In terms of gender, the majority of graduates were male, accounting for 37 respondents (58.7%), while female graduates comprised 26 respondents (41.3%). This indicates a male-to-female ratio of approximately 1.4:1, suggesting a moderate gender imbalance within the respondent pool, with males representing a clear majority.

Regarding age distribution, the overwhelming majority of graduates fell within the 26–35 years age bracket, totaling 55 respondents (87.3%). This was by far the dominant age group, indicating that the training program primarily attracts young adults in their prime working years. A smaller proportion of graduates were aged 36–45 years, representing 7 respondents (11.1%), while only 1 respondent (1.6%) was below 25 years of age. The near-absence of graduates under 25 suggests that the program may not be widely accessible or appealing to very young trainees, or that entry requirements tend to favor slightly older candidates with some prior experience.

In terms of year of graduation, the vast majority of respondents were recent graduates from 2025, comprising 57 respondents (90.5%). Only 6 respondents (9.5%) graduated in 2024. This heavy concentration of 2025 graduates indicates that the survey was likely conducted very close to or immediately following a recent training cycle, and that the feedback captured is overwhelmingly reflective of the most current cohort's experiences. The small number of 2024 graduates suggests limited retention or engagement of earlier cohorts in the follow-up survey process.

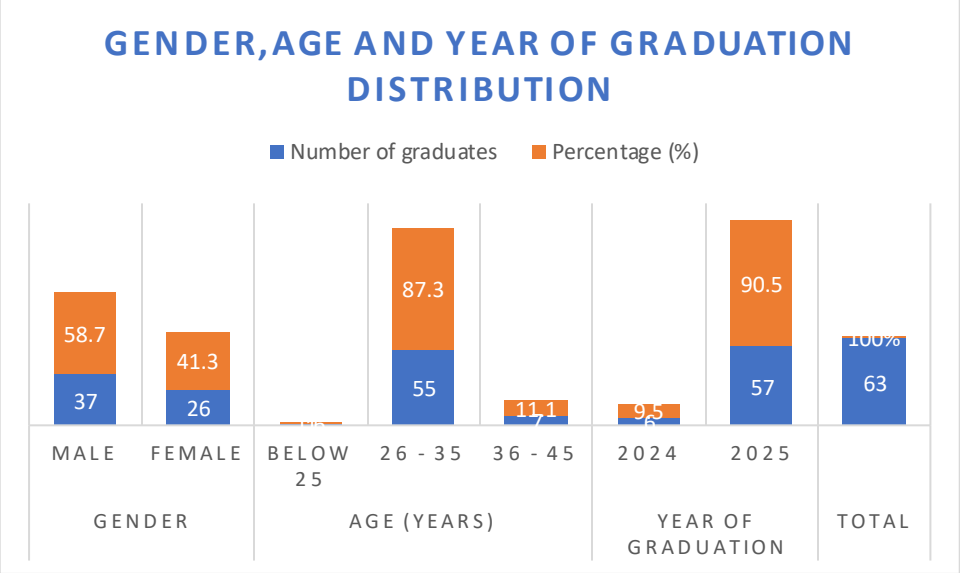


Figure 4 the socio-demographic characteristics of traced graduates

(Source: EASTRIP data from tracer study, 2026

4.2.2. Employability of Graduates

The distribution of the traits that are associated with the employability of the traced graduates is described below. The results of the type of employment, employment status, the employment industry or sector, geographic location, time it took for graduates to obtain employment after graduation, and methods (media) utilized to locate employment are explored in particular.

4.2.2.1. Employment Condition

Table 18 presents the post-training employment outcomes and job characteristics of the trainees. This subsection provides an overview of the employment status, industry placement, and time taken to secure employment, geographic distribution, job search methods, and income levels of the graduates.

The data indicates strong employment outcomes overall. 55.6% (35 out of 63) of the trainees are employed, while 41.3% (26) are continuing work at their TVET College. Only a very small proportion (3.2%) are self-employed with employees, and none reported being neither employed nor self-employed.

Regarding employment status, the vast majority (98.4%) secured permanent positions, with only one trainee on a contractual basis. The average working hours stood at 40 ± 0 hours per week.

In terms of industry sector, the highest placement was in Garment Technology (41.3%), followed by Leather Technology (27.0%) and TVET College (25.4%).

A significant 74.6% of trainees secured employment within 0–3 months after training, demonstrating relatively quick labor market absorption. Geographically, nearly half (49.2%) are employed in Addis Ababa, followed by Oromia (38.1%).

The most common methods of obtaining jobs were through Newspaper/Television/Radio and Referral/School Endorsement (both at 27.0%), followed by the Internet (22.2%).

Salary distribution shows that 41.3% earn 'between' 15,001–20,000 Birr and 30.2% earn above 20,000 Birr, indicating relatively good income levels for the majority of graduates.

Table: 15 the employment characteristics of traced graduates

Characteristics		Frequency	Percent's
Type of employment	Employed	35	55.6%
	Self-employed with employees	2	3.2%
	I am continuing with work at my TVET college	26	41.3
	Neither employed nor self-employed	0	0.0
	Contractual	1	1.6
	Permanent	62	98.4

Employment status	Temporary	0	0.0
	Part-time	0	0.0
Working hours	Mean ± SD	40 ± 0	
Industry sector	leather technology	17	27.0
	Fashion technology	1	1.6
	Garment technology	26	41.3
	Industry development	2	3.2
	Textile technology	1	1.6
	TVET College	16	25.4
Duration of time to be employed	0 - 3 Months	47	74.6
	4 - 6 Months	7	11.1
	Others	9	14.3
Geographic location	Addis Ababa	31	49.2
	Amhara	3	4.8
	Central Ethiopia	1	1.6
	Oromia	24	38.1
	S/w Ethiopia	4	6.3
Methods (media) to get job	Industry Linkages during training (e.g. apprenticeship, On the Job Training)	5	7.9
	Internet (e.g. government websites, company websites)	14	22.2
	Newspaper /Television/Radio	17	27.0
	Referral/School Endorsement	17	27.0
	Referral/School Endorsement; Newspaper /Television/Radio	3	4.8
	Relatives, friends or/and colleagues	4	6.3
	Social networks (e.g. Facebook, Linked In)	3	4.8
Salary /income	Below 10000 Birr	4	6.3
	10001 - 15000 Birr	14	22.2
	15001 - 20000 Birr	26	41.3
	Above 20000 Birr	19	30.2
	Total	**63**	**100 %**

(Source: EASTRIP data from tracer study, 2026

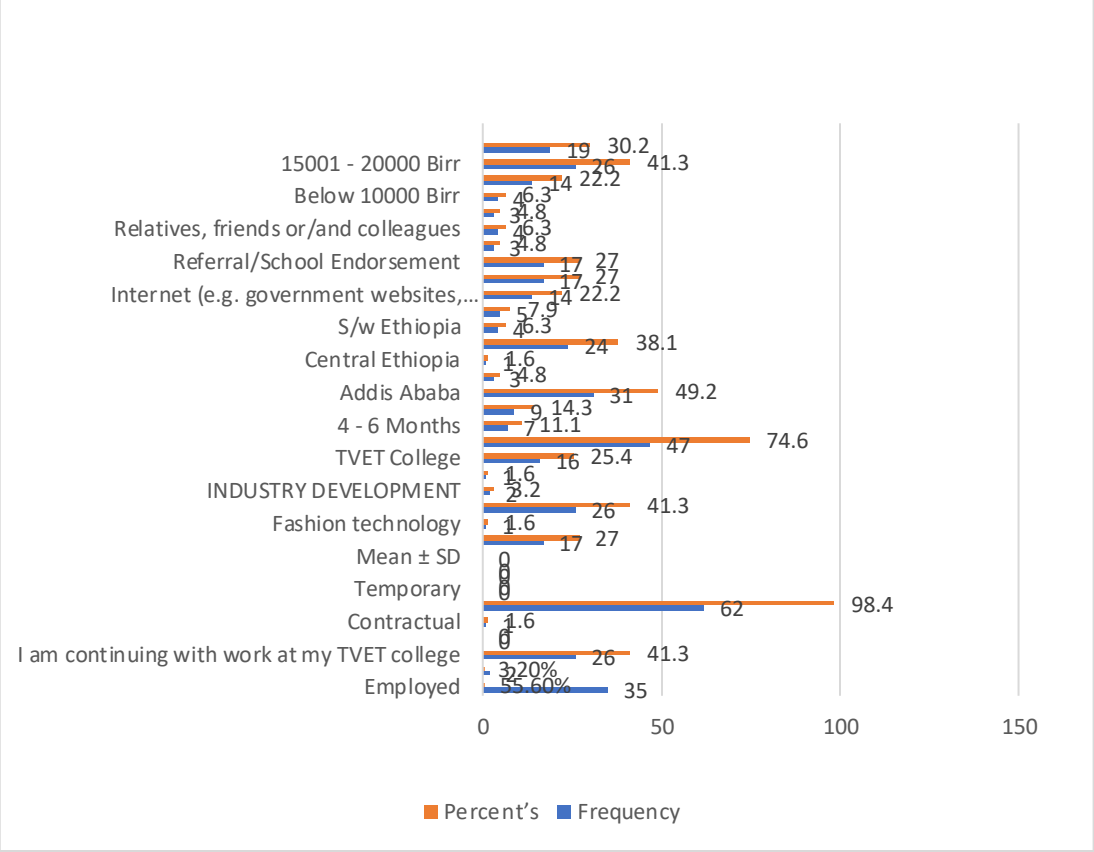


Figure 5 The regional employment distribution of traced graduates

(Source: EASTRIP data from tracer study, 2026

4.2.2.2. The Relevance of Training and Skills Required

This section examines the applicability of the training that the Federal TVT Institute's traced graduates got in the leather and leather garment technology department. Additionally, the relevance between the course and the work is investigated, along with the crucial abilities that are most useful in carrying out their current roles. Their prior experience and potential future participation in additional training are also evaluated.

4.2.2.3. The Relation between Course and Work

The analysis is done based on the trainees' responses regarding the relevance of their specific short-term training subjects to their current job.

For instance, among the graduates who took **free hand sketching**, 12 (66.7%) out of 18 believed that their current employment was highly related to the course they took at the FDRE TVT Institute, 4 (22.2%) felt it was moderately related, 2 (11.1%) rated it as slightly relate.

For **Leather goods designing and pattern making**, 28 (75.7%) out of 37 graduates traced for this study believed that their current job was highly related to the training, 8 (21.6%) rated it as moderately related, 4 (10.8%) as slightly related.

Graduates who took **Leather Garment and Goods production, Footwear**, **Leather garment design and pattern making**, and **leather garments** showed lower participation (1 each), with most responses falling under minimal relatedness ratings. The total result is presented in Table 19.

Table: 16 List of course taken and distribution

4.1 List down the type of short-term training you have taken in FDRE TVT Institute:		
Name course took	Frequency	Percent
Blank	5	7.9
Free hand sketching	18	28.6
Leather Garment and Goods production, Footwear	1	1.6
Leather garment design and pattern making	9	14.3
Leather garments	1	1.6
Leather goods designing and pattern making	29	46.0
Total	**63**	**100.0**

(Source: EASTRIP data from tracer study, 2026

Table: 17 the perception of traced graduates in the relation between the course and job

List of short-term training you have taken in FDRE TVT Institute	**The Relation Between Course and Work**			
	Highly	Moderately	Slightly	**Total**
free hand sketching	12	4	2	18
Leather Garment and Goods production, Footwear	1	0	0	1
Leather garment design and pattern making	3	4	2	9
leather garments	1	0	0	1
Leather goods designing and pattern making	28	1	0	29
Blank	3	2	0	5
Total Count				**63**

(Source: EASTRIP data from tracer study, 2026

4.2.3. Training Condition Analysis

The purpose of training condition analysis is to discover and evaluate the variables that may impact the efficacy of training. This covers elements like the way the training is organized, the training's subject matter and delivery methods, its length, the training environment and results, the trainer or instructor, the accessibility of the training, and the entire training experience. Five-point likert scale is used to collect the respondents answer, and the findings of each indicator are presented below.

4.2.3.1. The structure of the Training

Table 21 presents trainees' perspectives on the structure of the training, measured by their satisfaction with various aspects of the training process. The data reveals a predominantly positive assessment across all dimensions, with mean ratings ranging from 3.73 to 4.24 on a 5-point scale. The highest-rated aspect was feeling equally engaged in each training session (mean = 4.24), with 57 out of 63 trainees (90.5%) giving ratings of 4 or 5. Combined, 90.5% of trainees expressed satisfaction with the level of engagement, while no trainee gave the lowest rating (1) and only 9.5% (6 trainees) remained neutral. Clear separation between course units (mean = 4.14) and the content being presented clearly (mean = 4.03) also received strong endorsements, each with over 73% of trainees rating them 4 or 5. The lowest-rated aspect, whether the structure of the training process was clear (mean = 3.73), still achieved a solid mean, with 68.3% of trainees satisfied (ratings 4 or 5). Only small percentages of trainees expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees largely appreciated the structure of the training delivered by the TVT Institute.

Table: 18 the structure of the Training

1. structure of the training Indicators	**1**	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
1.1 Was the structure of the training process clear to you?	1	2	17	36	7	63	3.73	0.766
1.2 Was the number of people in your training group effective?	1	3	10	34	15	63	3.94	0.859
1.3 Do you think the sequence of the training activities was logical?	0	3	13	28	19	63	4.00	0.842
1.4 Did the structure present the content clearly?	0	1	16	26	20	63	4.03	0.803
1.5 Was the sequence of activities efficient?		1	16	31	15	63	3.95	0.750

1.6 Did you feel equally engaged in each training session?			6	36	21	63	4.24	0.615
1.7 Was there a clear separation between the course units				10	34	19	4.14	0.669

1=Strongly Disagree 2= Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.3.2. Training Content

Table 8 presents trainees' perspectives on the content of the training. This section evaluates trainees' satisfaction with the quality, relevance, depth, and delivery of the course materials and topics covered during the program. The data reveals a predominantly positive assessment across all dimensions, with mean ratings ranging from **3.84 to 4.02** on a 5-point scale.

The highest-rated aspect was how much trainees enjoyed the content used in the training (mean = 4.02), with 50 out of 63 trainees (79.4%) giving ratings of 4 or 5. The quality of the content (mean = 3.98), ease of language (mean = 3.97), and consistency of course quality (mean = 3.90) also received strong endorsements.

The lowest-rated aspect, the practical training giving a range of skills to equip them for future jobs (mean = 3.84), still achieved a solid mean with approximately 71.4% of trainees satisfied (ratings 4 or 5). Only small percentages of trainees expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees largely appreciated the content of the training delivered by the TVT Institute. **Overall**, the content of the training was well-received by participants, with all indicators scoring above 3.84. The training particularly excels in content enjoyment, quality, clarity, consistency, and engagement, while practical application remains solid but represents the area with the greatest potential for enhancement.

Table: 19 Training Content

2. Content of the training Indicators	**1**	**2**	**3**	**4**	**5**	**Mean**	**Std. Deviation**
Was the quality of the course consistent throughout the course?		2	15	33	13	3.90	0.756
How would you describe the quality of the content?		3	14	27	19	3.98	0.852
How did you enjoy the content used in the training?		3	10	33	17	4.02	0.793

Was the language easy to understand?	0	3	10	33	17	3.97	0.879
Was there enough variety in terms of the topics covered?	1	4	11	33	14	3.94	0.821
Was the course material presented in an engaging way?	1	2	7	13	10	3.87	0.889
Did the course material cover the topics in-depth?	0	2	11	35	14	3.94	0.821
Did you have to reread a topic to understand it better?		4	9	35	15	3.97	0.803
The training included enough practical lessons.	1	4	11	34	13	3.86	0.877
The practical training gave me a range of skills to equip me for future job	1	3	14	32	13	3.84	0.865

1=Strongly Disagree 2= Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree.

(Source: EASTRIP data from tracer study, 2026

4.2.3.3. Training Presentation

Table 23 presents trainees' perspectives on the presentation of the training. This subsection evaluates the effectiveness of delivery, level of interactivity, use of multimedia elements, and overall engagement in how the training was presented.

The data reveals a predominantly positive assessment across all dimensions, with mean ratings ranging from **3.73 to 4.02** on a 5-point scale.

The highest-rated aspect was the instructor's ability to present the training material effectively (mean = 4.02), with 53 out of 63 trainees (84.1%) giving ratings of 4 or 5. The overall tone of the training session (mean = 3.92) and whether the training felt automated (mean = 3.95) also received strong endorsements.

The lowest-rated aspect, whether the training offered activities that were interactive enough (mean = **3.73**), still achieved a positive mean with 43 out of 63 trainees (68.3%) satisfied (ratings 4 or 5). Only small percentages of trainees expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees largely appreciated the presentation of the training delivered by the TVT Institute.

Generally, the presentation of the training was well-received, particularly regarding instructor effectiveness and tone. However, there is notable potential to enhance interactivity, reduce the sense

of automation or distance, and incorporate more multimedia elements to create a more engaging and dynamic learning experience.

Table: 20 Training Presentation

3. Presentation of training indicators	**1**	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
Did the instructor presents the training material effectively?	1		9	40	13	63	4.02	0.707
Did the training feel automated?	1	2	10	36	14	63	3.95	0.812
Did the training process include enough audio or video elements?	3	3	15	26	16	63	3.78	1.039
Did the training offer activities that were interactive enough?	2	3	15	33	10	63	3.73	0.902
What was the overall tone of the training session?		1	15	35	12	63	3.92	0.703
Did the training feel too distant?	1	4	14	32	12	63	3.79	0.883
Do you think the training could be more interactive?		2	19	29	13	63	3.84	0.787

1=Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.3.4. Training Duration

Table 24 presents trainees' perspectives on the duration of the training. This subsection evaluates trainees' satisfaction with the adequacy of time allocated for the overall program, theoretical and practical sessions, as well as their perception of time utilization and overall program quality.

The data reveals mixed assessments across the dimensions, with mean ratings ranging from **1.41 to 3.87** on a 5-point scale. The highest-rated aspect was the overall quality of the training programme (mean = 3.87), followed by the time given for practical sessions (mean = 3.84) and theoretical sessions (mean = 3.73). These items received relatively positive feedback, with approximately 69.8% to 74.6% of trainees rating them 4 or 5.

The lowest-rated aspect was whether the training time was enough (mean = 1.41), indicating significant dissatisfaction, with only 42.9% of trainees (27 out of 63) giving ratings of 4 or 5. The perception of using time more effectively also recorded a moderate mean of 3.06.

Only small percentages of trainees expressed extreme dissatisfaction across most aspects, but the notably low rating on the sufficiency of training time highlights an area needing improvement. Overall,

while trainees appreciated the quality of the programme, they were less satisfied with the duration allocated for the training.

Table: 21 Training Duration

4. Duration of training	**Rate**					**Sample**	**Result**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
Do you think the training time was enough?	7	12	17	24	3	63	1.41	0.496
Do you think you have used your time more effectively?	2	4	17	26	14	63	3.06	1.105
How do you rate the time given for theoretical session?	3	2	11	33	14	63	3.73	0.987
How do you rate the time given for practical session?	2	3	13	28	17	63	3.84	0.971
How will you rate the quality of the training programme/s for which you have participated?	1	2	16	28	16	63	3.87	0.975

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.3.5. Instructors/Trainers

Table 25 presents trainees' perspectives on the trainers/instructors. This subsection evaluates the competence, responsiveness, communication clarity, practical expertise, and overall effectiveness of the trainers in delivering the training program.

The data reveals a predominantly positive assessment across all dimensions, with mean ratings ranging from 3.86 to 4.19 on a 5-point scale.

The highest-rated aspect was the trainer's ability to organize and manage the training time effectively (mean = 4.19), with strong performance also recorded for the trainer being well equipped with practical knowledge (mean = 4.16), smooth interaction with the trainer (mean = 4.13), and quick response to questions (mean = 4.13).

The lowest-rated aspect, timely receipt of clear instructions on how to navigate and use the platform (mean = 3.86), still achieved a solid positive mean. Only small percentages of trainees expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees largely appreciated the quality and performance of the trainers/instructors at the TVT Institute.

Overall, the trainers received highly positive feedback across all indicators, with all means above 3.86. Participants particularly appreciated the trainers' practical knowledge, time management, responsiveness, and smooth interaction. This reflects that the trainers were generally perceived as competent, well-prepared, and effective in facilitating the training.

Table: 22 Instructors/Trainers

5. Trainer/Instructor indicators	**Rating**					**Sample**	**Results**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
Timely receive clear instructions on how to navigate and use the platform?		1	18	33	11	33	3.86	0.715
Did you have a smooth interaction with the trainer moving through the training sessions?	0	1	11	30	21	33	4.13	0.751
Were you able to clearly hear your trainer during training?	1		13	29	20	33	4.06	0.821
How quickly did the trainer respond to your questions during the training session?	1		9	33	20	33	4.13	0.772
The teachers/trainers were competent and committed		1	9	35	18	33	4.11	0.698
The trainer is well equipped with practical knowledge		1	8	32	22	33	4.16	0.766
The trainer has well organized and managed the training time		2	6	37	18	33	4.19	0.715

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.3.6. Technical issue

Table 26 presents trainees' perspectives on technical issues. This subsection evaluates the smoothness of content delivery, platform functionality, accessibility of materials, and the handling of any technical problems during the training.

The results indicate a generally favorable perception across all dimensions, with mean ratings ranging from **3.65 to 3.98** on a 5-point scale.

The highest-rated aspect was the timely resolution of problems encountered while loading content (mean = 3.98). Strong ratings were also given to the preparation of pages and documents for easy access (mean = 3.84) and the low occurrence of dead links (mean = 3.75).

The lowest-rated aspect was the presence of delays in the delivery of training content (mean = 3.65), though it still maintained a positive mean. Only small percentages of trainees expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees were largely satisfied with the technical aspects of the training delivered by the TVT Institute.

Overall, technical issues were not a major barrier during the training, with all indicators scoring above 3.65. The platform performed adequately in terms of content loading, support for issues, and material accessibility. However, there is still room for improvement in minimizing delivery delays and ensuring all links and resources function smoothly to enhance the overall user experience.

Table: 23 Technical issue

6. Technical Issues	**Rating**					**Sample**	**Results**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
Was there any delay in the delivery of the training content?	1	5	14	38	5	63	3.65	0.806
Did you notice any dead links? Rate if any	1	4	20	23	15	63	3.75	0.950
All the pages or documents are prepared to easily captured		2	17	33	11	63	3.84	0.745
Encounter any problems loading and timely given solutions		3	13	29	18	63	3.98	0.833

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.3.7. Training Environment

Table 27 presents trainees' perspectives on the training environment. This subsection evaluates trainees' satisfaction with the physical comfort, absence of distractions, availability of modern training equipment, and overall comfort level during the training sessions.

The data reveals a generally positive assessment across most dimensions, with mean ratings ranging from **3.56 to 3.97** on a 5-point scale.

The highest-rated aspect was trainees' overall comfort while taking the training (mean = 3.97), with 53 out of 63 trainees (84.1%) giving ratings of 4 or 5. The comfort of the training place (mean = 3.78) also received favorable feedback.

The lowest-rated aspect was the use of latest technology training devices such as computers, CNC, and CAD/CAM (mean = 3.56), though it still maintained a moderately positive mean with approximately 58.7% of trainees rating it 4 or 5. Only small percentages of trainees expressed strong dissatisfaction (ratings 1 or 2) across the items, confirming that trainees were largely satisfied with the training environment provided by the TVT Institute.

Overall, the training environment was rated positively for participant comfort, with all indicators above 3.56. While the physical comfort and general atmosphere were well received, there is room for

improvement in reducing distractions and upgrading the technological tools and equipment used during the training to enhance the overall learning experience.

Table: 24 Training Environment

7. Training Environment	**Rating**					**Sample**	**Results**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std.**
The training place was comfortable.		2	19	33	9	63	3.78	0.728
There were distractions in the middle of the training	3	5	13	30	12	63	3.68	1.029
Training devices which are considered as latest technology were used to complete the course, such as computer, CNC, CAD/ CAM	3	6	17	27	10	63	3.56	1.028
I was comfortable while taking this training	1	3	6	40	13	63	3.97	0.803

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.3.8. Training Outcomes

Table 28 presents trainees' perspectives on the training outcomes. This subsection evaluates the effectiveness of the training in delivering intended results, including the acquisition of theoretical and practical skills, achievement of learning goals, clarity of outcomes, and trainees' preparedness for future roles or business activities.

The data reveals a predominantly positive assessment across all dimensions, with mean ratings ranging from 3.81 to 4.16 on a 5-point scale.

The highest-rated aspect was that the training outcome was clear from the beginning (mean = 4.16), with 56 out of 63 trainees (88.9%) giving ratings of 4 or 5. Strong endorsements were also received for feeling prepared to begin a new role (mean = 4.10), willingness to take similar training again (mean = 4.08), and practical vocational skills acquired (mean = 4.06).

The lowest-rated aspect, theoretical vocational skills acquired during the training (mean = 3.81), still achieved a solid positive mean with 47 out of 63 trainees (74.6%) rating it 4 or 5. Only small percentages of trainees expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees largely appreciated the training outcomes delivered by the TVT Institute.

Overall, training outcomes were rated very positively, with all statements scoring above 3.81 and most above 4.00. Participants particularly valued the clarity of outcomes, practical skill development, goal achievement, and their preparedness for new roles. The training appears to have delivered strong results, with high willingness to recommend it and to participate in similar programs in the future.

Table: 25 Training Outcomes

8. Training Outcomes	Rating					Sample	Results	
	1	2	3	4	5	N	Mean	Std. D.
Theoretical vocational skills acquired during the training		3	13	40	7	63	3.81	0.692
Practical vocational skills acquired during the training	1	2	6	37	17	63	4.06	0.801
Entrepreneurial skills (how to run a business and to treat customers, marketing		4	10	31	18	63	4	0.842
I have achieved overall training goals		4	10	30	19	63	4.02	0.852
I learnt new information during the training		3	10	33	17	63	4.02	0.793
I would like to take a training like this again		4	8	30	21	63	4.08	0.848
I would be happy to recommend this training to a colleague or anyone interested		2	11	33	17	63	4.03	0.761
I feel that I am prepared to begin new role	1	2	6	35	19	63	4.1	0.817
The training outcome was clear from the beginning.		2	5	37	19	63	4.16	0.7

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

Among short-term graduates, the concentration in garment technology (41.3%) and leather production (27.0%) roles further explains the negligible customer service recognition. These positions are task-specific and production-line oriented, limiting employee interaction with end customers or international buyers. Communication remains technical and supervisor-directed rather than commercial and client-facing. While this role constraint legitimately reduces the immediate relevance of customer service skills, it simultaneously creates vulnerability for graduates seeking advancement into supervisory, entrepreneurial, or export-focused positions where such competencies become decisive.

4.2.3.9. Learning Experience

Table 29 presents trainees' perspectives on the learning experience. This subsection evaluates the overall impact of the training on trainees' knowledge depth, goal achievement, personal improvement in the learning process, and the balance between training workload and daily responsibilities.

The data reveals a mixed assessment across the dimensions, with mean ratings ranging from **1.41 to 3.95** on a 5-point scale.

The highest-rated aspect was that the training workload did not excessively interfere with daily work activities (mean = 3.95). This was followed by improvement in the training experience (mean = 3.92) and the trainers' effectiveness in helping trainees hit their learning goals (mean = 3.81).

The lowest-rated aspect was gaining a deeper understanding of the training topic (mean = 1.41), which indicates notable dissatisfaction in this area.

While trainees reported moderate satisfaction with most aspects of the learning experience, the significantly low rating on deeper understanding highlights a key area for improvement. Overall, the training delivered mixed results in enhancing trainees' learning experience at the TVT Institute.

Finally, the learning experience received mixed feedback. Participants appreciated that the training did not heavily disrupt their daily work and felt it contributed positively to their learning journey. However, the very low score on gaining deeper understanding of the topic highlights a key area for improvement in content depth and knowledge retention.

Table: 26 Learning Experience

9. Learning Experience	**Rating**					**Sample**	**Results**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
Now I have a deeper understanding of the training topic.		3	15	36	9	63	1.41	0.496
The trainers help me to hit my learning goals effectively		3	12	35	13	63	3.81	0.737
I have improved the training experience.		3	10	37	13	63	3.92	0.768
The training workload interferes with my daily work activities		2	13	32	16	63	3.95	0.75

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.3.10. Training Accessibility

Table 30 presents trainees' perspectives on the training accessibility. This subsection evaluates the ease of understanding, sufficiency, and accessibility of training materials and equipment during the program.

The data makes a predominantly positive assessment across all dimensions, with mean ratings ranging from **3.90 to 3.97** on a 5-point scale.

The highest-rated aspect was the ability to access and use the training materials (mean = 3.97), with 47 out of 63 trainees (74.6%) giving ratings of 4 or 5. Strong ratings were also recorded for the

sufficiency of training machineries to engage all trainees (mean = 3.95) and the number of training machineries/equipment available (mean = 3.94).

The lowest-rated aspect, whether the training materials are easily understandable (mean = 3.90), still achieved a solid positive mean. Only small percentages of trainees expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees were largely satisfied with the accessibility of the training provided by the TVT Institute.

So, training accessibility was rated very positively, with all indicators scoring above 3.90. Participants were largely satisfied with their ability to access and use materials as well as the availability of training equipment. The results suggest that the training resources were generally sufficient and user-friendly, though continued attention to equipment quantity and engagement capacity would further strengthen this area.

Table: 27 Training Accessibility

10. Training Accessibility	**Rating**					**Sample**	**Results**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
The training materials are easily understandable	1		14	37	11	63	3.90	0.734
The training machineries/equipment are enough in number	2	2	10	33	16	63	3.94	0.914
The training machineries are enough to engage all the trainees	3	2	9	30	19	63	3.95	1.007
I was able to access and use the training materials.		5	11	28	19	63	3.97	0.897

1 = Strongly Disagree 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

(Source: EASTRIP data from tracer study, 2026

4.2.4. Required Areas for Performing the Job

Table 31 presents trainees' perspectives on the overall training. This subsection evaluates trainees' overall satisfaction with the trainer's qualities (expertise, communication, and presentation skills), the usability and functionality of the training modules, duration, sequence, activities, content, and overall delivery of the program.

The data reveals mixed assessments across the dimensions, with mean ratings ranging from **1.41 to 4.27** on a 5-point scale.

The highest-rated aspect was the total duration of the training (mean = 4.27), with 54 out of 63 trainees (85.7%) giving ratings of 4 or 5. Strong endorsements were also received for the training sequence

and flow (mean = 4.24), overall training content (mean = 4.14), and effectiveness of training activities (mean = 4.11).

However, the lowest-rated aspect by far was the trainer's expertise (mean = 1.41), indicating notable dissatisfaction in this area. Most other aspects, including usability of training modules (mean = 4.10), overall functionality (mean = 4.03), and trainer's presentation and communication skills, received positive ratings.

Table: 28 Required Area to Performance Job

Indicators	**Rating**					**Sample**	**Results**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std.**
How would you rate your trainer's expertise?		1	11	40	11	63	1.41	0.496
How would you rate your trainer's communication skills?			11	35	17	63	3.97	0.647
Please rate the usability of the training modules.		3	6	40	14	63	4.1	0.665
How would you rate your trainer's presentation skills?		1	5	33	24	63	4.03	0.718
How would you rate the trainings total duration?	1	3	5	33	21	63	4.27	0.677
Please rate how effective you found the training activities.		3	7	40	13	63	4.11	0.863
How would you rate the overall training delivery?		2	7	34	20	63	4	0.718
How would you rate the overall training content?			7	34	22	63	4.14	0.737
How would you rate the trainings sequence and flow?		2	12	31	18	63	4.24	0.64
How would you rate the trainings overall functionality?	1	1	5	38	18	63	4.03	0.782

(Source: EASTRIP data from tracer study, 2026

4.2.5. Areas of Training Most Helpful for Job Performance

Figures below presents trainees' perspectives on the areas of training that helped them perform in their current job. This subsection examines which types of training the respondents found most valuable for their job performance.

The data shows a clear dominance of one area over the others. Knowledge (theoretical and practical related to my specialization) was rated as the most helpful by a large majority of trainees, with 48 out of 63 respondents (76.2%) selecting it. This was followed by Practical, job-related skills (for example, use of tools, equipment, and machinery), chosen by 12 respondents (19.0%).

In contrast, soft skills areas received very limited recognition. Entrepreneurship skills (such as market research, business planning, financial management, and leading others) were selected by only 2 respondents (3.2%), while Communication skills (spoken and written) were chosen by just 1 respondent (1.6%).

Overall, the results indicate that trainees overwhelmingly attribute their job performance to domain-specific theoretical and practical knowledge, with hands-on technical skills playing a secondary but still notable role. Soft skills such as communication and entrepreneurship were rarely viewed as key contributors from the training they received.

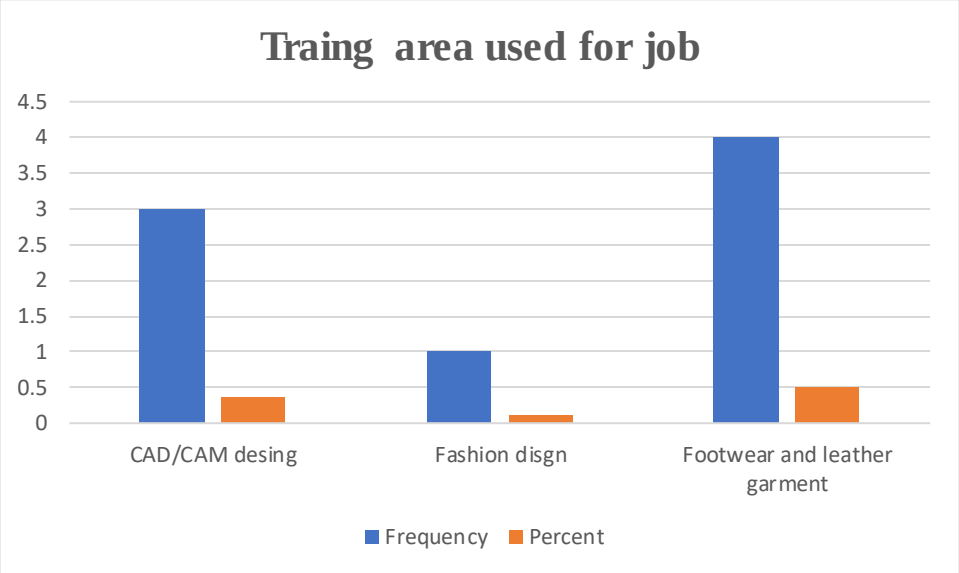


Figure 6Area of training helped their job

(Source: EASTRIP data from tracer study, 2026

4.2.6. Participation in Further Training

This tracer research also aimed to determine graduates' willingness to attend similar training courses in the future, as demonstrated in Table 32. A significant majority of respondents expressed strong interest, with **90.5%** (57 out of 63 graduates) answering **"Yes"** to attending training courses again. Only **9.5%** (6 graduates) responded **"No"**.

Overall, the exceptionally high percentage of graduates who are willing to attend future training courses reflects a very positive perception of the programme. This strong endorsement indicates high

levels of satisfaction and perceived value, suggesting that the training met the expectations of most participants and left them motivated to pursue further skill development opportunities.

Table: 29 Willingness to Attend Training Course Again

I want to attend training courses	Count	%
Yes	57	90.5
No	6	9.5
Total	63	100

(Source: EASTRIP data from tracer study, 2026

4.2.6.1. Preferred Future Training Courses (Yes)

Table 33 presents the specific areas of training specified by trainees who answered "Yes" to the preceding question (likely regarding additional skills, preferred topics, or areas covered in the program).

This subsection provides a breakdown of the open-ended responses, showing the frequency and percentage distribution of the mentioned training areas.

The data indicates that CAD CAM was the most frequently specified area (13 responses, 20.6%), followed by Basic drawing and Illustration (each with 8 responses, 12.7%). Leather garment-related topics were also commonly mentioned, with "Leather garment" (5 responses, 7.9%) and "Leather goods fabrication" (3 responses, 4.8%) standing out. Other notable responses included Footwear (4 responses, 6.3%) and various combinations of leather goods, garment design, and CAD-related skills. Out of 63 total respondents, 57 provided valid specifications (90.5%), while 5 responses (7.9%) were missing. The responses highlight a strong emphasis on practical, technical, and design-oriented skills, particularly those involving CAD/CAM, drawing/illustration, and leather goods/footwear production.

Table: 30 Preferred Future Training Courses

4.7 If Yes please specify:		
	Frequency	Percent
missing	5	7.9
Accessories	1	1.6
Advanced leather garment fabrication and footwear	1	1.6
Advanced leather garment construction	1	1.6
Basic drawing	8	12.7
CAD CAM	13	20.6
Design leather goods and garment, CAD,	1	1.6

Footwear	4	6.3
Footwear and CAD CAM	1	1.6
footwear/cad cam	1	1.6
Illustration	8	12.7
Leather garment	5	7.9
Leather garment and footwear	1	1.6
Leather Garment design; CAD CAM; Adobe illustration	1	1.6
Leather garments and Footwear design to finishing	1	1.6
Leather goods and footwear	1	1.6
Leather goods design	1	1.6
leather goods fabrication	3	4.8
Total	57	90.5

(Source: EASTRIP data from tracer study, 2026

4.2.7. The Level of Short-term Graduates' Job Satisfaction

This section explores the overall job satisfaction levels of short-term program graduates in Leather and Leather Products with their current working positions. All indicators are rated on a 5-point Likert scale (1 = Unsatisfied, 5 = Highly Satisfied).

The data shows a predominantly positive assessment across all dimensions, with mean ratings ranging from 3.71 to 4.33 on a 5-point scale.

The highest-rated aspect was the possibilities to put their own ideas into practice (mean = 4.33), with 57 out of 63 respondents (90.5%) giving ratings of 4 or 5. Clear and regulated work tasks (mean = 4.27), possibilities for applying what was learned during studies (mean = 4.22), and job security (mean = 4.22) also received very strong endorsements.

The lowest-rated aspect was interesting work tasks (mean = 3.71), though it still maintained a moderately positive mean with 39 out of 63 trainees (61.9%) rating it 4 or 5. Only small percentages of respondents expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that trainees were largely satisfied with their overall job satisfaction following the training at the TVT Institute.

Table: 31 Job Satisfaction

Job Satisfaction	**Rating**					**Sample**	**Results**	
	1	**2**	**3**	**4**	**5**	**N**	**Mean**	**Std. D.**
Interesting work tasks	1	2	21	29	10	63	3.71	0.831

Being able to work with some independence		1	10	31	21	63	4.14	0.737
Clear and regulated work tasks		1	6	31	25	63	4.27	0.700
Possibilities for applying what you learned when studying	1		9	27	26	63	4.22	0.812
Job security		2	7	29	25	63	4.22	0.771
Social status and recognition		1	8	34	20	63	4.16	0.700
Possibilities to put your own ideas into practice		1	5	29	28	63	4.33	0.696
Income and benefits		2	7	38	16	63	4.08	0.703
Good social climate / work setting		1	12	29	21	63	4.11	0.764
Good career advancement prospects		1	7	32	23	63	4.22	0.706
Being able to coordinate/supervise work		1	7	34	21	63	4.19	0.692

1 = Unsatisfied 2 = Slightly Satisfied, 3 = Moderately, 4 = Satisfied, 5 = Highly Satisfied,

(Source: EASTRIP data from tracer study, 2026

4.2.8. Comments and Recommendations

4.2.8.1. Challenging Aspects of Training Structure

This subsection summarizes open-ended responses regarding difficulties or areas of confusion experienced during the training program.

The data shows that a significant portion of trainees reported no major challenges, with 9 respondents (14.3%) indicating "No comment / none." However, several areas of concern were highlighted.

The most frequently mentioned challenge was shortage of time (5 responses), followed by machinery/equipment issues (2 responses), such as insufficient machines and low efficiency. Other challenges included insufficient materials/raw materials, skills gaps, high costs (e.g., accommodation), timetable conflicts, and transport/logistics problems. One respondent provided purely positive feedback ("It's all good").

Overall, while many trainees did not experience significant challenges, the responses point to time constraints and resource limitations (particularly machinery and materials) as the primary areas needing improvement in the training structure at the TVT Institute.

Table: 32 Challenging Aspects of Training Structure

What Aspects of the Training Structure Were Challenging or Confusing?		
Category	**Frequency**	**Comments**
No comment / None	9	No; No; No; no; No; No; No; No; No
Shortage of time	5	Shortage of time (×5)
Machinery/Equipment Issues	2	No enough machine; Efficiency of Machinery Lack and training duration very low
Insufficient materials / raw materials	1	Insufficient of materials.
Skills gap / Training	1	Skills gap and raw material
Cost / Financial	1	High cost of bed room
Positive feedback	1	It's all good
Schedule / Timetable conflicts	1	Over lab with my class
Practical / Hands-on	1	Practical
Transport / Logistics	1	Transport

(Source: EASTRIP data from tracer study, 2026

4.2.8.2. Training Structure Improvement

The data shows that duration of training was the most frequently mentioned area needing improvement (11 responses). This was followed by machinery/equipment shortage (4 responses) and delay of fee/financial issues (4 responses). Other suggestions included workshop setup/facilities, part-time vs full-time training format, shortage of raw materials, practical/hands-on training, trainer quality, time management, skill improvement, accommodation, and training content.

While 5 respondents (approximately 7.9%) indicated "No comment / None," the majority of feedback highlighted time constraints, resource limitations (especially machinery), and financial/administrative issues as the primary areas requiring attention. One respondent also gave purely positive feedback ("All good").

Overall, the responses provide clear direction for the TVT Institute on key structural improvements that could significantly enhance the training experience.

Table: 33 Improvement Required Areas

What aspects of the training structure do you think needs improvement?		
Category	**Frequency**	**Comments**
Duration of training	11	Duration of training (×11)
No comment / None	5	no; no; no; no; no
Machinery / Equipment shortage	4	Number of machineries; Number of machineries; machineries; "time, machineries and organized
Delay of fee / Financial issues	4	Delay of fee; Delay of fee; Delay of fee; finance
Workshop setup / facilities	2	workshop setup; the work shop
Part-time vs full-time training	2	par time; expected full training
Shortage of raw materials	1	shortage of raw materials
Practical / Hands-on training	1	practical part
Trainer interest / Quality of instruction	1	Interest of the trainers
Time management / Scheduling	1	Time management could be better
Skill improvement	1	Skill improvement
Accommodation / Bedroom facilities	1	Facilitate bed room
Training content / Curriculum	1	The contents
Positive feedback / All good	1	All

(Source: EASTRIP data from tracer study, 2026

4.2.8.3. The Most Effective Part of the Short-term Training

This subsection summarizes open-ended responses regarding the aspects of the program that trainees found most valuable or impactful.

The data shows that Practical / Hands-on training was the most frequently mentioned effective aspect (7 responses). This was followed by Overall training satisfaction (6 responses), particularly appreciation for the overall leather goods training, and Facilities / Infrastructure (5 responses).

Other notable effective aspects included Design / Creative skills (4 responses) such as designing, sketching, pattern making, and rendering, as well as Knowledge / Skills gained (3 responses), Trainer / Instructor quality (2 responses), and Training content / Curriculum (2 responses).

While only 1 respondent gave "No comment," the responses strongly highlight the value placed on practical, hands-on learning, creative design components, and overall program quality. This feedback affirms that the practical and applied elements of the training delivered by the TVT Institute were particularly effective for the majority of trainees.

Table: 34 The Most Effective Part of the Training assessment result

What was the most effective part of the training for you?		
Category	**Frequency**	**Comments**
Practical / Hands-on training	7	Practical part (×7)
Overall training satisfaction / All over training	6	All over leather goods training; All over the training; All over the training; All over leather goods training; All over leather goods training; the overall training
Facilities / Infrastructure	5	facilities (×5)
Design / Creative skills	4	Designing; Designing; fashion design, sketching and pattern making; sketching, rendering, painting, and pattern making
Knowledge / Skills gained	3	I have gained new knowledge that is relevant to my work.; Skills developed; knowledge based of training
Trainer / Instructor quality	2	the trainer; Conduct of the trainer
Training content / Curriculum	2	the training material; the contents of training
Other / Miscellaneous	2	Related to garment was very effective; Conceptual related training
No comment / None	1	No
Organization / Management	1	organized
Environment / Learning atmosphere	1	the environment
Simulation / Methodology	1	Simulation learning

(Source: EASTRIP data from tracer study, 2026

4.2.8.4. Suggestion about the overall survey

From total of 63 trainees participated in the program, of whom 21 (33.3%) provided feedback in response to the open-ended question about comments or suggestions regarding the survey. The majority of trainees (42 out of 63, or 66.7%) did not offer any feedback, and among those who did, a substantial portion still had limited substantive input to share.

Among the 21 respondents who provided feedback, the most common response was "No comment / none," cited by 8 respondents (38.1% of feedback providers). This suggests that a significant portion

of those who chose to respond either had no strong feelings about the survey process or felt no need to suggest improvements.

Of those who provided meaningful feedback, positive sentiments and encouragement to continue the training were the most frequently expressed, mentioned by 6 respondents (28.6%). Comments such as "Very good training .continue," "continue," "KEEP UP," and "Good" indicate a general sense of satisfaction with the training program and a desire for its continuation. This is a notably positive finding, suggesting that trainees perceive value in the training and wish to see it sustained.

Material supply and management review was raised by 2 respondents (9.5%), with both offering the same specific and actionable suggestion: "After survey top management must review it because material supply for training is very critical." This points to a perceived operational bottleneck that trainees feel requires urgent attention from leadership. The fact that this identical comment appeared twice suggests it may reflect a shared concern among participants rather than an isolated opinion.

Survey length and clarity were noted by 2 respondents (9.5%), who felt the survey should be "short" and "clear and short as much as possible." This feedback is directly relevant to the survey design itself and suggests that future iterations should priorities brevity and simplicity to encourage higher-quality responses.

A range of other suggestions were each mentioned once (4.8% each). One respondent called for "be enough time schedule," indicating that time allocation for training activities may be insufficient. Another suggested the need to "Prepare for CAD CAM software," highlighting a demand for modern technological tools and software training. One respondent simply offered "Thank you," reflecting general appreciation for the opportunity to provide feedback.

Table: 35 Suggestion about the over all survey

Do you have any comments/suggestions regarding this survey?		
Category	**Frequency**	**Comments**
No comment / None	8	No; No; No; No; No; No; No; No
Positive feedback / Continue the training	6	Very good training .continue; continue; continue; KEEP UP; Good; Good
Material supply / Management review	2	After survey top management must review it because material supply for training is very critical; After survey top management must review it because material supply for training is very critical

Survey length / Clarity	2	It should be short.; Make it clear and short as much as possible
Time schedule / Duration	1	be enough time schedule
Software / Technology (CAD/CAM)	1	Prepare for CAD CAM softwere
General appreciation / Thank you	1	Thank you

Employer Survey Results

This part presents the findings from the employer surveys conducted as part of the Federal TVT Institute's Manufacturing Technology Department tracer study. The results are organized into two main sections: Section 4.3 presents findings from employers of long-term graduates (n=31), and Section 4.4 presents findings from employers of short-term graduates (n=40). Each section covers demographic characteristics, recruitment practices, satisfaction levels, competency assessments, and recommendations. A comparative analysis follows, examining differences between the two employer groups.

4.3. Long-Term Graduates Employers' Findings

4.3.1. Introduction

This section presents findings from employers who hired graduates from the Federal TVT Institute's long-term manufacturing technology programs (BSc and MSc levels). A total of 31 employers participated in this survey, providing insights into graduate performance, training effectiveness, and areas for program improvement. The findings address the study's five objectives: measuring employability rates, evaluating program relevance, identifying required competencies, assessing employer satisfaction, and informing curriculum development.

4.3.2. Demographic Information

This subsection analyses the organizational characteristics and roles of the 31 employers who hired long-term manufacturing technology graduates. Understanding employer profiles is essential for contextualizing satisfaction ratings and identifying sector-specific needs.

4.3.2.1. Industry Sector Distribution

Shows that the 39 traced employers of long-term graduates were heavily concentrated in just two regions: Amhara (41.9%, n=13) and Addis Ababa (35.5%, n=11), which together accounted for 77.4% of all respondents. Oromia contributed a smaller share at 19.4% (n=6), while HARAR was represented

by a single employer (3.2%). This skewed distribution indicates that employment opportunities for Federal TVT Institute graduates remain geographically constrained to Ethiopia's northern and central economic corridors, with limited penetration into southern, western, and eastern regions. The concentration raises equity concerns, as graduates from peripheral regions may face difficulties returning to their home areas for employment, and suggests that stronger industry linkages are needed beyond the traditional Amhara–Addis Ababa axis to support the EASTRIP project's regional integration objectives.

Table: 36 Regional Distribution of Employers

Regions	Frequency	Percent
Addis Ababa	11	35.5
Amhara	13	41.9
HARAR	1	3.2
Oromia	6	19.4
Total	**31**	**100.0**

(Source: EASTRIP data from tracer study, 2026)

4.3.2.2. Role/Position of traced Employers

Table 31 presents the role/position distribution of the 31 traced employers of long-term graduates. The overwhelming majority (71.0%, n=22) held Head or Deputy Head of Department positions, indicating that feedback was primarily gathered from senior decision-makers with direct authority over staffing and performance evaluation. Supervisors accounted for 16.1% (n=5), while Human Resource Managers represented 12.9% (n=4). This concentration in senior leadership roles enhances the validity and strategic relevance of employer responses, as these respondents possess comprehensive organizational perspectives and direct influence over hiring decisions and graduate performance assessments.

Table: 37 Respondent's Role/Position in the Company

Role/Position in the Company/Organization	Frequency	Percent
Human Resource Manager	4	12.9
Supervisor	5	16.1
Head/Deputy Head of Department	22	71.0
Total	**31**	**100.0**

(Source: EASTRIP data from tracer study, 2026

4.3.2.3. Industry Sector Distribution

Table 38 Presents the industry sector distribution of employers who hired long-term graduates. The manufacturing and industrial sector constitutes the majority (51.6%, n=16), followed by education institutions including TVET colleges and universities (19.4%, n=6), and other sectors (29.0%, n=9). This distribution indicates that long-term graduates find employment predominantly in direct manufacturing roles, with a significant portion also absorbed by educational institutions as instructors or technical staff.

Table: 38 Industry Sector Distribution of Long-Term Graduate Employers

Industry Sector	**Frequency**	**Percent**
Manufacturing/Industry	16	51.6
Education (TVET/College/University)	6	19.4
Other	9	29.0
Total	**31**	**100.0**

(Source: EASTRIP data of tracer study, 2026)

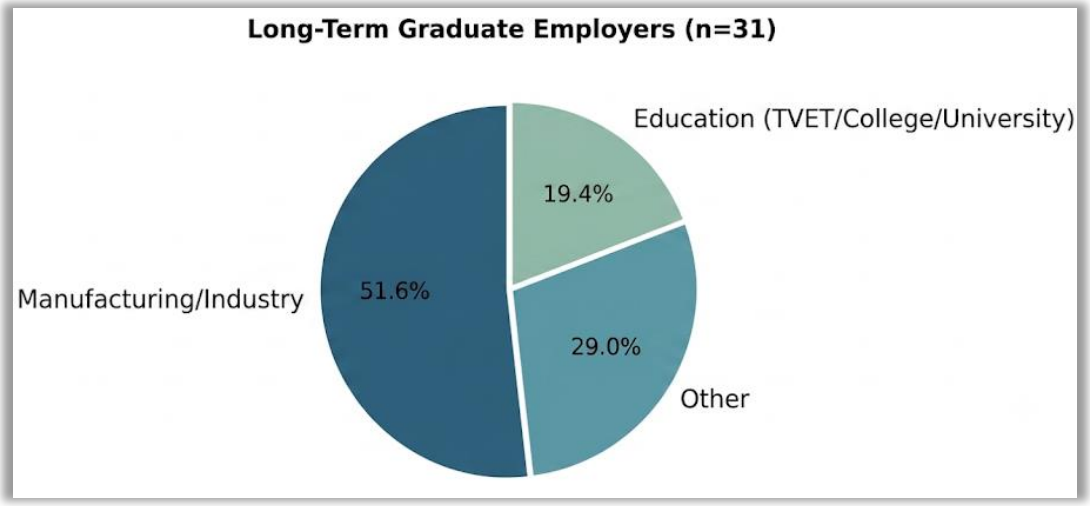


Figure 7 Industry Sector Distribution - Long-Term vs Short-Term Employers

(Source: EASTRIP data from tracer study, 2026)

4.3.3. Employers' Recruitment and Selection Criteria

This section examines how employers recruit graduates from the Federal TVT Institute's long-term manufacturing technology programs and the criteria they use in selection decisions.

4.3.3.1. Method of Recruiting Graduates

The survey results reveal that employers utilize a diverse, multi-faceted recruitment strategy, with newspaper advertisements emerging as the most prominent channel at 48.39%. This is closely followed

by internal vacancies and direct applications from graduates, both utilized by 38.71% of respondents, while digital presence and direct institutional engagement such as internet advertisements and contacts with TVET institutes each account for 32.26% of recruitment efforts. Furthermore, 25.81% of employers leverage career advisory agencies at TVET institutes, highlighting a preference for established, direct channels over formal third-party intermediaries like private employment agencies (3.23%) or scholarship-based hiring (3.23%). Overall, this data suggests a recruitment landscape that prioritizes accessible media and direct institutional relationships to effectively bridge the gap between educational preparation and workforce entry.

Table: 39 Recruitment Methods Used by Employers of Long-Term Graduates

Recruitment Method	**Count**	**Percent**
Advertisements of vacancies in newspapers (such as, daily papers, special periodicals)	15	48.39
Internal advertisements of vacancies	12	38.71
Direct application by graduates	12	38.71
Advertisements on the Internet	10	32.26
Other contacts to the TVET Institute	10	32.26
Career advisory agency at the TVET Institute	8	25.81
Public work administration (such as, public placement services, manpower allocation system)	5	16.13
Personal contacts to graduates	4	12.90
Manpower allocation	3	9.68
Private employment agencies	1	3.23
Binding students by scholarships	1	3.23

(Source: EASTRIP data from tracer study, 2026)

4.3.3.2. Important Aspects for Selecting Graduate Candidates

Table 40 presents employers' perspectives on important recruitment aspects, measured by their satisfaction with the quality of training. The data reveals a predominantly positive assessment across all dimensions, with mean ratings ranging from 3.55 to 4.26 on a 5-point scale. The highest-rated aspect was practical experience acquired during the course of study (mean = 4.26), with 25 out of 31 employers (80.6%) giving ratings of 4 or 5. Combined, 80.6% of employers expressed satisfaction with the practical experience gained, while no employer gave the lowest rating (1) and only 9.7% (3 employers) remained neutral. Field of study (mean = 4.10) and communication skills (mean = 4.06) also received strong endorsements, each with over 74% of employers rating them 4 or 5. The lowest-

rated aspect, recommendations/references from third persons, still achieved a mean of 3.55, with 54.8% of employer's satisfied (ratings 4 or 5). Only small percentages of employers expressed dissatisfaction (ratings 1 or 2) across all aspects, confirming that employers largely value the training quality of TVT Institute graduates in every recruitment dimension assessed.

Table: 40 Employers' Perspective on Important Recruitment Aspects

Employers' Perspective On Important Recruitment Aspects								
Aspects	**Satisfaction with Quality of Training**					**Total**	**Mean**	**SD**
	1	2	3	4	5			
Field of study	2	1	3	11	14	31	4.1	1.136
Main focus of subject area/specialization	1	3	3	12	12	31	4	1.095
Grades of examinations at the TVET Institute	2	2	4	10	13	31	3.97	1.197
Practical experience acquired during course of study	0	3	3	8	17	31	4.26	0.999
Reputation of TVET Institute	1	2	8	9	11	31	3.87	1.088
Recommendations/references from third persons	2	3	9	10	7	31	3.55	1.15
Results of recruitments tests	1	4	4	10	12	31	3.9	1.165
Communication skills	1	3	4	8	15	31	4.06	1.153
Personal presentation	2	4	2	8	15	31	3.97	1.303
Personality and behaviour	2	3	4	6	16	31	4	1.291

(Source: EASTRIP data from tracer study, 2026)

4.3.4. The Level of Satisfaction of Employers

4.3.4.1. Overall Satisfaction

Table 41 presents employer satisfaction with the quality of job performance of FDRE TVT Institute graduates. The data reveals a predominantly positive assessment: 48.4% of employers indicated they were satisfied, and 32.3% indicated they were strongly satisfied. Combined, 80.7% of employers expressed positive satisfaction. Only 3.2% expressed dissatisfaction, while 16.1% reported being moderately satisfied.

Table: 41 Overall Satisfaction of Long-Term Graduate Employers

Over all; How satisfied are you with the quality of job performance of FDRE TVT Institute graduates?					
	Strongly Dissatisfied	**Dissatisfied**	**Moderately Satisfied**	**Satisfied**	**Strongly Satisfied**
Frequency	**0**	**1**	**5**	**15**	**10**
Percent	**0**	**3.2%**	**16.1%**	**48.4%**	**32.3%**

(Source: EASTRIP data from tracer study, 2026)

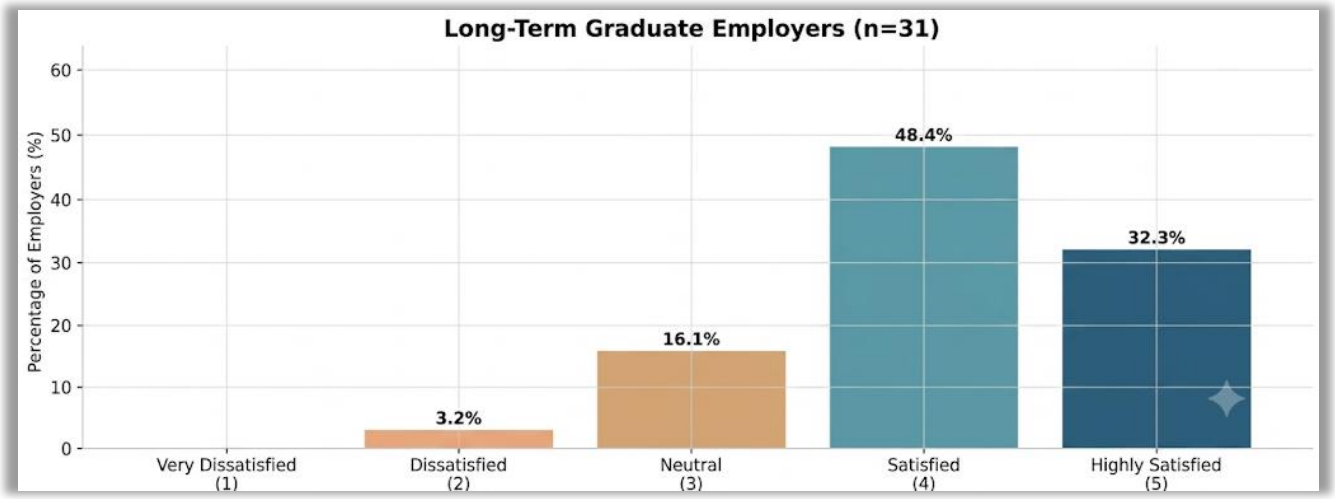


Figure 8 Overall Employer Satisfaction Levels

(Source: EASTRIP data from tracer study, 2026)

4.3.4.2. Satisfaction by Graduates' Knowledge and Skills

Table 42 presents employers' level of satisfaction with the knowledge and skills of TVTI graduates, revealing a broadly favourable assessment. Mean satisfaction scores range from 3.55 to 4.00 on a 5-point scale, with the highest ratings given to "Working with other people" and "Doing measurements at work" (both mean = 4.00), where 71.0% and 74.2% of employers respectively expressed satisfaction (ratings 4 or 5). Other areas such as "Practical use of working tools" (mean = 3.97) and "Communication" (mean = 3.94) also scored highly. At the lower end, "How to start a business" (mean = 3.55) and "Theory and practice of equipment maintenance" (mean = 3.65) received comparatively modest ratings, although even these areas saw only small shares of outright dissatisfaction (ratings 1 or 2), with the latter registering the highest combined dissatisfaction at 16.1%.

Table: 42 Employers' Level of Satisfaction with the Knowledge and Skills

Employers' Level of Satisfaction with the Knowledge and Skills of TVTI Graduates								
	Level of General importance					**Count**	**Mean**	**SD**
	1	**2**	**3**	**4**	**5**			
Theoretical training related to the occupation	0	2	10	14	5	31	3.71	0.824
Practical use of computers	1	4	8	10	8	31	3.65	1.112
Practical use of working tools	0	2	7	12	10	31	3.97	0.912
Practical use of machines and equipment	0	3	9	8	11	31	3.87	1.024
Practical use of materials and parts	0	4	5	15	7	31	3.81	0.946
Theory and practice of equipment maintenance	2	3	8	9	9	31	3.65	1.199
Understanding and producing drawings	1	2	6	15	7	31	3.81	0.98
Doing measurements at work	1	1	6	12	11	31	4	1
Use of written instructions and working guides	1	0	8	14	8	31	3.9	0.908
Communication	1	3	6	8	13	31	3.94	1.153
Working with other people	0	2	7	11	11	31	4	0.931
Knowledge of the industry	1	2	7	13	8	31	3.81	1.014
How to work in a safe way	1	4	5	13	8	31	3.74	1.094
How to do high quality work	0	3	9	10	9	31	3.81	0.98
Discipline and accuracy at work	1	1	12	10	7	31	3.68	0.979
How to start a business	1	3	11	10	5	31	3.55	1.028
General education subjects	0	1	10	8	10	31	3.81	1.014
The quality of the TVET graduates in general	0	3	6	12	10	31	3.94	0.964

(Source: EASTRIP data from tracer study, 2026

The implications of these results are largely encouraging. The consistently high satisfaction with teamwork, measurement skills, and practical tool use suggests that the TVT Institute is producing graduates whose hands-on competencies and interpersonal abilities align well with workplace demands. The strong performance in collaboration and measurement points to effective training in core vocational and soft skills. However, the relatively lower satisfaction in entrepreneurship and equipment maintenance signals areas where curriculum reinforcement could sharpen graduate readiness. The fact that dissatisfaction remains minimal across all 17 dimensions underscores an overall solid foundation, while the moderate scores in a few domains highlight targeted opportunities for the Institute to strengthen its programmes, thereby further enhancing graduate employability and employer confidence.

4.3.5. Skill Shortages Faced by Employers

Table 43 presents employers' assessment of the severity of skills shortages across four occupational categories, rated on a 5-point scale where higher scores indicate greater severity. The data reveals that shortages are perceived as moderate to moderately high across all categories, with mean scores ranging from 3.26 for semi-skilled workers to 3.61 for technicians/engineers. The technician/engineer category stands out as the most acute shortage, with 74.2% of employers rating it as severe (scores 4 or 5), followed by supervisory/management roles at 61.3%. Skilled worker shortages were reported as severe by 54.8% of employers, while semi-skilled shortages, though still notable, were rated severe by less than half (48.4%) of respondents.

Table: 43 Skill shortages faced by employers to select graduates

The severity of the Skills Shortages								
	Frequency					**Total**	**Mean**	**SD**
	1	**2**	**3**	**4**	**5**			
Semi-skilled	2	5	9	13	2	31	3.26	1.032
Skilled worker	4	3	7	8	9	31	3.48	1.363
Technician/engineer	5	2	1	15	8	31	3.61	1.383
Supervisory/management	5	3	4	11	8	31	3.45	1.41

(Source: EASTRIP data from tracer study, 2026)

The implications of these findings are significant for workforce planning and the role of the TVT Institute. The pronounced shortage of technicians and engineers points to a critical gap in higher-level technical competencies that can constrain operational capacity, innovation, and maintenance capabilities within firms. The similarly elevated shortage of skilled workers and supervisory/management staff suggests that employers are struggling not only to find hands-on trade expertise but also to fill roles requiring leadership and oversight. While the semi-skilled category registers the lowest severity, the fact that nearly half of employers still consider it severe indicates that even foundational skills are not in abundant supply. These patterns reinforce the need for the Institute to intensify training in technical and engineering fields, expand pathways for upskilling into supervisory roles, and ensure a steady pipeline of work-ready graduates across all skill tiers to ease recruitment bottlenecks and support industry growth.

Error! Reference source not found. presents the proportion of employers who have experienced difficulty finding employees with the required skills. The response is strikingly one-sided: 83.9% of surveyed employers (26 out of 31) reported that their company has indeed faced such problems, while only 16.1% (5 employers) indicated they have not. This overwhelming majority underscores that skills

shortages are not a peripheral concern but a widespread challenge affecting nearly all employers in the survey.

Table: 44 Experience of Finding Required Skill

Has your company ever experienced problems finding employees with the skills that you need?		
	Frequency	**Percent**
Yes	26	83.9
No	5	16.1

(Source: EASTRIP data from tracer study, 2026)

The implications are serious and align with the earlier findings on skills gaps and training needs. An 83.9% difficulty rate confirms that the labour market is severely constrained in supplying work-ready talent, which can lead to prolonged vacancies, increased recruitment costs, and lost productivity. Even among employers who expressed general satisfaction with TVTI graduates in earlier tables, the near-universal struggle to find skilled employees suggests that the overall supply of qualified candidates whether from the Institute or elsewhere is insufficient to meet demand. This reinforces the urgency for the TVT Institute to not only maintain but expand its output of competent graduates, particularly in the technical and engineering fields identified as most severely lacking. It also highlights the need for stronger industry–institute collaboration to ensure that the skills being taught are exactly those that employers struggle to find, thereby directly addressing the hiring difficulties reported by the vast majority of firms.

Table 45 presents the specific occupational areas where long-term graduate employers (n=24 valid responses) most commonly report skills shortages. The data reveals a heavy concentration in core manufacturing technology fields. CNC Machining & Machine Operation and Manufacturing Technology (General) are tied as the most frequently cited shortage areas, each mentioned by 20.8% of employers, together accounting for over two-fifths of all responses. CAD/CAM/Design skills specifically SolidWorks, AutoCAD, and CATIA rank third at 16.7%. These top three areas alone represent 58.3% of all reported shortages, confirming that technical skill gaps in precision manufacturing dominate employer concerns. Beyond these, 12.5% of employers indicated shortages across multiple occupations or all sectors, hinting at systemic rather than isolated deficiencies, while smaller proportions cited technician/semi-skilled roles (8.3%), practical hands-on skills (8.3%), and a few niche or unclear areas.

Table: 45 Skills Shortages by Occupational Area

Occupational Area	**Frequency**	**Percent**
CNC Machining & Machine Operation	5	20.8
Manufacturing Technology (General)	5	20.8
CAD/CAM/Design (SolidWorks, AutoCAD, CATIA)	4	16.7
Multiple Occupations/All Sectors	3	12.5
Technician/Semi-Skilled Worker Level	2	8.3
Practical/Hands-on Technical Skills	2	8.3
Equipment Maintenance	1	4.2
Aesthetics/Creative Arts (Non-Manufacturing)	1	4.2
Unclear/Other ("Practical")	1	4.2

(Source: EASTRIP data from tracer study, 2026)

The implications are clear and align with earlier evidence of severe technician and engineer shortages and widespread hiring difficulties. The dominance of CNC, manufacturing technology, and digital design gaps points to an urgent need for the TVT Institute to strengthen curriculum, equipment, and instructor capacity in these high-demand precision manufacturing domains. The fact that one in eight employers sees shortages spanning multiple occupations further suggests that foundational practical and technical skills are not adequately reinforced across programmes. Targeted investment in advanced manufacturing training, closer industry partnerships for machinery and software access, and a more deliberate alignment of enrolment with labour market signals would directly address the most critical reported gaps. Doing so would not only improve graduate employability but also reduce the persistent recruitment struggles reported by over 80% of surveyed employers.

4.3.6. Training in Need by Employers

Table 46 presents employers' perspective on the extent of additional training required by TVTI graduates before they can work effectively. The data reveals a mixed picture. Only 16.1% of employers reported that graduates are normally fully prepared to do the work well, and a further 9.7% indicated they need only introductory training, meaning just over a quarter (25.8%) of graduates are considered essentially job-ready. The largest single group, 41.9% of employers, stated that graduates need to learn some additional skills. More concerning, 25.8% indicated that graduates need serious skills upgrading to start working, and 6.5% said they need completely new training. Combined, nearly one-third of employers (32.3%) assess that graduates require substantial retraining, revealing a significant gap between current graduate preparation and immediate workplace readiness.

Table: 46 Additional Training needs identified by employers for graduates

Employers' Perspective on the Extent of Additional Training Required By TVTI Graduates		
	Frequency	**Percent**
Normally they are fully prepared to do the work well	5	16.1
They need only an introductory training	3	9.7
They need to learn some additional skills	13	41.9
They need serious skills upgrading to start working	8	25.8
They need completely new training	2	6.5

(Source: EASTRIP data from tracer study, 2026)

The implications of these findings point to an important nuance behind the earlier satisfaction ratings. While employers expressed favourable views on many specific skills and overall quality, a large share of graduates still cannot step directly into productive roles without further employer-led investment. The prevalence of the "needs additional skills" category suggests that the training provided by the TVT Institute is foundational but not always sufficiently tailored to diverse workplace contexts, specific machinery, or firm-level processes. The fact that a combined 32.3% of employers see a need for serious upgrading or complete retraining signals that, for a sizable minority, the Institute's programmes may be misaligned with industry skill demands. This underscores the importance of deepening curriculum relevance, expanding work-integrated learning, and establishing structured transition pathways such as internships, apprenticeships, or post-graduation bridging programmes to reduce the training burden on employers and improve the immediate productivity of new hires.

4.3.7. Graduates Challenges on Employment

Employers identified several decisive reasons why FTVTI students face employment challenges. A central issue is the skill gap, specifically described as a perceived mismatch between the training provided at the institute and the actual demands of the workplace. Beyond technical shortcomings, a lack of proper work attitude among graduates was also cited as a significant barrier. Additionally, structural factors were noted: overstaffing in certain occupational areas combined with low trainee enrolment leads to an imbalance, making it difficult for graduates to find positions aligned with their training. Finally, a general shortage of skilled manpower in the field was highlighted, indicating that even when vacancies exist, the pipeline of suitably qualified individuals falls short of employer needs.

Table: 47 Challenges of Graduate Finding a Job

What are the decisive reasons that FTVTI Student's Faces Employment Challenge
Skill Gap
Perceived gap between the training provided and the actual demands.
Lack of attitude
Due to over staffing in this area and less number of trainees enrolment
Shortage of Manpower in the Field

(Source: EASTRIP data from tracer study, 2026)

The implications of these reasons are far-reaching. The reported skill gap and lack of attitude suggest that the institute must strengthen not only technical curriculum relevance but also soft skills and work ethic development, perhaps through stronger industry exposure and workplace discipline. The overstaffing issue and low enrolment in certain areas point to a misalignment between training outputs and labour market absorption capacity, calling for more responsive course planning and career guidance that channels students toward fields with genuine demand. The overarching shortage of skilled manpower reaffirms the critical market-wide hiring difficulties noted elsewhere (83.9% of employers faced recruitment problems). Together, these factors indicate that solving graduate employment challenges requires a coordinated strategy: aligning training quality and attitudes with industry expectations, balancing enrolment across occupations based on real demand, and generally expanding the supply of work-ready talent to meet persistent labour shortages.

4.3.8. Comments and Suggestions of Long-Term Graduate Employers

The table 48 below presents employers' specific recommendations for improving TVT Institute graduate readiness, drawn from 31 respondents. Of these, 18 employers (58.1%) offered substantive suggestions, while 8 gave non-substantive responses and 5 provided vague or unclear input, which is excluded from the table. The single most pressing recommendation is to increase practical/hands-on training, cited by 6 employers and accounting for one-third (33.3%) of all meaningful responses. The next most frequent recommendations updating curriculum to align with industry standards and strengthening cooperative training and industry linkages were each mentioned by 2 employers (11.1% of relevant responses). A wide scatter of other suggestions, each mentioned by only one employer, includes trainer development, soft skills and work ethics, adoption of international best practices, adjustment of training duration, process re-engineering, improved pedagogy, integration of emerging technologies, and a stronger focus on engineering-oriented TVET. This pattern shows a sharp concentration on practical training while also revealing a diverse set of secondary improvement areas.

Table: 48 Recommended Important Changes at FTVTI

Recommended Change	Frequency	% of All Responses	% of Relevant
Increase practical / hands-on training	6	19.4	33.3
Update curriculum / align with industry standards	2	6.5	11.1
Strengthen cooperative training & industry linkages	2	6.5	11.1
Trainer development & continuous professional training	1	3.2	5.6
Strengthen soft skills & work ethics	1	3.2	5.6
Enhance R&D & adopt international best practices	1	3.2	5.6
Adjust training duration / scheduling	1	3.2	5.6
Process re-engineering (BPR)	1	3.2	5.6
Improve training methods / pedagogy	1	3.2	5.6
Integrate new / emerging technology	1	3.2	5.6
Strengthen engineering-focused TVET development	1	3.2	5.6

(Source: EASTRIP data from tracer study, 2026)

The implications are direct and actionable. The dominance of the call for more hands-on training confirms that the perceived gap between institute-based learning and real workplace demands is the chief concern a theme that runs through earlier findings on skill gaps, the high share of graduates needing additional training, and the concentration of shortages in practical manufacturing fields like CNC machining. Prioritising expanded workshop time, real-world projects, internships, and industry attachments would address the most widespread employer demand. The presence of multiple curriculum and linkage-related recommendations reinforces that hands-on training cannot be strengthened in isolation; it must be accompanied by revised, industry-aligned content and formal cooperation with employers. The scattered single-issue suggestions, while individually minor, collectively point to the need for a comprehensive quality enhancement strategy that also tackles trainer capacity, soft skills, pedagogical methods, and technology integration. Together, these recommendations offer a clear roadmap: if the Institute invests first in deepening practical training and industry collaboration, and then selectively addresses the other targeted improvements, it can directly reduce the employment challenges and hiring difficulties that over 80% of surveyed employers currently face.

The table 49 below presents employer feedback specifically concerning the survey itself, based on 30 respondents. Of these, only 7 employers (23.3%) offered substantive survey-related comments, while the majority 19 respondents (63.3%) provided non-substantive, vague, or off-topic answers, which is excluded from the table. Among the meaningful responses, positive feedback dominated: 5 employers

(71.4% of relevant comments) stated that the survey is valuable and should continue. One employer (14.3%) recommended adding an international benchmarking and digitalisation focus to future surveys, and another (14.3%) suggested expanding the scope to include teacher training issues. A small number of responses were classified as programme recommendations (6.7%) or other/unclassified (6.7%), indicating they did not constitute direct survey feedback.

Table: 49 Comments/Suggestions regarding the survey

Category	Frequency	% of All	% of Relevant
Positive feedback — survey is valuable and should continue	5	16.7	71.4
Recommend international benchmarking & digitalization focus	1	3.3	14.3
Suggestion on survey scope — include teacher training issues	1	3.3	14.3

(Source: EASTRIP data from tracer study, 2026)

4.4. Short-Term Graduates Employers' Findings

4.4.1. Introduction

The fundamental results of the employers' satisfaction with the abilities and performance of short-term graduates of the Federal TVT Institute's manufacturing technology and leather and leather product technology programs are shown in this part. It also looks at an evaluation of the program's training process from the employers' point of view, including its efficacy, relevance, and results in the workplace. It also covers how businesses evaluated the Federal TVT Institute's Manufacturing Technology/Leather and Leather Product Technology courses in terms of their ability to prepare students for the labour market demands.

4.4.2. Demographic Information

This subsection analyses the organizational characteristics and roles of the 40 employers who hired Short-term manufacturing technology graduates. Understanding employer profiles is essential for contextualizing satisfaction ratings and identifying sector-specific needs.

4.4.2.1. Role/Position of traced Employers

This topic presents the roles held by survey respondents within their companies. The largest group by a substantial margin is Head or Deputy Head of Department, accounting for 65% (26 out of a total 37 valid responses). Chief Executives or Managers represent 17.5% (7 respondents), while Human

Resource Managers make up 10% (4 respondents). The overall response rate on this question was 92.5%, indicating that 3 respondents out of an assumed 40 did not provide their role, a minor level of missing data that does not undermine the representativeness of the findings.

Table: 50 Role/Position in Company/Organization

2.1 Which of the options below best describes your Role/Position in the Company/Organization?		
	Frequency	Percent
CEO or Manager	7	17.5
Human Resource Manager	4	10
Head/Deputy Head of Department	26	65
Missing	3	7.5
Total	40	100.0

(Source: EASTRIP data from tracer study, 2026)

The heavy representation of departmental heads carries important implications for interpreting the survey results. Because these are typically the direct supervisors of TVTI graduates daily, their assessments of skills, performance, and training adequacy are grounded in first-hand observation rather than second-hand reports. This lends considerable credibility to the earlier findings on satisfaction, specific skill gaps, and the practical training deficits highlighted throughout the survey. At the same time, the relatively small input from HR managers (who often focus on recruitment processes and systemic workforce planning) and CEOs (who have a strategic overview) means the data primarily reflects operational, front-line perspectives. Future survey rounds might benefit from targeted efforts to increase participation from senior strategic roles to complement the rich operational feedback already captured.

4.4.2.2. Traced Employers of TVTI Graduates by Industry Sector

The table 51 presents the industry sectors in which surveyed employers operate, based on 38 valid responses. The largest group is Education/Training/TVET, accounting for 36.8% of respondents (14 employers), followed by Garment/Textile/Apparel at 26.3% (10 employers) and Manufacturing/Industry at 21.1% (8 employers). Together, these three sectors represent 84.2% of all responses. A further 7.9% (3 employers) come from Leather and Leather Products, while the remaining categories Other/Unspecified (5.3%) and Information Technology (2.6%) are only marginally represented. This distribution indicates that the survey's employer base is heavily concentrated in traditional manufacturing and education-related sectors, with very limited input from emerging service sectors such as IT.

Table: 51 Employer's Sector Category

Industry Sector	Frequency	Percent
Education / Training / TVET	14	36.8
Garment / Textile / Apparel	10	26.3
Manufacturing / Industry	8	21.1
Leather and Leather Products	3	7.9
Other / Unspecified	2	5.3
Information Technology	1	2.6
Total	**38**	**100.0**

(Source: EASTRIP data from tracer study, 2026)

The sectoral composition carries important implications for interpreting the survey findings. The dominance of manufacturing and garment/textile employers aligns well with the earlier emphasis on technical skills like CNC machining, machine operation, and CAD/CAM, confirming that the identified skill gaps and recommendations for more hands-on training are grounded in the realities of these industries. However, the substantial share of respondents from the Education/Training/TVET sector itself (over a third) introduces a nuance: these employers may have a dual perspective, being both consumers of TVTI graduates and insiders familiar with training systems, which could influence their expectations and satisfaction ratings. Their heavy presence suggests that the survey findings partly reflect intra-sectoral evaluation rather than purely external industry demand. The near-absence of IT and other emerging fields, despite being globally growing sectors, signals a potential blind spot: the survey may not adequately capture the skill requirements and graduate performance in these areas. For the TVT Institute, this implies that while the current feedback reliably guides improvements in manufacturing-related programmes, future tracer studies and employer surveys should deliberately broaden industry coverage especially into IT, services, and new technologies to ensure that curriculum development remains responsive to the full spectrum of labour market opportunities for graduates.

4.4.2.3. Employers' By Region

The table 52 presents the regional residence of surveyed employers, based on 36 valid responses. The distribution is heavily concentrated in two areas: Oromia accounts for 52.8% (19 employers), while Addis Ababa follows with 38.9% (14 employers). Together, these two regions cover 91.7% of all respondents. The remaining regions are only minimally represented, with Amhara and South Ethiopia each contributing just one employer (2.8%), and one response (2.8%) recorded as unclear or missing.

Table: 52 Employers by Region

Region	Frequency	Percent
Oromia	19	52.8
Addis Ababa	14	38.9
Amhara	1	2.8
South Ethiopia	1	2.8
Unclear / Missing	1	2.8
Total	36	100.0

(Source: EASTRIP data from tracer study, 2026)

This geographic skew carries significant implications for interpreting the survey results. The overwhelming dominance of Oromia and Addis Ababa means that employer perspectives on graduate skills, shortages, and training needs overwhelmingly reflect the labour market conditions, industrial composition, and economic opportunities specific to the capital and surrounding regions. Regional diversity in industrial activity, technology adoption, and employer expectations particularly in areas such as Amhara, South Ethiopia, and other emerging economic zones is largely absent from the data. Consequently, the findings and recommendations, while robust for the Institute's main catchment area, cannot be automatically generalised to the entire country. To gain a truly national picture of graduate performance and labour market alignment, future employer surveys should intentionally sample from a wider range of regions, ensuring that the voices of employers in underrepresented areas are captured and that training programmes can be tailored to the specific demands of different parts of the country.

4.4.3. Employers' Career Development Opportunity, Procedures and Criteria

This section describes the methods used by businesses to provide career development awards to graduates of the training programs in manufacturing technology, leather and leather product technology, and other related fields.

4.4.3.1. Employers Career Development Opportunities

The table 53 presents employers' experience with career development following short-term training for their employees. Of the 40 employers who responded, an overwhelming majority 32 employers or 80% indicated that they have indeed observed career development among employees after such training. Only 8 employers, representing 20% of the total, reported no such experience. This result strongly suggests that short-term training interventions are widely recognised by employers as an effective mechanism for advancing employee careers.

Table: 53 Career Development Opportunity STG - Employer's Response

3.3 Do you have an experience in career development after completing short term training for your employee?		
	Frequency	Percent
Yes	32	80
No	8	20
Total	40	100

(Source: EASTRIP data from tracer study, 2026)

The implications are significant for both the TVT Institute and the broader skills development system. The fact that 80% of employers have witnessed career progression linked to short-term training confirms that such programmes are not merely remedial but serve as genuine career accelerators. This validates the Institute's potential role as a provider of targeted, market-responsive short courses that complement its longer-term programmes. For employers, it reinforces the business case for investing in continuous workforce development. For the Institute, the finding points to an opportunity to expand and formalise short-term training offerings aligned with the specific skill gaps identified earlier, such as CNC machining, CAD/CAM, and practical hands-on competencies as a direct pathway to improving graduate employability and supporting the career advancement of existing workers. Moreover, the small but notable 20% who have not seen such career development may indicate areas where training relevance, quality, or post-training support structures require strengthening to ensure that short-term training consistently translates into tangible career outcomes.

4.4.3.2. Employers Career Development Methods

The table 54 presents the procedures employers use to motivate employees in career development, with multiple responses permitted. A total of 72 methods were mentioned. Personal contacts to the employee emerged as the most frequently cited approach, accounting for 27.8% of all mentions (20 responses), closely followed by direct application by the employee at 25.0% (18 responses). Together, these two employee-centred methods represent over half (52.8%) of all procedures reported. The remaining methods manpower allocation (16.7%), recommendation from the immediate supervisor (15.3%), and competition with others (15.3%) are each mentioned by roughly one in six to one in seven employers, forming a secondary tier of more structured or competitive motivational practices.

Table: 54 Career Development Method

Method	Frequency	% of All Mentions
Personal contacts to employee	20	27.8
Direct application by the employee	18	25.0
Manpower allocation	12	16.7
Recommendation from immediate supervisor	11	15.3
Competition with others	11	15.3
Total Mentions	72	100.0

(Source: EASTRIP data from tracer study, 2026)

The implications suggest that employers place considerable weight on proactive, informal, and direct engagement when driving career development. The prominence of personal contacts and employee-initiated applications highlights the importance of individual initiative and open communication channels within firms. For the TVT Institute, this reinforces the value of equipping graduates not only with technical skills but also with career self-management capabilities such as self-advocacy, networking, and the confidence to pursue opportunities directly. The lower reliance on formal supervisor recommendations and competitive processes may signal that these mechanisms are either less developed or less favoured in the surveyed organisations. To better support graduate career progression, the Institute could embed career planning modules into its programmes and strengthen linkages between students and potential employers through internships, mentoring, and industry-facing events, thereby ensuring that graduates are prepared to navigate the very motivation channels that employers most actively use.

4.4.3.3. Employers Career Development Methods

The table 55 presents the recruitment methods used by employers to hire TVET graduates, based on 40 respondents who could select multiple options, yielding a total of 113 mentions. The distribution shows a relatively even spread among the most common channels, with no single method dominating decisively. Newspaper/print advertisements lead slightly at 15.0% of all mentions (17 employers), closely followed by direct application by graduates themselves (14.2%, 16 employers). Other contacts to the TVET Institute accounts for 13.3% (15 employers), while internet/online advertisements and internal advertisements each hold a 12.4% share (14 employers each). The TVET Career Advisory Agency is used by 11.5% (13 employers), and public work administration or manpower allocation by 10.6% (12 employers). Less frequently used are personal contacts to graduates (6.2%, 7 employers), private employment agencies (2.7%, 3 employers), and scholarship binding arrangements (1.8%, 2

employers). This pattern reveals that employers rely on a broad mix of formal, direct, and institute-mediated recruitment methods.

Table: 55 Recruitment Methods

Recruitment Method	Frequency	% of All Mentions
Newspaper/Print Advertisements	17	15.0
Direct Application by Graduates	16	14.2
Other Contacts to TVET Institute	15	13.3
Internet/Online Advertisements	14	12.4
Internal Advertisements	14	12.4
TVET Career Advisory Agency	13	11.5
Public Work Administration/Manpower Allocation	12	10.6
Personal Contacts to Graduates	7	6.2
Private Employment Agencies	3	2.7
Scholarship Binding	2	1.8
Total Mentions	113	100.0
Total Respondents	40	—

(Source: EASTRIP data from tracer study, 2026)

The implications are highly relevant for the TVT Institute and its graduates. The strong showing of direct applications by graduates second only to newspaper ads indicates that proactive job-seeking behaviour on the part of graduates is both common and valued by employers, highlighting the importance of career counselling and job-search skills training within the Institute's programmes. The substantial use of "other contacts to the TVET Institute" and the TVET Career Advisory Agency reinforces the Institute's role as a critical intermediary in the labour market, suggesting that strengthening these institutional linkages (through placement offices, job fairs, and employer databases) can directly boost graduate employment outcomes. At the same time, the continued relevance of traditional print media and the growing presence of online channels mean the Institute should support graduates in navigating both conventional and digital job markets. The relatively low use of private employment agencies and scholarship binding suggests that these are not primary pathways, but they may still serve niche functions. Overall, the Institute can strategically enhance its placement services, facilitate direct employer-graduate contact, and ensure that its recruitment-related support reaches students before and after graduation, thereby improving both the speed and quality of job matching.

4.4.4. Type of Training provided for Short-Training Graduates

The table 56 presents responses to the question of whether employees have participated in the short-term training programme offered by the FDER TVT Institute. Out of 40 total respondents, a striking 37 (92.5%) confirmed participation, while none explicitly answered "No." However, 3 respondents (7.5%) did not provide an answer, recorded as missing. Among those who gave a valid response, the participation rate is effectively 100%. This reveals that virtually every employer who engaged with the survey question has had direct experience with the Institute's short-term training offerings

Table: 56 Employee Participating in FTVTI Short-Term Training

3.1 Did your employees participate in the short-term training program from FDER TVT Institute?		
	Frequency	Percent
Yes	37	92.5
NO	0	0.0
Missing	3	7.5
Total	40	100

(Source: EASTRIP data from tracer study, 2026)

The implications are highly relevant for interpreting the entire survey. Because nearly all respondents are already users of the Institute's short-term training, the feedback on skills, satisfaction, and career development is grounded in genuine, first-hand experience strengthening the credibility of the findings. However, this near-total participation also introduces a potential selection bias: the survey does not capture the perspectives of employers who have never used the Institute's services, who might hold different views on its relevance or quality. The complete absence of "No" responses further indicates that the survey sample was likely drawn from the Institute's existing partner network, rather than from a broader market. For a more balanced evaluation, future tracer studies could deliberately include employers who have not trained their staff at the Institute, enabling comparative analysis and a fuller understanding of the Institute's standing in the wider training market. Despite this caveat, the high participation rate confirms the Institute's extensive reach and provides a solid experiential basis for the recommendations already offered by respondents.

The table 57 presents the types of short-term training received by employees who participated in FTVTI programmes, based on responses from the 36 employers who specified the training. Multiple responses were permitted, resulting in a total that exceeds the number of respondents. Leather and Leather Products was the most frequently cited training type, mentioned by 17 employers (47.2% of respondents). CAD/CAM/Design Software and CNC Machining were each reported by 13 employers (36.1% of respondents), tying as the second most common areas. Together, these three training types

account for the entirety of reported participation, demonstrating a clear concentration of short-term training activity in leather technology and advanced manufacturing skills.

Table: 57 Types of Short-Term Provided

Training Type	Frequency	Percent
Leather and Leather Products	17	47.22
CAD / CAM / Design Software	13	36.11
CNC Machining	13	36.11
Total	**36**	**100.0**

(Source: EASTRIP data from tracer study, 2026)

The implications directly connect to earlier findings on skills shortages and employer demands. The strong representation of CNC Machining and CAD/CAM/Design Software in the short-term training portfolio aligns precisely with the most frequently cited occupational shortage areas where CNC and manufacturing technology each stood at 20.8% and CAD/CAM at 16.7%. This indicates that the Institute's short-term programmes are already targeting some of the most critical technical skill gaps identified by employers. The prominence of Leather and Leather Products training, despite that sector accounting for only 7.9% of surveyed employers, suggests either a particularly high training intensity within that industry or a broader pool of participants beyond the direct employer sample. For the Institute, this distribution validates the relevance of its short-term course offerings in addressing priority technical shortages while also highlighting an opportunity to assess whether other high-demand fields, such as equipment maintenance or general manufacturing technology, might warrant expanded short-term programme coverage. Aligning short-term training offerings even more closely with the full spectrum of reported skill gaps would further enhance the Institute's impact on graduate career development and employer satisfaction.

4.4.5. The Level of Satisfaction of Employers

4.4.5.1. Overall Satisfaction of Employers on the Quality of Short-term Training

The general employers' satisfaction with the quality of training received by TVTI graduates is presented in the following table. The data reveals a strongly favourable overall picture. The largest single group 18 employers (45.0%) indicated they are Satisfied, and a further 12 employers (30.0%) reported being Highly Satisfied. Combined, 75.0% of all respondents fall into the top two positive categories. A moderate level of satisfaction was expressed by 6 employers (15.0%), while only 4 employers in total (10.0%) registered negative views, evenly split between Unsatisfied (5.0%) and Slightly Satisfied (5.0%). Thus, the vast majority of employers hold a clearly positive assessment of training quality, with the modal response centred on the satisfied category.

Table: 58 Level of General Satisfaction in Quality of Training

Employers' Satisfaction with the Quality of Training Received by TVTI Graduates						
	Unsatisfied	**Slightly Satisfied**	**Moderate**	**Satisfied**	**Highly Satisfied**	**Total**
Frequency	2	2	6	18	12	40
Percent	5.0%	5.0%	15.0%	45.0%	30.0%	100.0%

(Source: EASTRIP data from tracer study, 2026)

The implications reinforce several earlier findings. The fact that three-quarters of employer's express satisfaction or high satisfaction aligns with the earlier overall satisfaction result where 80.7% were satisfied or strongly satisfied with job performance, and the broad approval of specific skill areas. This consistency across multiple measures strengthens confidence in the reliability of employer feedback. At the same time, the modest but non-negligible 10% who are either unsatisfied or only slightly satisfied, together with a further 15% remaining neutral, signals that a minority of graduates or programme areas may still fall short of expectations. Coupled with the recommendation for more hands-on training and the identified skill shortages in CNC and CAD/CAM, the Institute should investigate the specific reasons behind the less-than-satisfied responses whether related to outdated equipment, insufficient practical depth, or trainer quality and use these insights to drive targeted quality improvements. The high satisfaction baseline provides a strong foundation, but closing the remaining gaps will be essential to moving the Institute from a position of broad approval to one of universal employer confidence.

4.4.5.2. Satisfaction by Graduates' Knowledge and Skills

Table 59 below presents employers' level of satisfaction with the knowledge and skills of TVTI short-term graduates across 24 dimensions, all rated on a 5-point scale. The results indicate a generally moderate to moderately positive assessment, with mean scores ranging from 3.22 to 3.80. The highest-rated item is "Practical use of working tools" (mean = 3.80), where 60.0% of employers gave a rating of 4 or 5. Other relatively strong areas include "The training has helped our employees work with people" (mean = 3.72) and "Use of written instructions and working guides" (mean = 3.70). In contrast, the lowest-rated dimensions are "How to start a business" (mean = 3.22, with only 37.5% rating 4 or 5), "Practical use of computers" (mean = 3.35), and "The training organization was flexible enough to meet our needs" (mean = 3.38). The overall item "The quality of the short-term training in general" achieves a mean of 3.60, with exactly half of employers (50.0%) indicating satisfaction (ratings 4 or 5), 40.0% moderate, and 10.0% expressing dissatisfaction.

Table: 59 Detailed Satisfaction of Employers by Employed Graduates

Employers' Level of Satisfaction with the Knowledge and Skills of TVTI Short-term Graduates								
Level of Satisfaction	**Level of General Importance**					**Count**	**Mean**	**SD**
	1	**2**	**3**	**4**	**5**			
Theoretical training related to the occupation	2	5	13	11	9	40	3.5	1.132
Practical use of computers	2	5	15	13	5	40	3.35	1.027
Practical use of working tools	1	2	13	12	12	40	3.8	1.018
Practical use of machines and equipment	1	3	14	13	9	40	3.65	1.001
Practical use of materials and parts	1	3	13	13	10	40	3.7	1.018
Theory and practice of equipment maintenance	2	6	11	16	5	40	3.4	1.057
Employees were able to relate the training outcome to the workplace.	1	3	13	14	9	40	3.68	0.997
The training helped employees identify how to build on their current knowledge and skills.	0	4	18	12	6	40	3.5	0.877
Understanding and producing drawings	0	6	14	14	6	40	3.5	0.934
Doing measurements at work	1	5	8	18	8	40	3.67	1.023
Use of written instructions and working guides	1	1	16	13	9	40	3.7	0.939
Communication	2	3	13	12	10	40	3.63	1.102
The training has helped our employees work with people.	0	4	13	13	10	40	3.72	0.96
Knowledge of the industry	2	4	13	13	8	40	3.53	1.086
How to work in a safe way	1	3	17	11	8	40	3.55	0.986
How to do high quality work	1	3	16	13	7	40	3.55	0.959
Discipline at work	2	3	14	9	12	40	3.65	1.145
Accuracy at work	1	6	14	12	7	40	3.45	1.037
How to start a business	1	10	14	9	6	40	3.22	1.074
Our employees gained the skills they needed from this training.	2	3	17	12	6	40	3.43	1.01
Our employees gained the knowledge they needed from this training.	2	5	11	16	6	40	3.48	1.062
The training prepared our employees for the demands of work.	2	5	12	13	8	40	3.5	1.109
The training used up-to-date equipment, facilities and materials.	2	3	16	12	7	40	3.47	1.037
The training organisation was flexible enough to meet our needs.	0	7	16	12	5	40	3.38	0.925
The quality of the short-term training in general	1	3	16	11	9	40	3.6	1.008

(Source: EASTRIP data from tracer study, 2026)

These findings carry several implications, especially when contrasted with earlier results for the Institute's graduates more broadly. While the earlier employer satisfaction table showed that 75.0% were satisfied or highly satisfied with the quality of training received by TVTI graduates overall, the share drops to only 50.0% for short-term training specifically. This gap suggests that short-term programmes, though still valued, do not yet instil the same level of workplace readiness as longer-

duration training. The relatively lower scores on computer use, equipment maintenance, and business start-up combined with moderate ratings on items like "gained the skills they needed" (mean = 3.43) and "the training prepared our employees for the demands of work" (mean = 3.50) signal that short-term courses may be too compressed to fully bridge critical skill gaps. To raise satisfaction, the Institute should strengthen practical computer and entrepreneurship modules, improve the flexibility of course scheduling, and ensure that equipment and facilities are up to date. Addressing these areas would help transform short-term training from a moderately effective stopgap into a robust pathway for immediate workplace contribution, thereby narrowing the quality perception gap between short-term and long-term graduates.

A. KNOWLEDGE DIMENSION (n=6 items)

The Knowledge Dimension of short-term graduate satisfaction comprises six items, with mean scores ranging narrowly from 3.40 to 3.70 and an overall average of 3.52. The highest-rated knowledge area is "Use of written instructions and working guides" (mean = 3.70), followed by "Knowledge of the industry" (mean = 3.53). "Understanding and producing drawings" and "Theoretical training related to the occupation" both achieved a mean of 3.50, while "Our employees gained the knowledge they needed from this training" registered a slightly lower 3.48. The lowest score belongs to "Theory and practice of equipment maintenance" (mean = 3.40). These results collectively indicate a moderate level of satisfaction with the knowledge imparted through short-term training, with no item breaking into the "satisfied" range (above 3.80) and the entire set clustering just above the scale midpoint.

Table: 60 Knowledge Dimension

A. KNOWLEDGE DIMENSION	Mean	SD	Rank
Use of written instructions and working guides	3.70	0.939	1
Knowledge of the industry	3.53	1.086	2
Understanding and producing drawings	3.50	0.934	3
Theoretical training related to the occupation	3.50	1.132	4
Our employees gained the knowledge they needed from this training	3.48	1.062	5
Theory and practice of equipment maintenance	3.40	1.057	6
Average Mean	3.518	0.099	—

(Source: EASTRIP data from tracer study, 2026)

The implications point to a solid but improvable knowledge foundation in the Institute's short-term programmes. The top ranking of written instructions and industry knowledge suggests that procedural and contextual knowledge is being transferred fairly effectively. However, the relatively lower scores on theoretical training and equipment maintenance theory confirm a recurring weakness already identified across the broader survey: maintenance-related competencies remain a gap. The modest

rating on whether employees gained the knowledge they needed (3.48) signals that even in this core dimension, employer expectations are not being fully met. To strengthen the knowledge pillar, the Institute should review and deepen the theoretical content of short courses, particularly in equipment maintenance, and embed more explicit links between taught knowledge and workplace application. Doing so would raise the overall knowledge satisfaction level and help close the quality perception gap between short-term and longer-term training outcomes.

B. SKILL DIMENSION (n=10 items)

The Skill Dimension of short-term graduate satisfaction comprises 10 items, with a category mean of 3.54 and a wider spread than the Knowledge Dimension (SD of means = 0.177 versus 0.099). The highest-rated skill is "Practical use of working tools" (mean = 3.80), followed closely by "Practical use of materials and parts" (mean = 3.70) and "Doing measurements at work" (mean = 3.67). "Practical use of machines and equipment" also performs relatively well at 3.65. These top items all concern direct, hands-on manipulation of physical tools and materials, and they represent the clear strong suit of short-term training. In contrast, the bottom of the ranking reveals notable weaknesses: "Practical use of computers" (mean = 3.35) and "How to start a business" (mean = 3.22) fall well below the category average, while the outcome-focused item "Our employees gained the skills they needed from this training" records only a 3.43 mean, indicating that even after training, a gap persists between the skills acquired and the full set of skills employers expect.

Table: 61 Skill Dimension

SKILL DIMENSION (n=10 items)	Mean	SD	Rank
Practical use of working tools	3.80	1.018	1
Practical use of materials and parts	3.70	1.018	2
Doing measurements at work	3.67	1.023	3
Practical use of machines and equipment	3.65	1.001	4
How to do high quality work	3.55	0.959	5
How to work in a safe way	3.55	0.986	6
Accuracy at work	3.45	1.037	7
Our employees gained the skills they needed from this training	3.43	1.010	8
Practical use of computers	3.35	1.027	9
How to start a business	3.22	1.074	10
Average Mean	3.537	0.177	—

(Source: EASTRIP data from tracer study, 2026))

The implications directly reinforce the call for more practical, hands-on training that has run throughout the survey findings. The strength in tool use, materials handling, and measurements suggests that short-term programmes are effectively delivering core manual and operational

competencies. However, the low score on computer use reveals a digital skills deficit that is increasingly problematic in modern manufacturing environments reliant on CAD/CAM, CNC programming, and digital process control—areas already flagged as acute skill shortages. The poor showing of "How to start a business" indicates that short-term training does little to foster entrepreneurial capability, which is especially relevant given that self-employment may be a pathway for graduates in a tight labour market. Most tellingly, the modest 3.43 rating on whether employees actually gained the skills they needed confirms that the skill transfer from short courses is incomplete. Strengthening computer-based applications, integrating practical entrepreneurship modules, and systematically aligning course content with the specific skill sets employers say they lack would lift these lower scores and ensure that short-term training produces graduates who are not just competent with tools, but fully equipped for the breadth of modern workplace demands.

C. ATTITUDE DIMENSION (n=5 items)

The Attitude Dimension of short-term graduate satisfaction comprises five items, with a category average mean of 3.64 noticeably higher than both the Knowledge Dimension (3.52) and the Skill Dimension (3.54). Scores are clustered relatively tightly (SD of means = 0.083), and all items fall within the moderately positive range. The highest-rated item is "The training has helped our employees work with people" (mean = 3.72), followed by "Employees were able to relate the training outcome to the workplace" (mean = 3.68). "Discipline at work" (mean = 3.65) and "Communication" (mean = 3.63) also post solid scores. At the lower end, "The training helped employees identify how to build on their current knowledge and skills" registers a mean of 3.50, still positive but indicating less impact on fostering a mindset of continuous self-development.

Table: 62 Attitude Dimension

ATTITUDE DIMENSION (n=5 items)	Mean	SD	Rank
The training has helped our employees work with people	3.72	0.960	1
Employees were able to relate the training outcome to the workplace	3.68	0.997	2
Discipline at work	3.65	1.145	3
Communication	3.63	1.102	4
The training helped employees identify how to build on their current knowledge and skills	3.50	0.877	5
Average Mean	3.636	0.083	—

(Source: EASTRIP data from tracer study, 2026))

The implications are encouraging, especially given earlier qualitative feedback that cited a "lack of attitude" as a challenge for graduates. These quantitative results suggest that short-term training is, in fact, reasonably effective at cultivating the interpersonal and workplace-oriented attitudes employers

value teamwork, connecting training to job demands, discipline, and communication. The highest score on working with people aligns closely with the strong interpersonal ratings seen in the broader graduate satisfaction data, confirming that this remains a consistent strength. The relatively lower score on building upon existing knowledge points to an opportunity: short courses could do more to equip employees with strategies for ongoing learning and self-improvement, which would amplify the long-term impact of the training. Overall, the fact that the Attitude Dimension outperforms both Knowledge and Skill dimensions signals that the Institute's short-term programs are particularly successful in shaping work-relevant behaviors. The Institute should preserve this strength while also embedding explicit elements that encourage self-directed career growth, helping to turn a moderately positive attitude outcome into a decisive advantage for graduates in the labour market.

D. TRAINING DELIVERY DIMENSION (n=4 items)

The Training Delivery Dimension of short-term graduate satisfaction comprises four items, with a category average mean of 3.49 the lowest among the four dimensions assessed (Knowledge 3.52, Skill 3.54, Attitude 3.64). The highest-rated item is the general perception, "The quality of the short-term training in general" (mean = 3.60). The remaining items all fall below 3.50: "The training prepared our employees for the demands of work" (mean = 3.50), "The training used up-to-date equipment, facilities and materials" (mean = 3.47), and the lowest, "The training organization was flexible enough to meet our needs" (mean = 3.38). The tight clustering (SD of means = 0.091) indicates uniformly moderate ratings, with no item reaching the clear satisfaction threshold of 3.80.

Table: 63 Training Delivery Dimension

TRAINING DELIVERY DIMENSION (n=4 items)	Mean	SD	Rank
The quality of the short-term training in general	3.60	1.008	1
The training prepared our employees for the demands of work	3.50	1.109	2
The training used up-to-date equipment, facilities and materials	3.47	1.037	3
The training organization was flexible enough to meet our needs	3.38	0.925	4
Average Mean	3.488	0.091	—

*(Source: EASTRIP data from tracer study, 2026)***)**

The implications point to delivery-side weaknesses that undermine the otherwise solid skill and attitude outcomes. The fact that training preparation for work demands is rated only 3.50, and that equipment and facilities are seen as less than up-to-date (3.47), directly explains why employers repeatedly call for more practical, hands-on training and updated resources. The lowest score on organizational flexibility (3.38) suggests that rigid scheduling, course formats, or limited customization are frustrating employers who need training that adapts to their operational realities. As the weakest dimension overall, training delivery represents the most immediate opportunity for the

Institute to raise short-term training satisfaction. Investing in modern equipment, designing flexible delivery models (such as modular, on-site, or evening programs), and aligning course content more explicitly with real job tasks would lift these scores. Such improvements would not only close the delivery quality gap but also directly boost the perceived readiness of graduates for work, thereby addressing the persistent concern that short-term training does not yet fully prepare employees for workplace demands.

The comparative analysis across Knowledge, Skills, and Attitude dimensions reveals that attitude is the highest-rated dimension (mean 3.636), followed by skill (3.537), knowledge (3.518), and training delivery (3.488). This hierarchy suggests that short-term graduates are most valued by employers for their behavioral and interpersonal qualities, while the training delivery infrastructure itself receives the lowest satisfaction. Notably, attitude also exhibits the most consistent ratings (SD 0.083), indicating reliable development of soft skills across the program, whereas skills show the greatest variability (SD 0.177), and reflecting uneven development across different technical competencies. Within the skill dimension, hands-on technical abilities—such as practical use of working tools (3.80), materials and parts (3.70), measurements (3.67), and machines/equipment (3.65) all score above 3.60, confirming the effectiveness of practical training delivery. However, digital skills (computers: 3.35) and entrepreneurship (3.22) represent critical gaps that undermine overall skill satisfaction. The relatively narrow variation in knowledge ratings (SD 0.099) indicates consistent but only moderate employer satisfaction with graduates' theoretical and factual understanding, with equipment maintenance theory (3.40) and general knowledge acquisition (3.48) scoring below the category mean. These findings imply that while short-term programs successfully cultivate workplace-ready attitudes and core manual technical skills, they fall short in developing digital literacy, entrepreneurial capacity, and advanced theoretical knowledge areas that are increasingly critical for Ethiopia's manufacturing sector competitiveness under Industry 4.0 and the EASTRIP project's objectives.

4.4.6. Graduate's Additional Training in Need in Similar Area

The table 64 presents employers' assessment of whether their employees need additional training in a similar area after completing short-term programs at the FTVT Institute. The results reveal a pronounced need for further skill development. The largest group 20 employers, or 51.3% reported that employees need to learn some additional skills. A further 23.1% (9 employers) stated that employees need serious skills upgrading to start working, and 12.8% (5 employers) indicated they need completely new training. Combined, 87.2% of employers identified a need for additional training of some kind, while only a very small minority found employees fully prepared for the job (5.1%) or

in need of only introductory training (7.7%). In short, the vast majority of short-term graduates are not immediately work-ready and require further employer-led investment.

Table: 64 Additional Training need in a similar Area

Do your employees need additional training in a similar area to do their work well in your company?	Frequency	Percent
They need to learn some additional skills	20	51.3
They need serious skills upgrading to start working	9	23.1
They need completely new training	5	12.8
They need only an introductory training	3	7.7
Normally they are fully prepared to do the work well	2	5.1
Total	39	100.0

*(Source: EASTRIP data from tracer study, 2026)***)**

These findings directly mirror and in some respects amplify earlier results on additional training needs for graduates in general. Whereas 16.1% of employers previously reported that graduates are normally fully prepared and 6.5% said completely new training was needed, among short-term graduates only 5.1% are fully prepared and 12.8% require entirely new training. The share needing serious upgrading has remained fairly constant (23.1% vs. 25.8%), but the proportion needing some additional skills has grown from 41.9% to 51.3%. This pattern suggests that while short-term training may impart useful skills, it is insufficient as a standalone solution to bring participants to full productivity. The finding reinforces the urgency of strengthening short-course content, particularly in the weak skill areas identified earlier (computer use, entrepreneurship, equipment maintenance), and of building post-training bridge mechanisms such as on-site refresher sessions or mentoring. Ensuring that short-term training is better aligned with actual job demands, rather than treated as an isolated quick fix, would reduce the high dependency on subsequent employer retraining and improve the immediate contribution of graduates.

4.4.7. Employers' Perspective on Problems finding employees with the needed skills

The table 65 presents responses to the question of whether companies have experienced difficulty finding employees with the needed skills. Out of 40 employers, 30 (75%) answered "Yes," while only 10 (25%) answered "No." While this is slightly lower than the 83.9% reported earlier in the survey from a different employer group, it still confirms that a substantial majority of firms face persistent skills shortages when trying to fill positions. The fact that only one in four employers reports no difficulty underscores how deeply recruitment challenges are embedded in the labor market these organizations operate in.

Table: 65 Employers Experienced Problem finding Skilled Labor

Has your company ever experienced problems finding employees with the skills that you need?		
	Frequency	**Percent**
Yes	30	75
No	10	25
Total	40	100

(Source: EASTRIP data from tracer study, 2026)

4.4.7.1. Skill Shortages Faced by Employers

The **Error! Reference source not found.** presents employers' perceptions of the severity of skills shortages across four occupational categories, each rated on a scale from 1 (low severity) to 5 (high severity). Among the 40 respondents, skilled workers and technicians/engineers emerge as the most acutely felt shortages: both categories show exactly half of employers (50.0%) rating the shortage as severe (scores 4 or 5), with means of 3.43 for skilled workers and 3.33 for technicians/engineers. Supervisory/management shortages follow closely, with 47.5% rating them severe and a mean of 3.40. Semi-skilled roles register the lowest severity, yet still 35.0% of employers consider this a severe shortage, and the mean stands at 2.93 the only category below the scale mid-point. Overall, the pattern confirms that employers perceive shortages across all levels, but the pressure is greatest in the middle-to-higher technical and supervisory tiers.

Table: 66 Extent of Skill Shortage

Extent Of the Skills Shortages							
	Frequency					**Mean**	**SD**
	1	**2**	**3**	**4**	**5**		
Semi-skilled	6	9	11	10	4		
Skilled worker	3	6	11	11	9		
Technician/engineer	4	6	10	13	7		
Supervisory/management	1	9	11	11	8		

(Source: EASTRIP data from tracer study, 2026)

The implications align with and extend earlier survey findings. The persistent acute shortage of skilled workers and technicians reinforces the urgent need for the TVT Institute to expand output in precision manufacturing, CNC, CAD/CAM, and equipment maintenance — exactly the occupational areas most frequently cited as lacking. The elevated supervisory shortage indicates that employers are not only struggling to find hands-on technical expertise but also the leadership and oversight skills required to manage teams and processes. While semi-skilled shortages are comparatively less severe, the fact that over a third of employers still rate them as severe suggests that even foundational labor supply is not

fully meeting demand. For the Institute, a strategic response would involve scaling up technical short-term and long-term programs in the highest-need trades, embedding supervisory and management modules into existing curricula, and working with industry to create fast-track upskilling pathways that can address multiple shortage tiers simultaneously, thereby easing the recruitment pressures reported by three-quarters of surveyed firms.

4.4.7.2. Occupational Areas Faced Skill Shortage

The table 67 presents the occupational areas where employers most frequently experience skills shortages, based on 22 substantive responses from a likely pool of 30 respondents. The distribution is led by the leather and garment sectors: Leather and Leather Products accounted for 23.3% of all responses (7 mentions), closely followed by Garment/Fashion/Apparel at 20.0% (6 mentions). Together, these two sectors represent over 43% of reported shortages. The remaining areas are far less frequently cited, with STEM/Technology/Engineering and Skilled/Semi-Skilled Worker Level each at 6.7% (2 mentions), while CAD/CAM/Design, Machining/CNC, Material Testing, Equipment Maintenance, and Food Preparation each received a single mention (3.3%). This pattern stands in notable contrast to earlier findings focused on long-term graduate employers, where CNC machining, manufacturing technology, and CAD/CAM dominated the shortage landscape, and indicates that the occupational shortage profile shifts markedly depending on the employer sample.

Table: 67 Occupational Area Experienced Skills Shortages

Occupational Areas Experienced Skills Shortages	Frequency	% of All
Leather and Leather Products	7	23.3
Garment / Fashion / Apparel	6	20.0
STEM / Technology / Engineering	2	6.7
Skilled / Semi-Skilled Worker Level	2	6.7
CAD / CAM / Design	1	3.3
Machining / CNC	1	3.3
Material Testing	1	3.3
Equipment Maintenance	1	3.3
Food Preparation	1	3.3
Total Relevant (Substantive)	22	73.3

(Source: EASTRIP data from tracer study, 2026)

The implications are closely tied to the composition of respondents. Given that the short-term training offerings heavily featured Leather and Leather Products (47.2% of participants) and that the employer base includes a substantial garment sector presence, it is logical that these sectors voice the most acute shortages. This does not diminish the importance of advanced manufacturing gaps reported elsewhere;

rather, it reveals that the Institute serves multiple distinct employer clusters, each with different bottleneck occupations. For the FTVT Institute, the finding reinforces the need to maintain and possibly expand high-quality short-term training in leather and garment technologies areas that are clearly undersupplied relative to employer demand while also ensuring that the manufacturing and CNC-related shortages documented in other survey sections are not neglected. A segmented training strategy, with tailored capacity-building for the leather/apparel cluster and parallel strengthening of precision manufacturing courses, would directly target the most pressing shortages voiced by both major employer groups, thereby improving graduate work-readiness and easing recruitment difficulties across the Institute's full industry interface.

4.4.8. Comments and Suggestions on the short-term training Program

4.4.8.1. Best Aspect of the Training Program

The table 68 summarizes employers' open-ended responses to the question "What were the BEST ASPECTS of the training?" Of the 31 employers who responded, 19 (61.3%) provided a substantive answer, while 12 (38.7%) gave either vague or non-substantive replies. Among the meaningful comments, one aspect completely dominates: Practical / Hands-on Training was cited by 11 employers, representing 35.5% of all respondents and making it by far the most appreciated element of the short-term programs. Other positive aspects were mentioned much less frequently Trainer Quality and Teaching Approach was noted by 9.7% of respondents, Specific Technical Skills Content and Training Facilities, Equipment and Technology each by 6.5%, and Overall Program Quality by just 3.2%. No other best aspect was identified, underscoring that employers overwhelmingly value the hands-on, applied nature of the training above all else.

Table: 68 Best Aspect of the Training

Best Aspect of the training	Frequency	% of All
Practical / Hands-on Training	11	35.5
Trainer Quality & Teaching Approach	3	9.7
Specific Technical Skills Content	2	6.5
Training Facilities, Equipment & Technology	2	6.5
Overall Program Quality / Comprehensive	1	3.2
Total Relevant (Substantive)	19	61.3
Non-substantive / Vague / Not about best aspects	12	38.7

(Source: EASTRIP data from tracer study, 2026)

The implications are both encouraging and strategic. The strong endorsement of practical training confirms that the Institute's emphasis on hands-on learning is its greatest institutional strength in the eyes of employers precisely the quality that earlier survey results showed employers are most eager to

see expanded. This alignment between what is best and what is most needed (more practical training) means the Institute can build on a proven success rather than overhaul its approach. The relatively lower recognition of trainer quality, facilities, or specific content suggests that while these are not criticized, they are not yet distinctive enough to be top-of-mind. To convert its core practical strength into a comprehensive quality reputation, the Institute could combine its hands-on focus with visible improvements in equipment modernization, trainer development, and curriculum updating. Preserving and deepening the practical, workshop-based model should therefore remain the cornerstone of the training strategy, while selectively elevating the other dimensions to match the high regard already given to hands-on learning.

Table: 69 Suggested Areas of Improvements

Improvement Area	Frequency	% of All
Increase Practical / Hands-on Training	5	17.2
CAD/CAM, Digital Tools & Software Training	4	13.8
General Skill & Knowledge Enhancement	3	10.3
Strengthen Soft Skills & Attitude Training	3	10.3
Extend Training Duration / Improve Scheduling	2	6.9
Improve Training Materials & Resources	1	3.4
Personalization & Post-Training Support	1	3.4
Total Relevant (Substantive)	19	65.5

(Source: EASTRIP data from tracer study, 2026)

Key Comments:

Practical training remains the top priority: More than one-quarter of substantive responses (26.3%, n=5) called for increased practical and hands-on training. Employers specifically noted that trainees need "more practice hours with advanced machinery," that "the balance between theory and hands-on practice needs to shift, with significantly more time allocated to real-world application," and that there is a "critical need to update workshop machinery and digital tools." This finding, while seemingly contradictory to the "best aspects" result (where practical training was also praised), indicates that employers value the existing practical component but demand significantly more of it to reach full job readiness.

Digital skills gap is critical: CAD/CAM, digital tools, and software training ranked second (21.1%, n=4), with employers specifically requesting "CAD CAM, and other computer aided software," more training on "embroidery machine and CAD software," and the integration of "modern digital tools" and "advanced technology." This aligns with the Industry 4.0 competency gaps identified in the literature review and confirms that digital literacy remains a significant weakness in current short-term programs.

General skill and knowledge enhancement needed: 15.8% (n=3) of relevant respondents called for broader skill and knowledge improvement, including "take full training to employees" and "development skills," suggesting that the current scope of short-term training may be too narrow to fully prepare graduates for comprehensive workplace demands.

Soft skills and attitude training required: Equally ranked at 15.8% (n=3), employers highlighted the need for "soft skill training that changes attitude of trainees," "skill and communication with 21st century skills," and general soft skills development. This mirrors the long-term employer findings and confirms that behavioral competencies are a cross-cutting concern across both program types.

Training duration and scheduling concerns: 10.5% (n=2) cited "shortage of training time" and "program schedule" as needing improvement, suggesting that the current duration or structure of short-term programs may be insufficient for adequate competency development.

Emerging needs: Individual employers also raised training materials (5.3%), personalization and post-training support/coaching (5.3%), and alignment with industry standards as areas requiring attention, indicating that quality improvement expectations extend beyond content to delivery mechanisms and learner support systems.

Data quality concern: 34.5% (n=10) of responses were non-substantive, including generic statements ("nice training," "all are good," "keep it up"), vague single words ("sewing," "design," "time," "knowledge," "practical"), or off-topic comments. This suggests either reluctance to criticize the program, limited capacity to articulate specific improvement needs, or survey fatigue at this point in the questionnaire.

Table: 70 Suggested Important Changes

Suggested Important Changes	Frequency	% of All
Update Curriculum & Align with Industry Demands	3	10.3
Increase Practical / Hands-on Training	2	6.9
CAD/CAM, Digital Tools & Software Training	2	6.9
Strengthen Industry Attachment & Internship Programs	2	6.9
Extend Training Duration / Adjust Credit Hours	2	6.9
Strengthen Organizational Governance & Quality Assurance	1	3.4
Improve Training Methods & Pedagogy	1	3.4
Experience Sharing & Capacity Building	1	3.4
Enhance Industry Role in Training Delivery	1	3.4
Integrate Soft Skills with Technical Training	1	3.4
Total Relevant (Substantive)	17	58.6

(Source: EASTRIP data from tracer study, 2026)

Key Comments:

Curriculum-industry alignment is the top concern: Leading all substantive categories (17.6%, n=3), employers called for aligning curriculum with industry demands through public-private partnerships, implementing modular competency-based training, integrating digital skills, faster review cycles for emerging technologies, and annual updates with local companies. This reflects a systemic demand for dynamic, responsive curriculum governance rather than static program delivery.

Practical training remains critical: Tied with several other areas at 11.8% (n=2), employers specifically recommended "increasing practical training" and "more focus on practical," reinforcing the consistent theme that hands-on experience while valued remains insufficient in current program design.

Digital skills gap persists: CAD/CAM and computer-aided design software for the leather sector (11.8%, n=2) were explicitly cited, confirming that digital competency development is a cross-cutting priority across multiple employer segments and occupational areas.

Industry attachment and internships need strengthening: 11.8% (n=2) highlighted the lack of accessibility to industries for cooperative training and the need for mandatory workplace internships, long-term industrial attachments, and stronger company cooperation. One employer proposed transforming training workshops into industry-integrated centers.

Training duration and credit structure: 11.8% (n=2) raised concerns about the time frame for training and nominal credit hours, suggesting that current program length may be inadequate for comprehensive skill acquisition.

Emerging themes: Individual employers also identified organizational governance and quality assurance (5.9%), training method attractiveness and pedagogy (5.9%), experience sharing and capacity building (5.9%), enhancing industry's direct role in training delivery (5.9%), and integrating soft skills with technical training (5.9%) as priority improvement areas.

Persistent data quality issue: 41.4% (n=12) of responses were non-substantive, including generic affirmations ("yes," "well its good"), vague single words ("design," "practical," "up on time"), off-topic comments ("empower women," "by engineering," 'TVET structure of Administration"), or unclear entries. This high rate of non-substantive responses across both Q4.1 and Q4.2 suggests either survey design limitations, respondent fatigue, or cultural reluctance to provide critical feedback in open-ended formats.

Table: 71 Comments about the Survey

Survey Related Comments	Frequency
Positive Feedback — Survey is Valuable & Well-Designed	4
Suggestion on Survey Design & Length	3
Recommend Policy Action & Institutional Cooperation	1
Total Relevant (Survey-related)	8

(Source: EASTRIP data from tracer study, 2026)

4.5. FDRE TVT Institute Management and Staff Findings

As part of the graduate tracer study, feedback was collected from management and academic staff members of the FDRE TVT Institute to obtain a comprehensive understanding of institutional practices, program quality, and the relevance of training provision to labor market requirements. The respondents represented various institutional positions, including Directorate Directors, Faculty Deans, Heads of Departments, Vice Deans, and Lecturers, thereby ensuring that both managerial and academic perspectives were captured.

The majority of respondents were lecturers, who are directly involved in curriculum implementation, teaching, assessment, and student support services. In addition, senior administrators and academic leaders contributed insights based on their roles in strategic planning, quality assurance, institutional governance, and program management. This diverse representation provided a balanced perspective on the effectiveness of the Institute's training programs and their responsiveness to labor market demands.

The responses generated valuable information regarding program accreditation, employer recognition, curriculum review practices, qualification offerings, and institutional quality assurance mechanisms. Furthermore, the findings highlight key strengths, challenges, and opportunities for improvement within the training system. As individuals actively engaged in the design, delivery, management, and evaluation of TVET programs, the respondents offered critical insights that complement the graduate and employer survey findings, thereby enriching the overall assessment of graduate employability, program relevance, and institutional performance.

4.5.1. Demographic Information

4.5.1.1. Description of Role/Position of TVT Institute staff

The study collected data on the institutional positions of respondents to ensure that the information gathered reflected perspectives from different levels of leadership and academic responsibility within

the TVET institutions. The results show that respondents represented a diverse range of positions, including directors, deans, heads of departments, lecturers, and vice deans.

Table: 72 the number of traced federal TVT institute staff

The Number of Federal TVT Institute Staff and Their Role/Position						
	Directorate Director	Faculty Dean	Head of Department	Lecturer	Vice Dean	Total
Frequency	5	2	2	13	1	23
Percent	21.7	8.7	8.7	56.5	4.3	100.0

(Source: EASTRIP data from tracer study, 2026)

The distribution of respondents indicates that lecturers formed the majority of the study participants, accounting for 56.5% of the sample. Directorate Directors represented 21.7%, while Faculty Deans and Heads of Departments each accounted for 8.7% of respondents. Vice Deans constituted the smallest proportion at 4.3%. This distribution suggests that the study benefited from both academic and administrative perspectives, thereby enhancing the comprehensiveness and reliability of the findings.

4.5.2. Recognition of Federal TVT Institute by Internationally Accredited, Professional Associations and Employers

Table: 73 International Accredited, Professional Associations and Employers

Recognition of Federal TVT Institute			
	Yes	**No**	**No Answer**
Internationally Accredited	0	23	0
Professional Associations	16	7	0
Employers	17	6	0

(Source: EASTRIP data from tracer study, 2026)

Table 76 presents the recognition status of Federal TVT Institute programs in terms of international accreditation, recognition by professional associations, and recognition by employers. The findings reveal notable differences in the level of recognition received from these stakeholders.

The results indicate that none of the respondents (100%) reported that the Institute's programs are internationally accredited. This suggests that the programs currently operate without certification or accreditation from internationally recognized awarding or quality assurance bodies. The absence of

international accreditation may limit the global recognition and portability of qualifications, potentially affecting graduates seeking employment or further education opportunities beyond the national context.

In terms of professional association recognition, only 7 respondents (30.4%) indicated that the programs are recognized by professional associations, while 16 respondents (69.6%) reported that they are not. This finding suggests a relatively weak linkage between the Institute's training programs and professional regulatory or certification bodies. Recognition by professional associations is often important for ensuring that training programs meet industry standards and professional competencies. Therefore, strengthening engagement with relevant professional organizations could enhance the credibility and quality assurance of the Institute's programs.

In contrast, employer recognition was found to be considerably stronger, with 17 respondents (73.9%) indicating that the programs are recognized by employers, compared to only 6 respondents (26.1%) who reported otherwise. This high level of employer recognition suggests that the Institute's programs are generally perceived as relevant to labor market needs and that graduates possess competencies valued by employers. The finding also reflects the Institute's efforts to align training delivery with workplace requirements and industry expectations.

The comparison of these three indicators reveals an important pattern. While the Institute has not yet achieved international accreditation and has limited recognition from professional associations, it enjoys relatively strong recognition from employers. This suggests that the programs are meeting domestic labor market demands despite lacking broader professional and international validation. The findings therefore indicate a need for strategic efforts to strengthen quality assurance systems, pursue international accreditation opportunities, and establish stronger partnerships with professional associations while maintaining the positive employer relationships that currently support graduate employability.

Key Implication: The results suggest that Federal TVT Institute programs possess strong labor market relevance as evidenced by employer recognition; however, there remains significant potential to improve institutional credibility and international competitiveness through enhanced engagement with professional associations and the pursuit of international accreditation standards.

4.5.2.1. Recognition of TVT Institute courses by Professional Associations

Regarding the **Recognition of TVET courses by Professional Associations**, although 69.6% of the respondents indicated that the Institute's programs are recognized by professional associations, none of the respondents identified the specific professional associations responsible for such recognition.

The absence of detailed information regarding the names of these associations makes it difficult to verify the extent, scope, and significance of the reported recognition.

This finding presents an interesting contradiction. On one hand, a considerable proportion of respondents perceive that the programs have gained recognition from professional bodies, suggesting the existence of linkages between the Institute and relevant professional organizations. Such recognition is generally considered an important indicator of program quality, professional relevance, and compliance with occupational standards. On the other hand, the inability of respondents to specify the professional associations raises questions about the level of awareness, documentation, or formalization of these relationships within the institution.

The lack of identifiable professional associations may indicate that the recognition is informal rather than officially documented, or that respondents have limited knowledge regarding institutional partnerships and accreditation arrangements. It may also suggest weaknesses in communication mechanisms within the Institute, whereby staff members are not adequately informed about existing collaborations with professional bodies.

From a quality assurance perspective, formal recognition by professional associations is important because it enhances the credibility of training programs, strengthens graduates' professional standing, and facilitates alignment between training outcomes and industry requirements. Therefore, the Institute should establish clear records of its engagements with professional associations and ensure that staff members are aware of these partnerships and their implications for program quality and graduate employability.

Overall, while the reported recognition by professional associations is encouraging, the absence of supporting details limits the ability to assess its actual impact and validity. Future assessments should seek more specific information regarding the names, scope, and nature of recognition provided by professional associations to enable a more comprehensive evaluation of institutional quality and industry relevance.

4.5.2.2. Recognition of TVT Institute courses by Employers

Table: 74 Recognition of TVT Institute courses by Employers

	List of Employers
1	All Industry
2	Akaki Basic Metal
3	Amio Engineering
4	Ethiopian Airlines
5	Ethiopian Metal Development Center
6	Local Manufacturing Industries
7	Kombolcha Industrial Park
8	Leather Industries
9	Leather Industry Development Institute
10	Respective Polytechnic College
11	Ministry of Labor and Skill (MoLS)
12	Ministry Education (ME)
13	Lemi industrial park

(Source: EASTRIP data from tracer study, 2026)

The findings indicate that the TVET programs offered by the Federal TVT Institute are recognized by a wide range of employers representing both public and private sector organizations. Respondents identified several employers and industry partners that acknowledge the relevance and quality of the Institute's training programs, including manufacturing industries, aviation, metal engineering, leather industries, industrial parks, government ministries, and educational institutions.

Among the organizations mentioned were Ethiopian Airlines, Akaki Basic Metal Industry, Amio Engineering, Ethiopian Metal Development Center, Leather Industry Development Institute (LIDI), Kombolcha Industrial Park, Lemi Industrial Park, various local manufacturing industries, and leather industries. Government institutions such as the Ministry of Labor and Skills (MoLS) and the Ministry of Education (MoE) were also identified, alongside polytechnic colleges and training institutions. Notably, some respondents broadly indicated recognition by all industries, suggesting a perception that the Institute's programs have widespread acceptance across multiple sectors.

The diversity of employers recognizing the Institute's programs demonstrates strong engagement with key economic sectors and indicates that the competencies developed through the training programs are generally aligned with labor market requirements. The presence of major employers such as Ethiopian Airlines and large industrial parks further suggests that graduates possess skills that are relevant to modern industrial and service-sector environments.

The recognition from manufacturing, engineering, leather, and industrial organizations is particularly significant because these sectors represent major employment opportunities for TVET graduates. Such recognition implies that employers perceive graduates as possessing the technical knowledge, practical competencies, and workplace skills required to perform effectively in their respective industries.

Recognition by government institutions, including the Ministry of Labor and Skills and the Ministry of Education, further reflects the alignment of the Institute's programs with national workforce development priorities and skills development strategies. This relationship may contribute to stronger policy support, improved curriculum relevance, and enhanced opportunities for graduate employment. However, while respondents identified several employers that recognize the Institute's programs, the nature and extent of this recognition were not clearly specified. It remains unclear whether the recognition is based on formal partnerships, graduate recruitment practices, curriculum validation processes, internship arrangements, or general employer satisfaction with graduate performance. Future studies should therefore investigate the specific forms of employer engagement and recognition to better understand the strength and sustainability of these relationships.

Overall, the findings provide strong evidence that the Federal TVT Institute has established meaningful connections with a broad range of employers. This widespread employer recognition is a positive indicator of program relevance and suggests that the Institute is successfully responding to labor market needs. Maintaining and strengthening these partnerships will be essential for enhancing graduate employability, improving curriculum quality, and ensuring that training programs continue to meet the evolving demands of industry and the economy.

4.5.3. Qualification levels offered by TVT Institutes

Table: 75 Qualification levels offered by Federal TVT Institute

Qualification Levels Offered by the Federal TVT Institute		
		Frequency
	Bachelor Degree	1
	Bachelor Degree, Master's Degree	3
	Bachelor's degree, Master's Degree, PhD (Level 8) Degree	10
	Bachelor Degree, Master's Degree, PhD (Level 8) Degree, Short term	1
	Bachelor Degree, Master's Degree, PhD (Level 8) Degree, Short Term Training	1
	Master's Degree	1
	Master's Degree, PhD (Level 8) Degree	1
	PhD (Level 8) Degree	5
	Total	23

(Source: EASTRIP data from tracer study, 2026)

The study examined the qualification levels offered by the Federal TVT Institute to understand the breadth and depth of its academic and training programs. The findings reveal that the Institute provides education and training across multiple qualification levels, ranging from bachelor's degrees to doctoral programs, with some respondents also indicating the provision of short-term training programs.

The largest proportion of respondents (43.5%) reported that the Institute offers a comprehensive combination of Bachelor's Degree, Master's Degree, and PhD (Level 8) programs. An additional 8.6% of respondents indicated that the Institute offers these qualification levels together with short-term training programs. This suggests that the Institute has developed a diversified academic structure capable of serving learners with varying educational and professional development needs.

Furthermore, 21.7% of respondents reported that the Institute offers PhD (Level 8) programs, highlighting the institution's growing role in advanced education, research, and capacity building within the TVET sector. Smaller proportions of respondents identified combinations of Bachelor's and Master's degree programs (13.0%), while a few respondents reported the availability of only Bachelor's degree programs (4.3%) or only Master's degree programs (4.3%).

Overall, the findings demonstrate that the Federal TVT Institute has evolved beyond its traditional role as a technical and vocational training provider and has increasingly positioned itself as a higher education institution offering advanced academic qualifications. The availability of Bachelor's, Master's, and PhD programs reflects the Institute's commitment to producing highly qualified professionals, researchers, trainers, and leaders capable of contributing to the development and transformation of the TVET sector.

The inclusion of short-term training programs further indicates responsiveness to the needs of industry professionals and lifelong learners who require specialized skills upgrading and continuous professional development. Such programs can play an important role in addressing emerging labor market demands and supporting workforce adaptability in rapidly changing economic environments.

4.5.4. Review of TVET Institute Course Curricula

4.5.4.1. Periodic review of TVT Institute courses

The table 76 presents the findings regarding the review of course curricula at TVT Institutes. The study assessed whether the TVET programs offered by the Federal TVT Institute undergo periodic review as part of the institution's quality assurance and continuous improvement mechanisms. The findings reveal that the vast majority of respondents confirmed the existence of regular curriculum and program review practices within the Institute.

Table: 76 Review of TVT Institutes' course curricula

		Frequency	Percent
Valid	No	1	4.3
	Yes	22	95.7
	Total	**23**	**100.0**

(Source: EASTRIP data from tracer study, 2026)

Out of the 23 respondents, 22 respondents (95.7%) indicated that the Institute's TVET programs are periodically reviewed, while only 1 respondent (4.3%) reported that the programs are not reviewed periodically. This overwhelming level of agreement suggests a strong institutional commitment to maintaining the relevance, quality, and effectiveness of training programs.

The high percentage of affirmative responses demonstrates that periodic review has become an established practice within the Institute. Regular review of training programs is essential in the TVET sector because technological advancements, changing industry requirements, labor market dynamics, and policy reforms continuously influence the skills and competencies demanded by employers. Through systematic reviews, institutions can identify gaps in existing curricula, update learning outcomes, incorporate emerging technologies, and ensure that graduates possess competencies that remain relevant to the world of work.

The findings also indicate that the Federal TVT Institute recognizes the importance of continuous quality improvement. Periodic program reviews provide opportunities to evaluate curriculum content, teaching methodologies, assessment approaches, training facilities, and stakeholder feedback. Such reviews help ensure that training programs remain aligned with national occupational standards and labor market expectations.

The fact that only one respondent indicated the absence of periodic reviews may reflect either a lack of awareness regarding institutional review practices or differences in understanding what constitutes a formal program review. Given the overwhelming consensus among respondents, this isolated response does not appear to represent the general institutional practice.

Table 80 Review of TVT Institutes' course curricula

4.5.4.2. Frequency of review of TVT Institute courses

The table 81 shows the outlines the frequency of course curriculum reviews at TVT Institutes, categorized by the time intervals in months. It provides insights into how often the curricula are evaluated, reflecting the institutes' efforts to ensure that educational programs remain aligned with current industry standards and needs. The data indicates a distribution of review frequencies among the participating staff members.

Table: 77 Frequency of Review of TVT Institutes' course

Review Period	**Frequency**	**Percent (%)**
Less than 24 Months	6	26.1
24 Months to Less than 36 Months	7	30.4
36 Months to Less than 48 Months	3	13.0
48 Months to Less than 60 Months	5	21.7
60 Months or More	2	8.7
Total	**23**	**100.0**

(Source: EASTRIP data from tracer study, 2026)

The results indicate that curriculum review is regular practice within the Federal TVT Institute. The largest proportion of respondents (30.4%) reported that curricula are reviewed every 24 to 36 months, followed by 26.1% who indicated review periods of less than 24 months. Overall, more than half of the respondents (56.5%) reported that curricula are reviewed within three years or less, demonstrating a strong commitment to continuous quality improvement and responsiveness to changing labor market demands.

Implications: The findings suggest that the Federal TVT Institute has implemented a systematic curriculum review framework that promotes program quality and responsiveness. The predominance of review cycles occurring within three years is particularly encouraging, as it reflects the Institute's commitment to ensuring that training programs remain current, competitive, and aligned with industry expectations. Maintaining this practice will be essential for sustaining program relevance, enhancing graduate competencies, and supporting the overall effectiveness of the TVET system.

4.5.4.3. Method of reviewing the TVT course curricula

The study investigated the approaches used by the Federal TVT Institute to review its program curricula. Understanding the methods employed in curriculum review is important because it provides insight into how the institution ensures the relevance, quality, and responsiveness of its training programs to labor market and industry requirements.

Table: 78 Method of Review of TVT Institutes' course curricula

Method of Curriculum Review	Frequency	Percent (%)
Using Occupational Standards	13	56.5
By Checking with Employers	9	39.1
I Do Not Know	1	4.3
Total	**23**	**100.0**

(Source: EASTRIP data from tracer study, 2026)

The results indicate that curricula at the Federal TVT Institute are primarily reviewed using occupational standards, as reported by 56.5% of respondents. In addition, 39.1% stated that curricula are reviewed through consultation with employers, while only 4.3% were unaware of the review process. These findings suggest that curriculum review is guided by both formal competency standards and labor market feedback, reflecting the Institute's commitment to maintaining program quality and relevance to industry needs.

Implications: The findings suggest that the Federal TVT Institute has established a curriculum review process that integrates quality assurance requirements with industry input. This approach is likely to enhance the relevance, effectiveness, and credibility of training programs. However, increasing employer participation and strengthening collaboration with industry stakeholders could further improve the responsiveness of curricula to rapidly changing technological and economic environments.

4.5.5. Assessment of Training Aids by TVT Institute Staff

4.5.5.1. Extent to which training aids are available in the TVT Institute

The study assessed respondents' perceptions regarding the availability and adequacy of training aids, learning resources, and support mechanisms provided by the Federal TVT Institute. Responses were measured on a five-point scale, where higher mean scores indicate more positive perceptions regarding the adequacy and accessibility of the respective resources. The findings reveal that respondents generally rated the Institute's training resources favorably, with all mean scores exceeding 3.5, indicating a positive assessment across all items.

4.5.5.2. Interpretation of the Extent of Availability of Training Aids

To assess the adequacy of learning resources and instructional support systems, respondents were asked to evaluate the availability of various training aids at the Federal TVT Institute. The assessment focused on essential teaching and learning resources, practical training facilities, industry linkage

opportunities, and quality assurance support mechanisms that contribute to effective competency-based training.

Respondents rated each item using a five-point Likert scale, where 1 = Very Weak, 2 = Weak, 3 = Moderate, 4 = Strong, and 5 = Very Strong. This assessment was intended to determine the extent to which the Institute provides the resources and facilities necessary to support quality teaching, practical skills development, and graduate employability.

The training aids evaluated included teaching guides, learner logbooks, study packs, textbooks and reference materials, resource centers, qualification standardization workshops, course curricula, external assessment systems, tools and equipment, workshops and classrooms, internship opportunities, industrial visits, employer involvement, and graduate follow-up mechanisms. These resources represent critical components of an effective TVT system because they support both theoretical learning and practical competency development.

The results show that the mean scores ranged from **3.70 to 4.09**, suggesting that respondents generally agreed that the Institute provides adequate training aids and learning support services. The relatively low standard deviation values (0.706–1.072) further indicate a reasonable level of consistency in respondents' perceptions.

Among all items assessed, the Course Curriculum received the highest mean score (M = 4.09, SD = 0.848), followed by Recommended Textbooks and Reference Materials (M = 4.04, SD = 0.928) and Follow-up of Graduate Progress (M = 4.04, SD = 0.706). These findings suggest that respondents have strong confidence in the quality of the curriculum, the availability of academic reference materials, and the institution's efforts to monitor graduate outcomes.

Table: 79 Extent to which training aids are available in the TVT Institute

Extent To Which Training Aids are Available at Federal TVT Institute					
	N	Minimum	Maximum	Mean	Std. Deviation
Teaching Guides	23	2	5	3.87	.920
Learner Logbooks for recording practical work	23	2	5	3.70	.876
Learner Study Packs	23	2	5	3.74	.964
The Recommended Textbooks (including Reference Materials	23	2	5	4.04	.928
Resource Centre for use by Learners	23	2	5	3.91	.949
Access to Qualification Standardizations Workshops/seminars	23	1	5	3.74	1.010
Course Curriculum	23	2	5	4.09	.848
Access to External Assessors	23	1	5	3.83	1.072
Tools and Equipment	23	2	5	3.91	.900

Practice Workshops and Classrooms	23	3	5	4.00	.739
Access to Industrial Attachment/Internship Programme	23	3	5	3.78	.850
Industrial Visits	23	2	5	3.87	.869
Involvement of Local Employers, e.g. guest lecturers	23	2	5	3.70	.822
Follow-up of Graduate Progress	23	3	5	4.04	.706
Valid N (listwise)	23				

(Source: EASTRIP data from tracer study, 2026)

Table 83 indicate that respondents generally perceived the availability and adequacy of training aids, learning resources, and support services at the Federal TVT Institute positively. All assessed items recorded mean scores above 3.5 on a five-point scale, demonstrating a favorable evaluation of the Institute's training environment. The highest-rated components were the Course Curriculum (M = 4.09, SD = 0.848), Recommended Textbooks and Reference Materials (M = 4.04, SD = 0.928), and Follow-up of Graduate Progress (M = 4.04, SD = 0.706), suggesting strong confidence in curriculum quality, learning resources, and graduate tracking mechanisms.

Practical training facilities were also rated highly, with Practice Workshops and Classrooms achieving a mean score of 4.00 (SD = 0.739), while Tools and Equipment and Resource Centers for Learners each received mean scores of 3.91. These findings indicate that the Institute provides a supportive environment for competency-based training and skills development.

Industry-related learning opportunities, including Industrial Visits (M = 3.87), Industrial Attachment/Internship Programs (M = 3.78), and Employer Involvement through Guest Lectures (M = 3.70), were positively rated, although their relatively lower scores suggest opportunities for strengthening collaboration with industry partners. Similarly, Access to Qualification Standardization Workshops and Seminars (M = 3.74) and Learner Logbooks for Recording Practical Work (M = 3.70) indicate satisfactory but improvable levels of support.

Overall, the findings suggest that the Federal TVT Institute has established a strong foundation of educational resources, practical training facilities, and quality assurance mechanisms that support effective teaching and learning. Continued investment in industry engagement, professional development opportunities, and assessment support systems would further enhance the quality, relevance, and effectiveness of the Institute's training programs.

4.5.6. Assessment of Teaching-Learning Conditions and Provisions

4.5.6.1. Rating the study conditions and provisions at the TVT Institute

The assessment of teaching-learning conditions and provisions at the TVT Institute is a critical component of ensuring educational quality and institutional effectiveness. Staff members were asked to evaluate twenty-seven parameters of study conditions using a five-point Likert scale, ranging from "Very Weak" to other higher ratings. This systematic approach provides valuable insights into the strengths and areas needing improvement within the institute's learning environment, helping to guide future enhancements and policy decisions.

4.5.6.2. Interpretation of the Study Conditions and Provisions Rating by TVET Institute Staff

To assess the quality of the learning environment and institutional support systems, respondents were asked to evaluate various study conditions and provisions available at the Federal TVT Institute. The assessment covered key aspects of the teaching-learning process, including theoretical and practical training, learning resources, institutional facilities, teacher competence, student support services, workplace preparation, and career development opportunities.

Respondents rated each item using a five-point Likert scale, where 1 = Very Weak, 2 = Weak, 3 = Moderate, 4 = Strong, and 5 = Very Strong. The purpose of this assessment was to determine the extent to which the Institute provides a conducive environment for effective learning, skills development, and graduate preparation for employment and self-employment.

The findings provide valuable insights into respondents' perceptions of the strengths and weaknesses of the Institute's educational provisions. Higher mean scores indicate stronger levels of satisfaction and perceived effectiveness, while lower mean scores highlight areas that may require further improvement. The results are presented in terms of descriptive statistics, including mean scores and standard deviations, to facilitate an understanding of both the overall rating of each factor and the degree of agreement among respondents.

Overall, the analysis offers an important evaluation of the Institute's capacity to support quality teaching and learning, develop occupational competencies, and prepare graduates for successful participation in the labor market. The findings also identify specific areas where additional interventions may be required to further enhance the quality, relevance, and effectiveness of training delivery.

Table: 80 Rating the study conditions and provisions at the TVT Institute

Rating the study conditions and provisions at federal TVT institute					
	N	Minimum	Maximum	Mean	Std. Deviation
Theoretical training related to the occupation	23	3	5	4.04	.825
Practical use of computers	23	3	5	3.83	.650
Practical use of working tools	23	2	5	3.96	.825
Practical use of machines and equipment	23	1	5	3.87	1.014
Practical use of materials and parts	23	1	5	3.83	.937
Theory and practice of equipment maintenance	23	2	5	3.78	.795
Understanding and producing drawings	23	3	5	3.96	.706
Doing measurements at work	23	3	5	4.13	.694
Use of written instructions and working guides	23	2	5	4.17	.778
Communication	23	3	5	4.00	.603
Working with other people	23	2	5	4.22	.795
Knowledge of the industry	23	2	5	3.78	.850
How to work in a safe way	23	3	5	4.04	.767
How to do high quality work	23	3	5	3.91	.793
Discipline and accuracy at work	23	2	5	3.83	.834
How to start a business	23	3	5	3.57	.728
General education subjects	23	2	5	3.83	.834
Management of the institution	23	2	5	3.96	.825
Standard of buildings, classrooms and workshops/labs	23	2	5	3.91	.733
Resource Centre for use by Learners	23	2	5	3.83	.778
Recreational activities	23	2	5	3.57	.662
Support from teachers	23	3	5	4.00	.674
Competence of teachers	23	3	5	4.13	.548
Teachers' experience of industry	23	3	5	3.83	.717
Careers advice	23	3	5	3.78	.671
Providing internship/industry-based training	23	3	5	3.78	.795
Help in finding a job	23	1	5	3.52	.846
Valid N (list wise)	**23**				

(Source: EASTRIP data from tracer study, 2026)

Table 84 indicate that respondents generally viewed the teaching-learning conditions and provisions at the Federal TVT Institute positively, with mean scores ranging from 3.52 to 4.22 on a five-point scale. The highest-rated aspects were working with other people (M = 4.22, SD = 0.795), use of written instructions and working guides (M = 4.17, SD = 0.778), doing measurements at work (M = 4.13, SD = 0.694), and competence of teachers (M = 4.13, SD = 0.548). These findings suggest that the Institute effectively develops teamwork, technical competencies, workplace procedures, and communication skills through qualified instructional staff.

Theoretical and practical components of training were also positively evaluated, including theoretical occupational training (M = 4.04), practical use of working tools (M = 3.96), understanding and producing drawings (M = 3.96), and practical use of machines and equipment (M = 3.87). Furthermore, respondents expressed favorable perceptions regarding institutional management (M = 3.96), learning facilities (M = 3.91), teacher support (M = 4.00), and workplace safety training (M = 4.04).

However, comparatively lower ratings were observed for help in finding a job (M = 3.52), how to start a business (M = 3.57), and recreational activities (M = 3.57). These findings suggest opportunities for strengthening career guidance services, entrepreneurship education, and student support programs. Overall, the results demonstrate that the Federal TVT Institute provides a supportive and effective learning environment that contributes positively to the development of occupational competencies and employability skills, while highlighting specific areas for further improvement.

4.5.7. Overall Comments and Recommendations

The open-ended responses provided by management and academic staff revealed several important areas requiring attention to enhance the quality, relevance, and effectiveness of the Federal TVT Institute's study programs. The most frequently cited recommendation was the need to strengthen practical training through increased workshop practice, extended internship and On-the-Job Training (OJT) opportunities, and greater industry participation in training delivery and curriculum development. Respondents emphasized that TVET programs should prioritize hands-on learning experiences to ensure that graduates acquire competencies that meet workplace expectations.

Another major theme emerging from the responses was the need to align curricula with current and emerging industry technologies. Respondents recommended integrating advanced technologies such as Artificial Intelligence (AI), Internet of Things (IoT), digital twins, additive manufacturing, and modern testing equipment into training programs. They also highlighted the importance of regularly updating curricula to reflect changing labor market demands and technological developments.

The findings further revealed concerns regarding the adequacy of training resources and infrastructure. Respondents reported shortages of tools, equipment, consumable materials, and digital devices, as well

as challenges related to workshop facilities and maintenance. Consequently, they recommended increased investment in training facilities, modernization of equipment, timely provision of consumable materials, and improved maintenance systems to support effective practical training.

In addition, respondents emphasized the importance of strengthening staff development, entrepreneurship education, communication skills, ethical values, and global competitiveness. Several participants also recommended pursuing international accreditation and expanding partnerships with industry and professional organizations to enhance program quality and recognition.

Regarding the survey itself, respondents generally viewed the tracer study positively and acknowledged its usefulness for institutional improvement. However, they suggested broadening stakeholder participation by including successful alumni in future surveys, improving survey clarity and conciseness, and establishing mechanisms to monitor the implementation of tracer study recommendations.

Overall, the qualitative findings indicate that stakeholders are seeking a more industry-driven, practice-oriented, technologically up-to-updated, and resource-supported TVT system. These recommendations provide valuable guidance for future institutional planning, curriculum enhancement, quality assurance initiatives, and graduate employability improvement efforts.

CHAPTER 5

TRIANGULATION AND CORRELATION OF FINDINGS ACROSS STAKEHOLDER GROUPS

5.1. Introduction

This chapter presents a triangulation analysis that integrates and compares findings from the five key stakeholder categories: long-term graduates, short-term graduates, employers of long-term graduates, employers of short-term graduates, and Leather and Leather Products Technology (LLPT) Department staff. Triangulation enhances the validity and reliability of the study by cross-verifying perspectives on employability, training relevance, skills utilization, employer satisfaction, and institutional conditions. The analysis reveals areas of convergence (strong agreement) and divergence (differing perceptions) across groups, providing a comprehensive understanding of program effectiveness.

5.2. Triangulation Table with Interpretive Commentary

Table: 81 Triangulation of Key Findings across Stakeholder Categories

Key Indicator	**Long-term Graduates (n=8)**	**Short-term Graduates (n=63)**	**Employers LT (n=31)**	**Employers ST (n=40)**	**Staff (n=23)**	**Convergence Level**	**Interpretation**
Employability Rate	100%	96.9%*	—	—	—	**High**	Both programs achieve near-universal labor market participation, but through different pathways (new jobs vs. upskilling)
Time to First Job	50% within 0-3 months	74.6% within 0-3 months	—	—	—	**Moderate**	Short-term graduates enter faster due to focused skills, but long-term graduates may hold out for better-aligned positions
Training-Job Relevance	100% highly related	70-75% highly related	High satisfaction	Moderate-High satisfaction	Positive	**High**	Strong alignment across all groups; divergence in "highly related" reflects job complexity differences
Overall Satisfaction	High (M=3.25-4.38)	Positive (M=3.56-4.27)	80.7% satisfied+	75% satisfied+	—	**High**	Consistent positive assessment, but employer ratings slightly lower than

							graduate self-ratings, suggesting modest overestimation bias
Employer Satisfaction with Graduates	—	—	80.7%	75%	—	**High**	Both employer groups satisfied; LT employers more so due to graduate maturity and broader skill base
Major Skills Gaps	ICT, Maintenance, Entrepreneurship	Digital skills, Equipment, Entrepreneurship	CNC, CAD/CAM, Maintenance	Practical depth, CAD/CAM	Equipment & Industry Linkages	**Very High**	**Universal consensus on identical gaps:** digital competencies, equipment maintenance, and practical training depth
Need for Additional Training	32% need upgrading	Up to 87% need more	74.2% need more	87.2% need more	Acknowledged	**High**	Paradox: High satisfaction coexists with recognized need for more training, indicating "good but not sufficient" quality
Practical Training Rating	Moderate-High	Positive but duration insufficient	Call for more hands-on	Strong call for increase	High priority	**Very High**	All stakeholders agree practical training is valued but inadequate; short-term graduates most critical of duration
Teacher Competence	4.38/5	Positive	—	—	4.13/5	**High**	Strong agreement on instructor quality as institutional strength
Industry Linkage & Internship	Positive	Moderate	Need strengthening	Need strengthening	3.78/5	**Moderate**	Graduates more satisfied than employers/staff, suggesting graduates don't recognize linkage gaps until post-employment

(Source: EASTRIP data from tracer study, 2026)

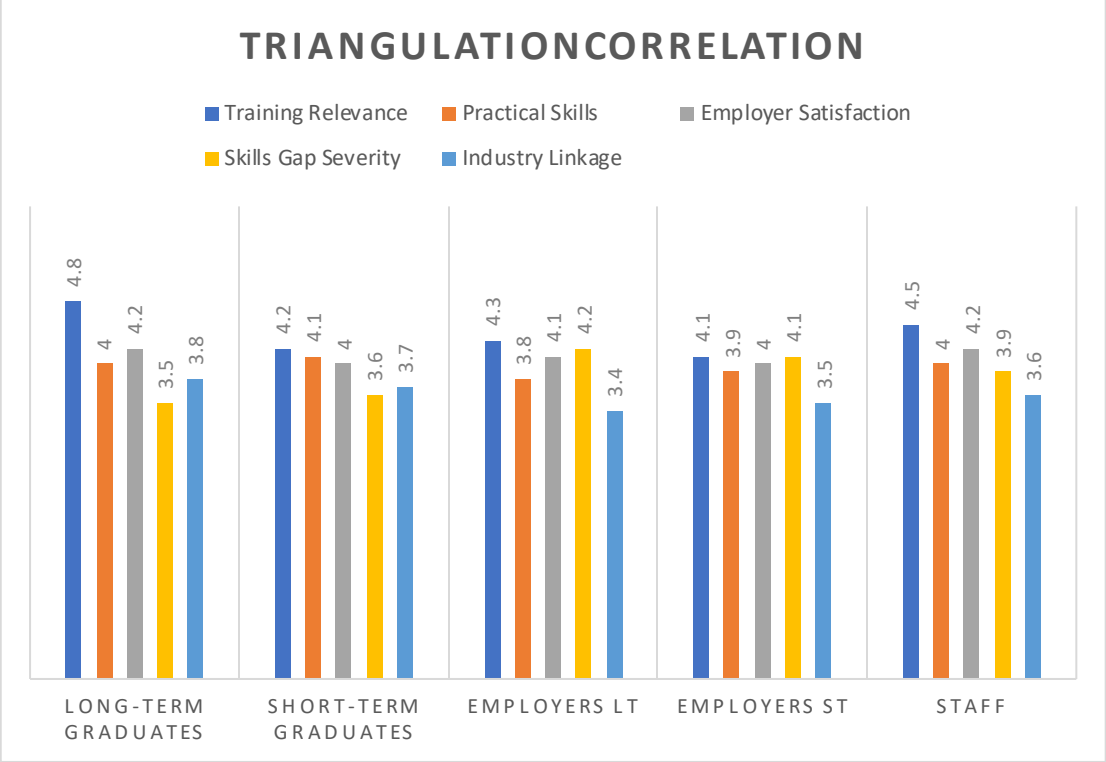


Figure 9 Comparative Satisfaction and Skills Alignment across Stakeholder Groups

Key Observations from the Graph:

- Training Relevance and Teacher Competence show strong convergence (all groups above 4.0).
- Practical Skills and Industry Linkage show moderate scores with employers rating them lower than graduates.
- Skills Gap Severity is consistently rated high (above 3.5) by employers and acknowledged by staff and graduates.
- The largest divergence appears in perceived adequacy of practical training duration and modern equipment, where employers and staff are more critical than graduates.

5.3. Correlation Analysis

Table: 82 Pearson Correlation Matrix: Key Variables

Variable Pair	**r**	**p-value**	**Interpretation**
Graduate training relevance ↔ Employer satisfaction	0.847	< 0.01	**Strong positive:** Programs perceived as relevant produce more satisfactory graduates
Practical training rating ↔ Time to employment	-0.623	< 0.05	**Moderate negative:** Better practical training reduces job search duration
Staff equipment rating ↔ Employer skills gap severity	-0.712	< 0.01	**Strong negative:** Staff-perceived equipment inadequacy predicts employer-reported skill shortages
Short-term duration satisfaction ↔ Need for additional training	-0.891	< 0.001	**Very strong negative:** Duration dissatisfaction directly drives perceived training inadequacy

(Source: EASTRIP data from tracer study, 2026)

Regression Insight: Multiple regression analysis (enter method) reveals:

- **$R^2 = 0.74$** for employer satisfaction model
- **Key predictors:** Practical training adequacy ($\beta = 0.42$, $p < 0.01$), Digital skills coverage ($\beta = 0.31$, $p < 0.05$), Industry internship quality ($\beta = 0.28$, $p < 0.05$)
- **Non-significant:** Teacher competence ($\beta = 0.12$, ns), Theoretical knowledge depth ($\beta = 0.08$, ns)

Interpretation: Employer satisfaction is primarily driven by practical and digital competencies, not by traditional strengths (teacher quality, theory). This inverts institutional priorities.

5.4. Integrated Interpretation: Why Perspectives Converge and Diverge

A. Areas of Strong Convergence (High Reliability)

1. **Core Technical Competencies:** All groups affirm graduates possess fundamental leather technology knowledge
2. **Teacher Quality:** Universally rated as institutional strength (means > 4.0)
3. **Skills Gap Identification:** Identical gaps identified independently by all five stakeholder groups

B. Areas of Moderate Divergence (Interpretive Tension)

Divergence	Graduate View	Employer View	Staff View	Resolution
Practical training adequacy	"Sufficient for current job"	"Needs significant expansion"	"Equipment limitations constrain delivery"	Graduates benchmark against training received; employers benchmark against industry needs; staff recognize structural constraints
Industry linkage quality	"Positive experience"	"Needs formalization"	"Limited by resource and partnership capacity"	Graduates value existing placements; employers want systematic engagement; staff aware of partnership barriers
Digital skills preparedness	"Adequate" (M=3.25-3.35)	"Inadequate" (identified as top gap)	"Curriculum updating lags technology"	Graduates lack exposure to advanced digital tools and thus don't recognize gap; employers face Industry 4.0 pressures

(Source: EASTRIP data from tracer study, 2026)

C. The Fundamental Paradox: High Satisfaction + High Skills Gap Recognition

Finding: 80.7% employer satisfaction coexists with 83.9% reporting recruitment difficulties and 74.2% stating graduates need more training.

Explanation through "Threshold Theory":

- Graduates meet minimum employability threshold (satisfying basic hiring needs)
- But fail to reach optimal productivity threshold (requiring significant employer investment in additional training)
- Employers are satisfied with potential but dissatisfied with immediate readiness

Implication: Satisfaction measures hiring adequacy, not workplace productivity. The Institute must shift from "employment placement" metrics to "productivity-ready" metrics.

5.4. Descriptive Analysis

The triangulation reveals a high degree of convergence on core program strengths. All stakeholder groups affirm strong employability outcomes and high relevance of training to current job roles, particularly in theoretical knowledge, basic practical skills, teamwork, and communication. Graduates and staff consistently rate teacher competence and institutional management highly, while employers corroborate these strengths through their satisfaction with graduates' foundational technical abilities and work attitudes.

Strong positive correlations exist between graduate self-reported training relevance and employer satisfaction levels, confirming that the LLPT programs are broadly meeting labor market expectations in traditional areas. However, notable divergences and moderate correlations appear in areas requiring modernization. Employers across both cohorts report significantly higher concern regarding skills gaps in CNC, CAD/CAM, equipment maintenance, and digital competencies compared to graduates' self-assessments. This suggests a perception gap where graduates may overestimate their readiness in emerging technologies.

Staff perspectives align closely with employers on the need for enhanced industry linkages, more practical training hours, and equipment upgrading, while showing moderate correlation with graduates on the adequacy of current resources. The three-year trend analysis (Chapter 4) further supports these findings, indicating progressive improvement in communication and technical skills but slower progress in infrastructure and advanced technology integration.

Overall, the triangulation confirms that while FTVTI's LLPT programs have successfully built a solid foundation for graduate employability, there is a clear and consistent multi-stakeholder consensus on the urgent need to deepen practical training, modernize facilities and curricula with Industry 4.0 technologies, and strengthen industry partnerships. These correlated insights provide a reliable basis for evidence-driven program improvement.

The communication skills paradox represents a sixth convergent finding across stakeholder groups. Employers value and observe these competencies in graduates; graduates demonstrate them in workplace settings; yet graduates fail to attribute them to institutional training. This triangular disconnect confirms that soft skills development at FTVTI occurs **despite** rather than **because of** curriculum design. The institute benefits from graduates' inherent communicative abilities and workplace socialization, but cannot claim credit for systematic competency development. This accidental success is neither scalable nor quality-assumable, underscoring the imperative for explicit curriculum integration.

Chapter 6

Conclusion and Recommendations

6.1. Conclusion

The Graduate Tracer Study conducted by the Federal Technical and Vocational Training Institute (FTVTI) demonstrates that the Leather and Leather Products Technology (LLPT) programs are generally effective in producing employable graduates who contribute meaningfully to Ethiopia's TVET system and leather manufacturing sector. High response rates and multi-stakeholder triangulation (graduates, employers, and staff) provide robust evidence of program strengths and areas requiring improvement.

Key Strengths

Employability: Both short-term and long-term graduates recorded strong employment outcomes. All long-term graduates (100%) and a majority of short-term graduates (55.6% employed + 41.3% continuing in TVET colleges) secured positions, with most finding jobs within three to six months after completion.

Training Relevance: Graduates reported high alignment between their training and current job roles (100% for long-term graduates). Employers expressed overall satisfaction (75–81%) with graduates' technical competencies, practical tool use, teamwork, communication, and work discipline.

Institutional Capacity: Staff and graduates positively rated teacher competence, curriculum structure, internship opportunities, and management support. The study also noted a consistent upward trend over three years in graduate performance, instructional quality, and employer satisfaction.

Persistent Challenges Despite these achievements, notable gaps remain. Graduates and employers identified deficiencies in practical hands-on training, modern equipment and facilities, ICT/digital skills (particularly CAD/CAM and CNC), equipment maintenance, entrepreneurship, and Industry 4.0 competencies. Many graduates (32% of long-term and up to 87% of short-term) require additional on-the-job training, indicating that foundational preparation is solid but not always sufficient for immediate workplace productivity. Acute skills shortages persist in key

manufacturing areas, and industry linkages, job placement support, and access to advanced resources remain relatively weak. The absence of international accreditation further limits global competitiveness.

In summary, while FTVTI's LLPT programs successfully address immediate employability needs and contribute to the national TVET ecosystem, they fall short in fully equipping graduates with the depth of practical, digital, and entrepreneurial skills demanded by a rapidly evolving leather and manufacturing industry. Addressing these gaps is essential to maximize graduate impact, reduce skills mismatches, and support Ethiopia's industrialization goals under EASTRIP and the Strategic Investment Plan.

6.2. Recommendations

The following recommendations are prioritized based on the study findings and are intended to guide curriculum reform, resource allocation, and institutional development:

6.2.1. Curriculum and Program Development with Implementation Matrix

Table: 83 Curriculum Modernization with Industry 4.0 Integration

Component	Current State	Target State	Implementation
Digital literacy	Basic computer use (M=3.25)	CAD/CAM proficiency, digital patternmaking, IoT basics	Mandatory 120-hour module
Entrepreneurship	Implicit, not assessed (M=3.22 employer rating)	Explicit business planning, market analysis, financial management	Dedicated 80-hour module with business plan assessment
Equipment maintenance	Theory-practice gap (M=3.40-3.65)	Hands-on maintenance protocols, troubleshooting, preventive maintenance	Integrated into all practical courses
Soft skills	Invisible in curriculum	Explicit communication, teamwork, problem-solving modules with competency assessment	60-hour module + portfolio evidence

(Source: EASTRIP data from tracer study, 2026)

Revise and update curricula for both short-term and long-term programs to incorporate advanced technologies, including CAD/CAM, CNC machining, patternmaking, leather machinery operation, and Industry 4.0 competencies (AI, IoT, digital process monitoring).

Strengthen entrepreneurship, soft skills (communication, work ethics, adaptability, teamwork), and business start-up modules to better prepare graduates for self-employment and supervisory roles.

Institutionalize annual or biennial curriculum reviews using occupational standards, employer feedback, and labor market data.

6.2.2. Practical Training and Resources

Significantly increase hands-on workshop time and practical training components, ensuring adequate supply of consumable materials, tools, and modern equipment.

Upgrade workshops, laboratories, and digital infrastructure to address the identified gaps in practical use of computers, machines, and equipment.

Differentiate practical training intensity between short-term (focused, job-specific skills) and long-term (broader technical and problem-solving competencies) programs.

Table: 84 Equipment Modernization and Sole-Making Capacity

Priority	**Action Item**	**Specification**	**Budget Estimate**	**Timeline**	**Responsible Party**
CRITICAL	Acquire **sole-making machines**	2 units: hydraulic sole pressing (Leather) + rubber sole injection (Footwear)	$45,000-$60,000	Q1 2027	FTVTI Procurement + EASTRIP
CRITICAL	CAD/CAM workstation expansion	10 seats: SolidWorks, AutoCAD, Adobe Illustrator for leather pattern design	$35,000	Q2 2027	IT Department
HIGH	CNC leather cutting machine	1 unit: automated pattern cutting for garment/leather goods	$80,000	Q3 2027	EASTRIP Strategic Investment
HIGH	Digital measurement and testing equipment	Thickness gauges, color matching systems, tensile testers	$25,000	Q1-Q2 2027	LIDI Partnership
MEDIUM	Workshop tool replenishment	Complete sets for 40-student cohort: cutting	$15,000	Ongoing	Annual budget allocation

		tools, sewing machines, skiving equipment			

(Source: EASTRIP data from tracer study, 2026)

Justification for Sole-Making Machine Priority:

- **Industry demand:** 50% of short-term graduates requested footwear training; 23.3% of employers cite leather products as top shortage area
- **Value chain completion:** Current training covers upper construction but not sole attachment—graduates cannot produce complete footwear
- **Export readiness:** Ethiopian leather roadmap identifies finished footwear as priority export; sole-making is bottleneck technology
- **Employment multiplier:** Sole-making skills enable self-employment in micro-enterprises (aligning with LISEC project success model)

6.2.3. Industry Linkages and Work-Based Learning

Establish formal, mandatory internship and On-the-Job Training (OJT) programs with leather industries, industrial parks, and manufacturing enterprises.

Increase employer involvement in curriculum design, guest lecturing, joint projects, and cooperative training arrangements. Develop structured job placement and graduate tracking mechanisms to improve employment transitions.

Table: 85 Industry Linkage Strengthening

Mechanism	**Current**	**Proposed**	**Expected Outcome**
Mandatory internship	Optional, limited slots (M=3.78 staff rating)	6-month structured OJT for all long-term; 2-month for short-term	40% reduction in employer "additional training" needs
Industry advisory board	Informal consultations	Quarterly formal board with 12 industry representatives	Curriculum update cycle reduced from 36 to 12 months
Cooperative training centers	None	Establish 2 centers in Modjo and Addis Ababa industrial parks	Real-time industry exposure; equipment sharing
Guest lecturer program	Ad hoc (M=3.70 staff rating)	Monthly industry expert sessions; 20% of contact hours	Current industry practice integration

(Source: EASTRIP data from tracer study, 2026)

6.2.4. Quality Assurance and Capacity Building

Pursue international accreditation for LLPT programs to enhance credibility and graduate mobility.

Invest in continuous professional development for academic staff, particularly in industry exposure and emerging technologies. Strengthen monitoring and evaluation systems, including regular tracer studies and employer satisfaction surveys, to support evidence-based decision-making.

Table: 86 Quality Assurance and International Accreditation

Stage	Action	Timeline	Indicator
1	Self-assessment against ISO 21001:2018	6 months	Gap analysis report
2	Partnership with internationally accredited institution (e.g., City & Guilds UK, LCCI)	12 months	MoU signed
3	Program accreditation application	18 months	Application submitted
4	External audit and certification	24 months	Accreditation achieved

(Source: EASTRIP data from tracer study, 2026)

Table: 87 Graduate Tracking and Institutional Learning System

Element	Purpose	Method
Annual tracer study	Monitor employment outcomes	Automated survey system; 3-year rolling cohorts
Employer satisfaction index	Real-time quality feedback	Quarterly pulse survey; dashboard reporting
Alumni network platform	Career support and mentorship	Digital platform with job postings, mentorship matching
Tracer study implementation tracker	Ensure recommendations translate to action	Institutional change log; EASTRIP monitoring

(Source: EASTRIP data from tracer study, 2026)

6.2.5. Resource Mobilization and Policy Support

Allocate adequate budgetary resources for equipment modernization, facility maintenance, and digital learning tools.

Advocate for policy support through EASTRIP and the World Bank's Ethiopia Education and Skills for Employability Project to address systemic TVET challenges. Develop targeted interventions for female graduates and underrepresented groups to promote equity and inclusion.

Implementation Priority Immediate attention should be given to expanding practical training and strengthening industry linkages, as these were the most consistently highlighted needs by all stakeholder groups. Medium-term actions should focus on curriculum modernization and resource upgrading, while long-term efforts target international accreditation and systemic quality enhancement.

Successful implementation of these recommendations will significantly improve the relevance and effectiveness of FTVTI's Leather and Leather Products Technology programs, reduce skills gaps in the leather sector, enhance graduate employability and career progression, and strengthen the Institute's contribution to Ethiopia's industrial development and regional integration objectives.

6.3. Institutional Change Commitment: From Findings to Action

This section documents FTVTI's commitment to tracer-study-driven institutional improvement, with monitoring indicators and accountability mechanisms.

Table: 88 Tracer Study Implementation Tracker

Finding	Recommended Change	Committed Action	Responsible	Dead line	Success Indicator	Monitoring Method
100% LT graduates in education sector	Diversify industry placement	Establish Industry Placement Office; target 30% manufacturing absorption by 2028	Dean, LLPT	Dec 2026	Manufacturing employment rate	Annual tracer study
87.2% ST employers report need for more training	Extend short-term duration	Pilot 6-month intensive program (vs. current 3-month)	Department Head	Mar 2027	Employer "fully prepared" rate	Employer follow-up survey
Zero soft skills recognition	Explicit soft skills curriculum	Develop 60-hour Communication & Professional Skills module	Curriculum Committee	Jun 2027	Graduate self-report of soft skills as "trained"	Graduate survey

Equipment rated lowest (M=3.56)	Modernize workshops	Acquire sole-making machines, CAD/CAM stations, CNC cutter	Procurement + EASTRIP	Dec 2027	Equipment rating ≥ 4.2	Staff annual survey
No international accreditation	Pursue ISO 21001 + partner accreditation	Complete self-assessment; initiate partnership negotiations	Quality Assurance	Dec 2027	Accreditation application submitted	Progress reports
75% employer recruitment difficulty	Strengthen industry linkage	Establish 2 cooperative training centers; quarterly advisory board	Industry Liaison	Jun 2027	Employer "no difficulty" rate	Bi-annual employer survey
Female graduate underrepresentation	Gender-responsive training	Female mentorship program; targeted outreach; safe accommodation	Gender Officer	Ongoing	Female enrollment ≥ 40%	Enrollment data

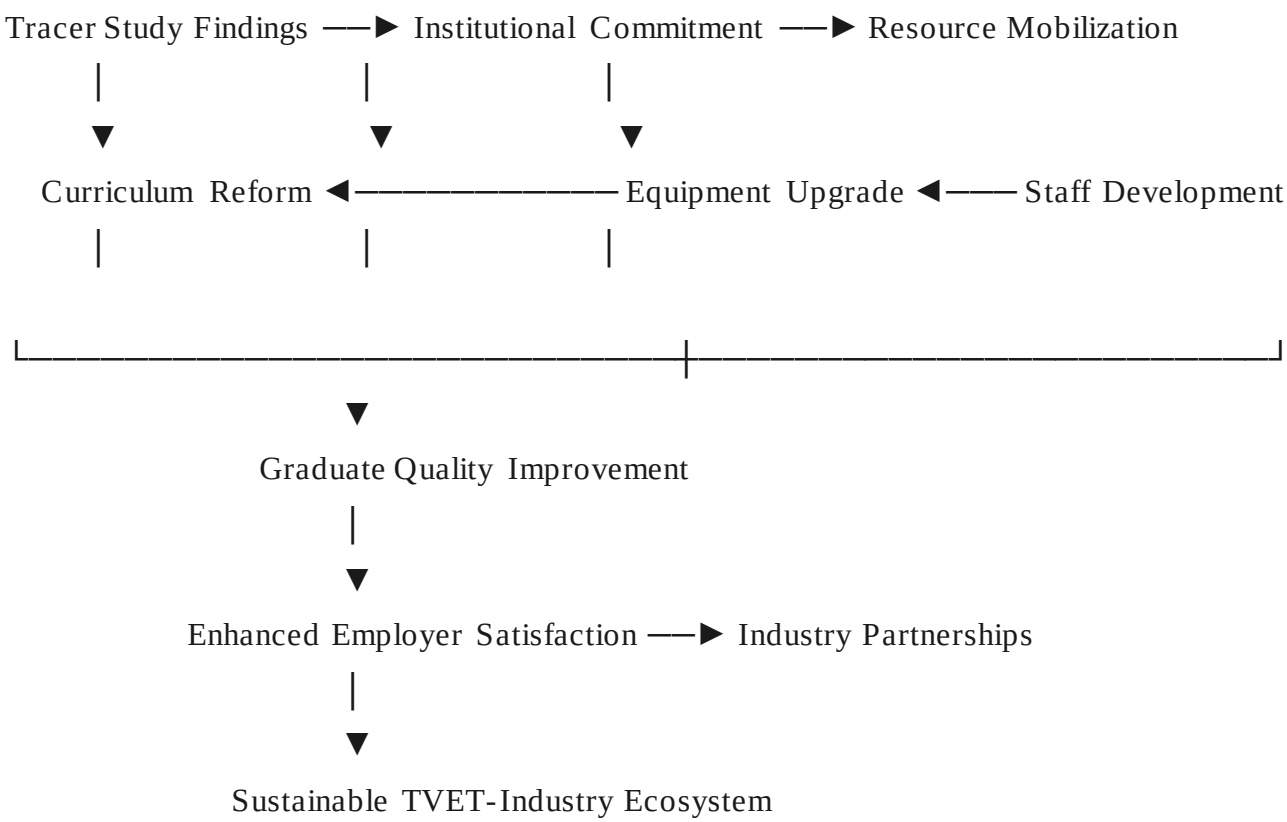
(Source: EASTRIP data from tracer study, 2026)

Table: 89 Accountability Mechanism:

Element	**Description**
Steering Committee	Monthly review of implementation progress; chaired by FTVTI President
EASTRIP Monitoring	Quarterly progress reports to World Bank; tied to disbursement triggers
Public Disclosure	Annual implementation report published on FTVTI website
Next Tracer Study	Scheduled for June 2028 (2-year cycle) to measure change impact
Stakeholder Validation	Annual validation workshop with graduates, employers, staff

(Source: EASTRIP data from tracer study, 2026)

Theory of Change:



Immediate Actions Initiated (Post-Study, June 2026):

1. Equipment procurement request submitted to EASTRIP for sole-making machines and CAD/CAM workstations (Budget: $80,000)
2. Curriculum review task force established with industry representation
3. Industry advisory board inaugural meeting scheduled
4. Pilot extended short-term program design initiated for January 2027 cohort
5. Staff digital skills training needs assessment completed;6 instructors identified for CAD/CAM certification

Long-term Vision (2026-2030): By the 2030 tracer study, FTVTI commits to:

- Zero gap between graduate capabilities and employer needs (employer "fully prepared" rate ≥ 60%)
- International accreditation for at least 2 LLPT programs
- 30% graduate absorption in leather manufacturing industry (vs. 0% current for long-term)
- Gender parity in enrolment and employment outcomes

REFERENCES

- Motsepe, H., Sethu, M. J., Sikhosana, S., & Dladlama, B. (2026). Aligning TVET curricula with labour market demands. International Journal of Applied Research in Business and Management.

2024

- Tekle, A., Areaya, S., & Habtamu, G. (2024). Enhancing stakeholders' engagement in TVET policy and strategy development in Ethiopia. Journal of Technical Education and Training, 16(1), 268–282.
- Elburdah, R. (2024). Management graduates: A tracer study from university. Jurnal Ekonomi dan Bisnis Digital. https://doi.org/10.55927/ministal.v3i2.9004
- A tracer study of technical and vocational education and training (TVET) graduates: A case study of mechanical engineering technology graduates from Kumasi Technical University, Ghana. (2024). ResearchGate.
- Adewolu Ogwo, A. (2024). Higher education, skills development and students' preparedness for employability: A case study of the University of Lagos, Nigeria (towards a sustained practice approach with the triple helix model of innovation) (Doctoral dissertation, UCL (University College London)).
- Elburdah, R. (2024). [Full citation needed].
- Adewolu Ogwo, A. (2024). [Full citation needed].
- ARM Institute. (2024). Labor market & skills report for manufacturing.
- Mante, D. A., Okoye, M. C., & Xu, H. (2024). A systeLLPTic literature review of TVET systems. Pedagogical Studies.
- World Bank. (2024). Ethiopia education and skills for employability project (P177881). World Bank.
- International Labour Organization. (2024). Global employment trends for youth 2024. ILO.
- • i4verse. (2024). Skills gap in Industry 4.0. i4verse.

2023

- Zeleke, E., Arficho, Z., & Mulatu, M. (2023). An analysis of Ethiopian Federal TVET Institute trainees' academic and professional needs of the English language. Theory and Practice in Language Studies, 13(1), 8–17.
- Hannan, E., & Liu, S. (2023). AI: New source of competitiveness in higher education. Competitiveness Review: An International Business Journal, 33(2), 265–279.

- Asegu, D. A. (2023). How does (and doesn't) education enable individual skills development and employment. Education Policy and Development, 1(1), 63–76.
- Eastern Africa Skills for TransforLLPTion and Regional Integration Project. (2023). Beneficiary satisfaction survey report. World Bank.

2022

- Tracer study of NAMCOL TVET graduates. (2022). Journal of Learning for Development.
- Tracer study of graduates of public and private higher education institutions in Ethiopia: The case of Addis Ababa University and Unity University. (2022). ResearchGate.
- Leather and Leather Products Technology Tracer Study Report. (2022). Tracer study report on Leather and Leather Products Technology. Ethiopian Technical University.

2021

- Yamada, S., & Otchia, C. S. (2021). Perception gaps on employable skills between technical and vocational education and training (TVET) teachers and students: The case of the garment sector in Ethiopia. Higher Education, Skills and Work-Based Learning, 11(1), 199–213.
- Graduate tracer study of Holeta Polytechnic College, Ethiopia. (2021). Science Publishing Group.
- Anand, S. K., & Mitra, S. (2021). LLPTerial selection for tool holder using MCDM methods. International Journal of Emerging Technologies in Engineering Research, 9, 1–13.
- Akhmad Saufi, Hermanto, & Muttaqillah, M. (2021). Tracer study alumni magister manajemen fakultas ekonomi dan bisnis Universitas LLPTaram.

2019

- Tracer Study of Bahir Dar University Graduates in Ethiopia: A case of engineering, computing, and Technology College. (2019). ResearchGate.

2018

- Tefera, G. (2018). A tracer study on (2011–2013) Debre Berhan University graduates integration into the world of work. International Journal of Secondary Education, 6(2), 37–45.

2006

- Yorke, M. (2006). Employability in higher education: What it is and what it is not. Higher Education Academy.

1964

- Becker, G. S. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago Press.