THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF TRANSPORT

NATIONAL INSTITUTE OF TRANSPORT

TRACER STUDY REPORT FOR GRADUATES OF 2024

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EXECUTIVE SUMMARY

Any nation across the World runs its economy through the knowledge and skills of its people (The strength of any nation's economy relies on the knowledge and skills of its people). The skills and knowledge require huge investments, technological advancements and regional integration. People must have updated skills and strategies in education systems to achieve a country's objectives. Education gives power to people in socioeconomic, political and technological development. As a result, most Higher Learning Institutions invested a lot in curriculum development and staff development. However, graduates' transition from a training institute to employment has gained less consideration in the objectives of many institutions.

For the past four years, the institute has developed and reviewed many programmes which impart knowledge and skills to students undertaking training at NIT. The Institute has been creating a conducive environment that links graduates and industry to expose them to the work environment. The imparted skills and knowledge must be reflected in the work assigned and the innovation process. Moreover, NIT has been carrying out a tracer study to provide valuable insights into the employability and career paths of graduates. The tracer study at NIT seeks to search for answers to the following questions;

a) What is the current employment status of NIT graduates?

b) What is the level of employer satisfaction with NIT graduates?

c) How relevant is the technical vocational education training provided by NIT to the current employment market?

d) How effective is the teaching and learning environment at NIT?

e) How appropriate are the teaching and learning methods used by NIT?

The tracer study conducted at NIT used questionnaires to obtain data from graduates and employers, which were administered accordingly. The questionnaire contained closed and open-ended questions. Overall, the target population of the tracer study was the graduates who attended training at NIT and completed studies in 2024 and employers who have

employed graduates from NIT. The tracer study employed convenience, purposive, and snowball sampling techniques. Convenience sampling was used to engage readily accessible graduates, especially where a clear sampling frame was unavailable. Purposive sampling targeted respondents with valid contact information to ensure effective communication and data collection. Snowball sampling was applied by asking graduates to refer fellow alumni and share their contact details, helping reach individuals who were unaware of the study.

The filled and completed questionnaires were coded, edited and entered into the IBM SPSS Statistics version 27 for further analysis. The study planned/intended to collect data from 420 graduates and 119 employers. However, about 412 graduates and 96 employers completed questionnaires and returned them to the research team on time. The response rate was 98.1% and 81% for graduates and employers, respectively.

The study revealed that the majority of the graduates that is 73.5% were within the age range of 23 to 27 years, indicating a relatively young graduate population. In terms of gender distribution, 60% were male while 40% were female, highlighting a moderate gender imbalance among the respondents. Regarding the type of training programs pursued, 67% of the graduates had completed long-course training programs, which typically involve comprehensive academic instruction over an extended period. In contrast, 33% had undertaken professional or short course training programs, which are often focused, skill-based, and of shorter duration.

Among those who studied Long-term Programmes, 66.2% attained a Bachelor's Degree, making it the most commonly held qualification among the respondents. Other qualifications included Ordinary Diploma, Technician and Basic Certificate constitute 29.8%. Master’s Degree has low proportional that is 2.2% and the remaining 1.8% studied Higher Diploma Programme.

This tracer study was conducted to achieve five key objectives. Firstly, it aimed to understand the employment status of NIT graduates, providing insights into their transition from education to the workforce. Secondly, it sought to assess the level of employer satisfaction with the performance and competencies of NIT graduates in various work environments.

Thirdly, the study evaluated the relevance of TVET training concerning actual employment, determining how well the training aligns with labour market needs. Additionally, it examined the teaching and learning environment at NIT to identify areas of strength and improvement. Lastly, the study assessed the effectiveness of the teaching and learning methods used by NIT. The findings related to each of these objectives are presented in the sections that follow.

The study found that the overall employment rate six months after graduation was 75.4%, whereas, graduate employment six months after graduation for female students was 78.2%. Among the employed graduates, 44.1% were males and 31.4% were females. Those engaged in self-employment, males constituted 12.1% and females constituted 8.3%. The study revealed that 17.2% of graduates had a permanent employment, 24.5% were on a contract basis, 20.4% were self-employed, and 13.3% were attending further academic training.

With regards to employer satisfaction with NIT Graduates, the tracer study revealed a generally high level of employer satisfaction with NIT graduates. About 95.8% of employers acknowledged that graduates demonstrated satisfactory competence in the workplace. This reflects positively on their skills, knowledge, and performance. However, a small fraction (4.2%) of employers expressed dissatisfaction, citing concerns about graduates' inability to work independently and resistance to learning new skills. Despite these reservations, employers continue hiring NIT graduates, suggesting confidence in the graduates' foundational training and potential for further development. These findings indicate that while graduates are largely meeting expectations, additional focus on soft skills and adaptability could enhance employability.

On the relevance of TVET training to employment, a large majority of respondents confirmed that the training received was relevant to their professional roles. Specifically, 87.1% stated that the knowledge and skills acquired at NIT enabled them to perform their tasks effectively. Moreover, 90.2% reported that their fields of studies are appropriate with their job roles. Additionally, 88.6% of respondents affirmed that their training facilitated a smooth transition into the labour market. These results highlight the effectiveness of NIT's curricula in preparing students for relevant job markets.

Student feedback on teaching methods and the learning environment at NIT was largely positive. Most students rated teaching methods as "Very Good" (43.9%) or "Excellent" (39.8%). Similarly, 45.6% rated the learning environment as "Very Good" and 32.5% as "Excellent". Overall, 83.7% and 78.1% of students found the teaching methods and environment, respectively, to be conducive to learning. These results reflect a strong academic environment, though continued improvements are necessary to maintain high standards.

The tracer study report concludes with recognition that most graduates successfully entered the labour market and that employers are generally satisfied with their skills and performance. The teaching and learning environment were also found to be supportive. However, the study highlighted challenges such as limited practical training, insufficient exposure to real work settings, a lack of soft skills, and the need for regular curriculum updates. Self-employed graduates also cited difficulties in accessing start-up capital.

This study recommends that NIT needs to strengthen services through the industrial liaison office to support job placement, provide labour market information, and bridge skill gaps. Enhancing graduate tracking systems and integrating soft skills into all academic programs is also vital. Improving training infrastructure, expanding digital learning platforms, and upgrading counselling and career guidance services are necessary steps. Additionally, academic staff should receive ongoing training in learner-centred and competency-based teaching methods, with opportunities for industrial exposure. These interventions will ensure NIT continues to produce competent graduates aligned with industry needs and expectations.

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LIST OF ABBREVIATIONS AND ACRONYMS

ATO	Approved Training Organization
CBET	Competency Based Education and Training
CoEATO	Centre of Excellence in Aviation and Transport Operations
DLIs	Disbursement Link Indicators (DLIs)
EASTRIP	East Africa Skills for Transformation and Regional Integration Project
ICT	Information And Communication Technology
ILFS	Integrated Labour Force Survey
IPOO	Input–Process–Output–Outcomes
ISIC	International Standard Industrial Classification of All Economic Activities
NACTVET	National Council for Technical and Vocational Education and Training
NGO	Non-government Organization
NIT	National Institute of Transport
NPCU	National Project Coordination Unit
RFTIs	Regional Flagship TVET Institutes
SMS	Short Message Service
TCAA	Tanzania Civil Aviation Authority
TCU	Tanzania Commission for Universities
TVET	Technical and Vocational Education and Training
TZS	Tanzania Shillings

CHAPTER ONE

INTRODUCTION

1.1 Chapter overview

This chapter introduces the study by presenting its background and laying the foundation for the investigation. It outlines the general and specific objectives, explains the rationale behind the study, and defines its scope. Finally, it presents the conceptual framework that illustrates the key variables and their presumed relationships.

1.2 Background

Tanzania, located in Sub-Saharan Africa, faces unemployment challenges like any other country in the region. High population and labour force growth continue to overtake formal job creation. Tanzania's education system produces graduates with various professional disciplines, such as education, management, engineering, health, sciences, IT and law, to name a few. This education aims to equip society with knowledge, skills and values realised in economic development, social justice, and moral and ethical strength. The outcomes of an educated society are measured in terms of unity, democracy, liberalism and dynamics. However, where there is a lack of a systematic and accurate employability assessment for graduates, the relationship between the training and the labour market becomes challenging.

The policies governing graduates' economic growth and employability are essential for skills and career development. For the past three decades, employers have complained that the graduates from the Institutes lack imperative skills needed in the labour market. It is surprising to re-advertise jobs in various organisations' websites and newspapers Such information implies that jobs are there, but graduates cannot fill vacancies because they lack the required qualifications. Despite the prevailing challenge, very few Technical and Vocational Education and Training (TVET) institutes have conducted tracer studies to gauge their training level and transition of their graduates in the labour market.

As a result, tracer studies in Higher Learning Institutions were designed to identify and follow up with graduates after completing their studies. Findings obtained in tracer studies aim to improve graduates' teaching and training. TVET Institutions embrace tracer studies for many reasons, mainly to accredit their study programmes; to explain the link between study programmes and the job market. Also, it shows the uniqueness of programmes offered and enables institutions to make the right decisions regarding improvements and quality of education and services in higher education (Johansyah *et al*., 2025). Moreover, the importance of graduate tracer studies is to incorporate practical advances into institutional programmes by collecting and analysing information on graduate study experiences and professional and personal careers. Such studies are used to collect data on the employment situation of the most recent graduates to obtain indicators for their professional performance (Nudzor and Ansah, 2020). In addition, they contribute to causal explanations of the relevance and appropriateness of the study conduct, services and programmes provided and the quality of the produced graduates (Johansyah *et al*., 2025; Nudzor and Ansah, 2020).

Internationalisation of education established a network of best practices to ensure quality education, as studied comprehensively in the work of De Wit and Altbach (2021). The study showed the quality assurance mechanism, which sought to affect the quality of graduations that most Higher Education Institutions (HEIs) aspire to. The nation's success depends on the graduates produced in Higher Education Institutions. For instance, the study by Ahmed (2024) found that higher teacher salaries can boost their morale to perform better. Undoubtedly, the maximum employability among graduates is a pressing debate in economic and political forums. A tracer study is an appropriate tool used to measure the dimensions of the challenges facing the transit of graduates from Institutes to the labour market.

Evidence from the graduate tracer study conducted by the University of Pangasinan in the Philippines indicates that graduates face significant challenges in securing employment, primarily due to limited job opportunities and insufficient work experience, which contributes to prolonged periods of job (De Guzman *et al.,* 2020). A similar argument was presented by Rojas and Rojas (2016) that the government needs to reckon with issues

regarding labour mismatch. Such findings imply that the aggregate supply of labour skills is insufficient to address the decline in productive labour, specifically in urban or semi-urban areas. The statement of staff mobility from rural to urban areas, securing green pastures, was reported in Wangchuk's (2024) research that most graduates were hired in urban or semi-urban areas rather than in rural areas in developing countries. This means comforts for a better life are found in urban areas rather than in rural areas.

Signals in the use of technology, like social media and multi-media presentations, to secure jobs are easily accessible in the city. Palay and Garcia (2021) argue that it is no longer sufficient for new graduates to know because most industries today need qualified applicants. Companies need highly skilled graduates to be competent. This implies that institutions must shift their instructional competence to train outcomes-based students so that they can survive in the world of work relative to their chosen careers.

Despite the education regulators (TCU and NACTVET) directing Higher Learning Institutions to conduct tracer studies yearly, individual institutions have limited responses. Many colleges/Institutes have financial constraints on conducting tracer studies. Unlike other TVET Institutes, NIT has worked on tracer studies for six (6) consecutive years with support from the World Bank - East Africa Skills for Transformation and Regional Integration Project (EASTRIP).

The National Institute of Transport (NIT) is a Public Higher Learning Institution established by NIT Act Cap 187 with the primary objective of providing Education and Training, conducting Research and Consultancy in the field of Logistics, Management and Transport Technology. The Institute is fully accredited by the National Council for Technical and Vocational Education and Training (NACTVET) to provide Competence Based Education and Training (CBET) programs at the level of Certificate, Diploma, Degree and Masters (National Technical Awards - NTA level 4 to level 9). In addition, NIT is an Approved Training Organization (ATO) by Tanzania Civil Aviation Authority (TCAA) to offer cabin crew training (Ab-Initio and Recurrent courses), Aircraft Maintenance Engineering and Flight operations. Furthermore, NIT is an Authorized Training Center (ATC) by International Air Transport Association (IATA) to offer

aviation short courses such as Airline Marketing, Airline Customer Service, Airport Operations Fundamentals, and Global Distribution Systems.

The Institute is implementing the EASTRIP to establish the Center of Excellence in Aviation and Transport Operations (CoEATO). The Project is funded by the World Bank through the governments of Ethiopia, Kenya and Tanzania to increase access and improve quality of Technical and Vocational Education and Training (TVET) programs offered by the selected Regional Flagship TVET Institutes (RFTIs) and promote regional integration. Through EASTRIP, NIT conducted a tracer study on graduates and employers to assess employability and satisfaction, respectively. Among others, the survey was conducted to achieve Disbursement Link Indicators (DLIs) of additional finance and meet the target of conducting yearly tracer studies for graduates. The tracer study at NIT seeks to improve the programmes' quality, curricula and quality of produced graduates. Also, findings must capitalise on the mismatch graduates encounter when searching for jobs and labour market demand.

The tracer study will enable the Institute to gain experience from employers about the graduates who completed their studies at NIT and secure jobs in various industries. The findings of the tracer study survey will serve as a foundation for enhancing the learning environment and aligning educational experiences with the expectations of both academic life and the job market.

1.3 General Objectives

The main objective of 2024 NIT graduate's tracer study was to evaluate the employability status and employer satisfaction of NIT alumni of the academic year 2023/2024.

1.3.1 Specific Objectives

Specifically, the tracer study intended:

i. To examine the employment status of the graduates.
ii. To assess the employer's level of satisfaction with NIT graduates
iii. To evaluate the relevance of NIT training and employment

iv. To assess the NIT teaching and learning environment, and

v. To evaluate the methods of teaching and learning used by NIT.

1.4 Rationale of the Study

The rationale for conducting a tracer study lies in the need to evaluate the effectiveness of the academic programme, assess its alignment with labour market requirements, and understand its influence on graduates' career path and professional development. Tracer study serves as a valuable mechanism for gathering information that supports mutual and comprehensive capacity building across both training institution and industry sectors, with a particular focus on the employability of graduates (Ogwo, 2024; Mutembei, 2024; Deogratius, 2025). Tracing graduates' employability plays a crucial role in linking theoretical instruction to practical skills, ultimately helping learners achieve their desired professional objectives (Chukwuedo, 2022).

The findings from tracer studies help identify critical areas for strengthening the overall capacity of the institutions. This includes enhancing the provision of essential training equipment, improving learning facilities, and expanding off-campus infrastructure. Collectively, these improvements contribute to a more robust academic and vocational training environment. The insights gained from the tracer study guide curriculum development and institutional planning (Cuadra *et al.,*2019). It advocates for a broader, more interdisciplinary approach to education than has previously been employed. The evidence strongly suggests that greater emphasis should be placed on the acquisition of practical, job-ready skills through practice-oriented study. Additionally, it is recommended that the curriculum be reviewed and updated at least once every two years to remain responsive to ongoing technological advancements and cultural shifts.

A tracer study serves as a critical tool for evaluating whether graduates have received education and training that are relevant and responsive to the needs of the labour market. By systematically tracking the employment outcomes and career progression of former students, such studies assess the extent to which academic programs align with industry requirements and workforce expectations. The findings of tracer studies provide valuable feedback to educational institutions, offering evidence-based insights into the

effectiveness, quality, and relevance of the training programs delivered. This information enables institutions to identify strengths and gaps within their curricula and to make informed decisions aimed at improving program design, delivery, and responsiveness to market trends. Moreover, tracer studies contribute to a broader understanding of the dynamics between education, employability, and labour market integration (Ferreras, 2023). They reveal patterns related to job placement rates, the relevance of acquired competencies in actual work settings, and the transition period from graduation to employment (Bollinger, 2024). Such data is instrumental not only for institutions but also for stakeholders, including policymakers, employers, accreditation bodies, and development partners who rely on empirical evidence to support workforce planning and educational policy reform.

For the Institute, conducting a tracer study yields multiple strategic benefits. It facilitates the continuous improvement of academic offerings, enhances accountability, and ensures that graduates are equipped with the skills and knowledge required for meaningful employment. Ultimately, the insights gained from tracer studies help bridge the gap between education and employment, fostering a more adaptive and demand-driven educational system. Tracing graduates' employability ensures curriculum relevance and improves the marketability of academic programs by addressing issues such as skills mismatches. By providing detailed information on graduates' employment outcomes, these studies inform policy decisions aimed at reducing unemployment and other social challenges. Feedback from graduates offers valuable insights into how their training at the Institute, such as NIT, has influenced their professional lives, helping assess the impact and effectiveness of program content about industry demands. As a result, tracer studies serve as powerful tools for evaluating curriculum strengths and weaknesses, guiding decisions about necessary adjustments to ensure alignment with labour market needs.

The results of tracer studies contribute to broader institutional development in areas such as curriculum design, accreditation, and the enhancement of student services and extracurricular activities. They help identify employment gaps between graduate competencies and employer expectations, particularly in soft skills and workplace

attitudes. This feedback is imperative for the Institute's efforts to continuously improve training quality, ensuring that graduates are not only technically competent but also well-prepared for the demands of the working environment. Finally, tracer studies support the Institute's commitment to ongoing quality enhancement and alignment with evolving industry standards.

1.5 Scope of the Survey

The study focused on graduates from both short-term and long-term programmes who completed studies at NIT in 2024 and their respective employers. It addressed nine (9) key issues, namely: targeted graduates (recent graduates or alumni and their employers for created triangulated feedback), time frame (the period in which the alumni graduated), geographical area in which our graduates are employed or self-employed, employment status **(**employed, self-employed, unemployed or undergoing further studies), type of job and sector (permanent or contract in either private or public institution), further studies **(**undergoing further studies, additional training), skills application **(**whether the skills obtained in the class are relevant in the workplace, gaps between academic training and industry needs), graduate satisfaction (satisfaction with curriculum, facilities, internships, and career services, feedback on institutional support and readiness for work) and recommendations for improvement (suggestions from graduates on improving the academic or training program and feedback from employers).

1.6 Conceptual Framework

The conceptual framework employed in this study is the Input–Process–Output–Outcomes (IPOO) model. Under the **input** category, two primary aspects are considered. The first includes the alumni or graduates, focusing on their motives, academic performance, demographic characteristics, and prior experiences. The second category encompasses the institutional resources dedicated to student education, such as teaching staff and physical or academic infrastructure. These inputs collectively influence the **process** of teaching and learning and, in turn, affect the resulting outcomes as described in (Chima, 2023).

The **process** component involves the mechanisms and methods through which education is delivered and absorbed. This includes teaching strategies, learning styles, curriculum design, and other pedagogical elements that shape students' academic journeys.

On the **result** side, a distinction is made between **outputs** and **outcomes**. Outputs refer to the immediate and measurable educational achievements, such as academic performance, acquired knowledge, competencies, and specific skill sets. These outputs directly shape the character and professional competence of graduates. In contrast, *outcomes* represent the broader and longer-term impacts of education, including graduates' employment status, job roles, level of job satisfaction, and their contribution to society. Outcomes reflect the extent to which educational experiences translate into real-world success and social value. Therefore, the framework aimed at understanding the relationship between the training offered at NIT and graduates' absorption into the labour market, as represented in Figure 1.

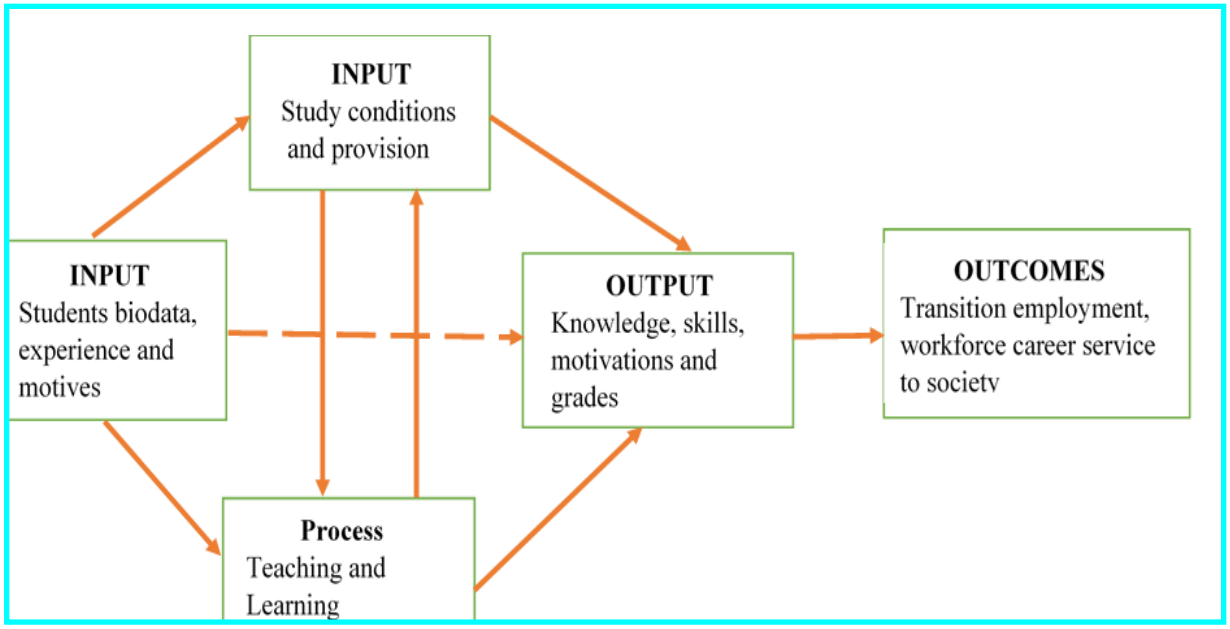

Figure 1: A schematic model for a tracer study

Source: Schomburg (2010)

CHAPTER TWO

METHODOLOGY

2.1 Chapter Overview

This chapter presents the data collection techniques, study design, sampling techniques, sample size, analytical framework, data analysis and ethics adhered to in the study.

2.2 Study Design

The study used a cross-sectional design where qualitative and quantitative data were collected from graduates and employers in 2024. In this study, the respondents were requested to provide personal information, including their sex, age, employment statuses, the relevance of training offered at NIT, job satisfaction and their opinions regarding the training, learning facilities and the relation of training to employment. The questionnaires used to collect data from respondents are attached in Appendices I and II for reference.

2.3 Approach

The tracer study included two components, which were the graduate tracer study/surveys and employer surveys.

2.3.1 Graduates Tracer Study

Graduate tracer surveys are widely recognised as a valuable tool for understanding the relevance of higher education to the labour market and assessing how well educational programs prepare graduates for the world of work. These surveys provide insights into graduates' employment status, career progression, and the applicability of skills acquired during their studies. They also inform policy decisions and curriculum reforms by identifying gaps between training and labour market demands. The tracer survey conducted at NIT targeted graduates from the 2023/2024 academic year. In addition to assessing formal employment outcomes, the survey included a module on self-employment to capture graduates who had initiated their own businesses. Another module targeted those who had opted to continue with further studies, recognising that education-to-work transitions may take diverse forms. By including these dimensions,

the survey offered a more comprehensive picture of graduate destinations and the broader impact of EASTRIP on employability and career development.

2.3.2 Employer Surveys

As part of the tracer study process, each graduate who completed the survey was requested to provide detailed contact information for their current employer or immediate supervisor. This step was essential for establishing a direct link between the graduate and their workplace, allowing the study to gather accurate and relevant feedback from employers regarding the performance and preparedness of NIT graduates in real work settings. Graduates were encouraged to share valid phone numbers, email addresses, and workplace locations to facilitate this follow-up process. Once the employer information was collected, the Tracer Study Team organised and categorised the data based on geographical regions and the distribution of employers. The identified employers were then assigned to different team members for follow-up visits. Each team member was responsible for visiting the employers located within their assigned regions to administer employer questionnaires, collect feedback, and clarify any additional information needed. These face-to-face interactions with employers helped ensure a high response rate and the collection of in-depth insights regarding graduate competencies, job performance, and the relevance of the received training. This systematic approach strengthened the study's reliability and provided a holistic view of graduate integration into the labour market across different regions.

2.4 Research Instruments

Questionnaire for the graduate survey and a Questionnaire for the employer survey were the tools used in this study. The graduate questionnaire was designed to gather comprehensive information on the demographic profile, educational background, employment status, and experiences of NIT graduates. The questionnaire had preliminary information showing the purpose of the study. Part A collected basic demographic data such as gender and age group. Part B focused on training at NIT, asking about the level and programme of study, participation in short or professional courses, reasons for choosing the programme, sources of funding, and how graduates learned about NIT. It

also asked whether graduates would recommend their programme to others. Part C assessed the teaching and learning experience, including the methods used, the learning environment, and how the training enhanced graduates' competencies. Part D explored employment status, including activities six months after graduation, current employment type, employer details, job search duration, job relevance, and reasons for job changes. Part E evaluated the relevance of training to current employment and how acquired skills matched job requirements. Part F targeted self-employed graduates, covering the nature of their businesses, reasons for self-employment, startup challenges, capital sources, and the application of entrepreneurial skills. Part G examined job satisfaction and work orientation. Part H provided space for graduates to offer additional comments or suggestions for improving the training programmes and the survey process itself.

The Employer Questionnaire was designed to collect feedback from organisations that had employed graduates from the National Institute of Transport (NIT). Before the questions, the questionnaire had a script showing the purpose of the study. Part A gathered background information about the company or organisation, including its name, physical location, contact details, type of entity (government, private, NGO), sector of operation, and the respondent's role, such as owner, manager, supervisor, or human resources personnel. Part B focused on recruitment procedures and criteria. It aimed to determine how many NIT graduates had been hired over the past three years, the methods used to advertise job vacancies, the levels at which graduates had been employed, and their respective fields of specialisation, covering both long and short courses. Part C evaluated NIT graduate employees by asking employers to rate their satisfaction and the significance of various skills during recruitment. These included practical and technical skills, soft skills, administrative competence, subject knowledge, analytical and computer skills, customer service, academic performance, practical experience, and the reputation of NIT. Part D gathered additional information on graduate training needs. Employers indicated whether further training was necessary and identified specific skills or knowledge gaps. Finally, Part E allowed employers to provide additional comments and recommendations for improving the employability of NIT graduates.

2.5 Target sample

The target participants for the study were graduates from the National Institute of Transport (NIT) who completed their studies and graduated in 2024, and employers who employed these graduates. To identify and reach these graduates, the tracer study team collaborated with the NIT Admission Office. A formal request was made to the office to obtain an updated list of 2024 graduates, including their names, programs of study, and contact information such as phone numbers and email addresses. This list served as the primary sampling frame for the study, enabling the research team to initiate direct communication with the graduates for data collection through emails, SMS, and online surveys.

2.6 Sampling Techniques and Sample Size

The study targeted a sample size of 420 graduates, drawn from a population of 7,706. The sample size calculated using Cochran's formula for finite populations, with a margin of error set at a 95% confidence level, was 396, but it was extended to 420. The reason was to enhance the precision and reliability of the study findings by reducing the margin of sampling error and to minimise the risk of non-response or incomplete data. Extending the sample helped to compensate for dropouts, non-responses and unusable submissions, thereby ensuring that the final dataset remains clean and representative. The sample was disaggregated by programme of study and gender to ensure adequate representation across different academic disciplines. Efforts were made to maintain a balanced distribution between male and female graduates. Additionally, the target sample was aligned with the achieved sample from the 2023 tracer study to maintain consistency and enable accurate year-to-year comparisons. The tracer study employed convenience, purposive, and snowball sampling techniques. Convenience sampling was used to engage readily accessible graduates, especially where a clear sampling frame was unavailable. Purposive sampling targeted respondents with valid contact information to ensure effective communication and data collection. Snowball sampling was applied by asking graduates to refer fellow alumni and share their contact details, helping reach individuals who were unaware of the study. The study targeted 119 employers from a population of many who employ NIT graduates every year. For employers, sampling was guided by the

areas of employment reported by graduates. Employers were approached based on the organisations where graduates were working, ensuring relevant and targeted feedback. This integrated approach enabled the collection of reliable data from both graduates and employers to achieve the study objective.

2.7 Data Collection

2.7.1 Team recruitment and training

The recruitment of the data collection team considered the following criteria: have experience in data collection, have shown commitment in previous assignments, have a bachelor's degree or above who can speak both English and Swahili language and have the ability to travel, with a good split of female and male. There was training for interviewers before going to the site. During the in-person training, the Industrial Liaison Office (ILO) oriented the data collection team on the purpose of tracer study and overview of the EASTRIP project's, target respondents, sample distribution methodology and all the necessary details to understand the study. The team agreed on the questions, read through the questionnaire word for word to familiarise themselves with the questions.

2.7.2 Execution of data collection

The designed questionnaires were self-administered, online through Google Forms and face-to-face for graduates and employers, respectively. However, emphasis has been given to using the online approach because the technology simplifies the data collection, organisation and analysis. On the same line, the use of paperwork is discouraged due to environmental concerns. The internet's potential led the researchers to develop a link for graduates to access the questionnaire. The link was sent through their WhatsApp. Besides the social media groups, the researchers used the NIT alumni group(s) patched on WhatsApp to inform graduates and employers about the study. Also, Heads of Departments and non-academic staff were requested to inform their students about the study and its importance to the Institute and the Nation at large.

Both approaches had advantages and disadvantages, including the data handling process and easy implementation. However, the online method faced challenges because some graduates did not use the internet. On the other hand, self-administration leads to misplacement of the questionnaire, and sometimes the graduates give the questionnaire to their family members or friends to fill out on their behalf. In addition, for the Graduate Survey, the team encountered some issues with the database of graduates received from the Admission Office, as some contacts were unreachable. In some cases, there was a mismatch of contacts and other basic information (different in name, sex, and education level). For the Employer Survey, the major challenge was a busy schedule of employers; however, all questionnaires were filled out. Despite such challenges, the expected data were successfully collected. The completed graduate questionnaires were downloaded by the technical coordinator to conduct data quality checks and share feedback with the team in real-time.

2.8 Validity and Reliability

After designing the questionnaire, the researchers presented it to stakeholders for comments/suggestions. The compilation of comments/suggestions was done to improve the initial questionnaires. The pilot study was conducted in March 2024 to twenty (20) graduates and five (5) employers to validate the questionnaire's effectiveness in capturing the required information. The respondents give useful information that leads to the improvement of the questionnaires. After correcting some errors, grammatical mistakes and deleting ambiguous questions, the final questionnaires were administered to selected graduates and employers. During the questionnaire administration, respondents were reminded not to skip any questions unless instructed. Such an approach helped to reduce the amount of missing information. The reliability of the research instrument used to collect data was ensured by using questions which have been used in previous studies.

2.9 Data Validation and Coding

A team of six (6) research experts was formed to validate the correctness of the data in all aspects. The exercise helped identify inconsistencies in respondents' contacts, graduation year, graduate name, and employer. The inconsistency and dubious responses were noted, and the respondents were contacted for clarification. Data imputation was kept minimum

by reminding graduates not to skip any questions; otherwise, they were requested to do so. The data cleaning and editing started soon after entering data into the IBM SPSS Statistics software. The occupation and employment sectors were coded using the International Standard Industrial Classification (ISIC).

2.10 Missing values

Some respondents partially filled out the questionnaire during the data cleaning for different reasons. One reason is by design, where the respondents were instructed to do so as long as the questions were not for them. For example, the unemployed were asked to skip all questions for self-employed graduates and vice versa. Another reason is missing accidentally; respondents were instructed to fill in all demographic information but forgot to do so. The present study used code -999 to show the missing values and instructed the analysis aid not to consider them during the analysis. This technique has been working well in the analysis of data.

2.11 Data analysis

Descriptive statistics were generated after analysing data using the statistical package. The statistical procedure helped to summarise the interpretation of data collected from respondents. Usually, descriptive statistics are followed by inferential analysis, which was not a part of this study. The responses were classified into nominal and scale measurements. The IBM SPSS Statistics version 27 was used to analyse the data collected from respondents. This package is among the famous and dominant statistical data analysis tools for tracer studies. Most responses were nominal data, and the results were divided into two parts. The univariate analysis or simple descriptive (frequencies and percentages) and bivariate analysis, where cross-tabulations were done to obtain information on two or more variables. The tracer study results were disseminated to NIT management and stakeholders for comments and suggestions. The final report was published on the institute's website (www.nit.ac.tz) for stakeholders to access.

2.12 Response rate

Out of the targeted 420 graduates, 412 completed the questionnaire, which is a response rate of 98%, while 96 employers out of the 119 targeted respondents completed the

questionnaire, bringing a response rate of 80.7%. The tracer study achieved a high response rate, which is well above the generally accepted threshold of 50–70% for reliable analysis as suggested by Morton *et al*. (2012). The high response rate can be attributed to the effective data collection strategies employed by the research team. Graduates and employers were reached through various channels, and the use of Google Forms played a significant role in facilitating easy and accessible participation. The team worked diligently, both day and night, to ensure that the data collected met the objectives of the study.

2.13 Research Ethics

The participation of respondents in the exercise was voluntary. Good advocacy was done to encourage and persuade graduates and employers to participate in the study. The importance of their views and opinions on the survey was considered, and confidentiality was emphasised. The first page of the questionnaire contained the information that ensured the anonymity and confidentiality of the respondents regarding the provided information. Both graduates and employers were assured that findings would be for NIT and the World Bank. Graduates and employers cautioned the team of researchers not to expose their personal information to any third party. Also, they insisted that results should not be used to fabricate or manipulate their biography. The research team assured participants that the results of the tracer study would be used by NIT and the EASTRIP project. Moreover, the respondents should understand that results are useful in developing new programmes relevant to employment.

During the analysis, the researchers were reminded to allow the facts to speak for themselves rather than speaking for them. The issues of personal feelings and prejudices were avoided because they create biases. Usually, tracer study results are not published for public use unless the Institute shares the final report with potential stakeholders. However, the Institute allowed the researchers to release the report and publish it on the Institute's website (www.nit.ac.tz) for further reference. Stakeholders are allowed to read but not download and manipulate the information gathered. Any wrong analysis or report should be reported to the Institute’s management because it is the responsible organ for

the results. After receiving permission, NIT management can share the dataset with stakeholders and those wishing to conduct further analysis.

2.14 Limitations of the Survey

Identification of graduates was obtained from the admission office of the Institute. The validation of their contacts was done based on the graduation book and the information obtained from books signed by graduates when collecting their certificates, which requires them to provide an email address and phone number. Employers were also contacted after collecting the graduates' data, where the questionnaire required them to give the contact address of their employers and other graduates not found in the database, or their contacts were invalid. Employers were also requested to fill out the questionnaire given to them.

The survey encountered some limitations, including;

a) The registry database had outdated information because some graduates, particularly those unemployed, had changed their phone numbers or did not want to participate in the exercise.
b) Some graduates were reluctant to share their information because they thought it would be used to update the Higher Learning Loans Board database, where these students were beneficiaries.
c) Graduates residing in urban areas were busy and had little time to fill out the questionnaire, while those in rural areas with limited internet access were unable to fill up the questionnaire. Also, the efforts made to meet them for face-to-face interviews were unsuccessful.
d) Several employers, particularly the local private sector, were unwilling to complete the questionnaire, but after follow-up communication and negotiation by the tracer study team, where the purpose and importance of the study were clearly explained, they agreed to participate and filled out the questionnaire.

2.15 Refinements of Limitations During Data Collection

Despite the difficulties encountered during data collection, the overall response rate was 89.4 (taking the average response rate for graduates and employers). Snowball as one of the sampling techniques, assisted in increasing the response rate. Researchers used snowball sampling techniques where graduates were asked to inform other students willing to participate in the study. Apart from the snowball sampling technique, the alumni database was used to inform graduates about the study and request that those who graduated in 2024 participate. Moreover, social group media, particularly WhatsApp, were used to inform graduates of the respective year about the study and its benefits to the institute and graduates.

CHAPTER THREE

PRESENTATION OF RESULTS

3.1 Chapter Overview

This chapter presents the key findings of the tracer study based on data collected from graduates and employers. Among its various aims, the study focused on achieving its five main objectives: (a) to understand the employment status of the graduates, (b) to assess the employer's level of satisfaction with NIT graduates, (c) to evaluate the relevance of NIT training and employment, (d) to evaluate the teaching and learning environment at NIT, and (e) to assess the methods of teaching and learning used by the Institute. The findings about each objective are presented in this chapter.

3.1.1 General response rate

The targeted respondents for graduates were 420, and the data collection team received 412 thoroughly completed questionnaires, which yields a response rate of 98%. Morton *et al*. (2012) contend that an adequate response rate yields significant results. Saldivar (2012) presupposes that the response rate for social science research depends on the mode of the survey. For employers, the targeted respondents and distributed questionnaires were 119, and the returned questionnaires were 96, which is equal to an 80.7% response rate.

For questionnaires administered in person, a response rate of 80% to 85% is generally considered good. In the case of mailed questionnaires, a response rate of 50% is regarded as adequate, 60% as good, and 70% as very good. For questionnaires distributed via email, a response rate of 40% is considered average, 50% is deemed good, and 60% is viewed as very good. However, Morton *et al.* (2012) argue that acceptable response rates may vary depending on the academic discipline in which the research is conducted. In recent years, the assumption that low response rates necessarily compromise the validity of a study has been increasingly challenged. Indeed, some studies with relatively low response rates have produced more significant and meaningful findings than those with higher response rates (Morton *et al*., 2012). Therefore, based on the above discussion of

previous studies, the response rates of 98% and 80.7% cent for graduates and employers, respectively, were relevant for drawing significant inferences from the study.

In tracer studies, a response rate above 50% is acceptable because experience shows that many graduates are unwilling to participate in the survey (Cuadra *et al.,* 2019). Researchers have documented many reasons, including the fear of sharing information that may be linked to the Loans Board database, because most students were under the Government Loans Scheme, which requires them to repay the loans after graduation. For instance, a tracer study of health-professional graduates conducted in Malawi obtained a 59% response rate (out of 123 targets, 72 responded). While this is slightly below the ideal 60% the authors considered it "good," primarily due to the inherent difficulty in tracing former students, the use of online questionnaires, and the reluctance among alumni to respond (Chima *et al.,* 2023).

3.1.2 Distribution of Graduates by Gender and Age Group

The gender and age groups of graduates were included in the study to understand the pattern of the employability of graduates, the relevance of training and job satisfaction. The study found that 60% of graduates in all age groups were males and 40% were females. The overall assessment found that males were dominant compared to females. The distribution of graduates by age group and gender are presented in Table 1.

Table 1: Distribution of graduates by age groups and gender

Age groups (in years)	Gender (N=412)		Total
	Male	Female	
Below 23	19(4.6%)	20(4.9%)	39(9.5%)
23-27	183(44.4%)	120(29.1%)	303(73.5%)
Above 27	45(10.9%)	25(6.1%)	70(17%)
Total	**247(60%)**	**165(40%)**	**412(100%)**

3.2 Training/Studies at the National Institute of Transport

3.2.1 Type of Programme Attended by Gender

The study assessed the type of programme students attended at NIT. The findings in Table 2 show that 137 (33%) students attended short courses, while 275 (67%) attended long-course training programmes. The large number of students who attended long courses is due to the programs available at the Institute and the volume of students joining higher learning education from both ordinary-level secondary education and advanced-level secondary education.

Table 2: Type of programme attended by gender

Programme attended	Gender (N=412)		Total
	Male	Female	
Long course training programme	151(37%)	124(30%)	275(67%)
Professional/Short course Training programme	95(23%)	41(10%)	137(33%)
Total	**247(60)**	**165(40)**	**412(100)**

3.2.2 Distribution of Short Courses Attended at NIT

The findings presented in Table 3 indicate that the Passenger Service Vehicle (PSV) course recorded the highest number of attendees, totalling 54 (39.4%), followed by the Advanced Driver Grade I course, which had 43 attendees (31.4%). In comparison, the remaining types of short courses attracted significantly fewer participants. Based on these findings, it is recommended that the Institute allocate more resources toward promoting and enhancing the other short courses to boost overall enrolment and positively impact the Institute's revenue.

Table 3: Short/professional course attended at NIT

Professional/Short course Attended	Frequency
Transport Officers Course	7(5.1%)
Passenger Services Vehicles (PSV)	54(39.4%)
Heavy Goods Vehicles (HGV)	9(6.6%)
Folk Lift	2(1.5%)
Advanced Driver Grade II (VIP)	10(7.3%)
Advanced Driver Grade I	43(31.4%)
Cabin Crew	2(1.5%)
Driver Instructor	3(2.2%)
Bus Passengers Customer Service	2(1.5 %)
Vehicle Inspection and Driver Examiner	5(3.5 %)
Total	**137(100%)**

3.2.3 Distribution of Programme Attended by Type of Certificate

The results presented in Table 4 indicate that Transport and Logistics Management (TLM) is the most preferred programme among students when considering long-term courses. Out of the sampled respondents, 66 individuals (24%) were enrolled in the TLM programme. This was followed by Road and Railways Transport Logistics Operations (RRTLO) and Procurement and Logistics Management (PLM), each with 32 respondents (11.6%). Other programmes such as Aircraft Maintenance Engineering, Transport and Accounting Finance, Shipping and Port Logistics, and Freight and Clearing Forwarding also show strong potential due to their increasing demand in the labour market. The Institute still has the opportunity to boost enrolment in these programmes by developing and implementing continuous and strategic promotional efforts.

Table 4: Programme attended and type of certificate awarded

Programme attended	Type of Certificate Awarded (N=275)						**Total**
	Basic Certificate (NTA 4)	Technician Certificate (NTA level 5)	Diploma (NTA level 6)	Higher Diploma (NTA level 7)	Bachelor' Degree (NTA Level 8)	Master's Degree (NTA Level 9)	
Naval Architecture and Marine Engineering	0(0%)	0(0%)	0(0%)	0(0%)	1(0.4%)	0(0%)	**1(0.4%)**
Aircraft Maintenance Engineering	1(0.4%)	0(0%)	3(1.1%)	0(0%)	11 (4%)	0(0%)	**15(5.5%)**
Freight Clearing and Forwarding	3(1.1%)	1(0.4%)	8(2.9%)	0(0%)	0(0%)	0(0%)	**12(4.4%)**
Logistics and Transport Management	5(1.8%)	0(0%)	24(8.7%)	0(0%)	35(12.7%)	2(0.7%)	**66(24%)**
Road and Railway Transport Logistics Operations	0(0%)	0(0%)	4(1.5%)	0(0%)	28(10.2%)	0(0%)	**32(11.6%)**
Shipping and Port Logistics Operations	0(0%)	0(0%)	7(2.5%)	2(0.7%)	5(1.8%)	0(0%)	**14(5.1%)**
Shipbuilding and Repair	0(0%)	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Automobile Engineering and Locomotive Technology	0(0%)	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Mechanical Engineering and Railway Vehicle Technology	3(1.1%)	0(0%)	4(1.5%)	0(0%)	0(0%)	0(0%)	**7(2.5%)**
Procurement and Logistics Management	1(0.4%)	0(0%)	4(1.5%)	0(0%)	27(9.8%)	0(0%)	**32(11.6%)**
Accounting and Transport Finance	0(0%)	0(0%)	5(1.8%)	0(0%)	26(9.5%)	0(0%)	**31(11.3%)**
Auto-Electrical and Electronic Engineering	1(0.4%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Electrical and Railway Electrification Engineering	0(0%)	0(0%)	4(1.5%)	0(0%)	0(0%)	0(0%)	**4(1.5%)**

Programme attended	Type of Certificate Awarded (N=275)						**Total**
	Basic Certificate (NTA 4)	Technician Certificate (NTA level 5)	Diploma (NTA level 6)	Higher Diploma (NTA level 7)	Bachelor' Degree (NTA Level 8)	Master's Degree (NTA Level 9)	
Electrical Engineering with Railway Electrification	0(0%)	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Mechanical Engineering with Transportation Machinery	0(0%)	0(0%)	0(0%)	0(0%)	1(0.4%)	3(1.1%)	**4(1.5%)**
Information Technology / Computer Science	0(0%)	0(0%)	0(0%)	3(1.1%)	7(2.5%)	0(0%)	**10(3.6%)**
Business Administration	0(0%)	0(0%)	0(0%)	0(0%)	10(3.6%)	0(0%)	**10(3.6%)**
Human Resource Management	0(0%)	0(0%)	1(0.4%)	0(0%)	9(3.3%)	0(0%)	**10(3.6%)**
Marketing and Public Relations	0(0%)	0(0%)	0(0%)	0(0%)	17(6.2%)	0(0%)	**17(6.2%)**
Education with Mathematics and IT	0(0%)	0(0%)	0(0%)	0(0%)	6(2.2%)	0(0%)	**6(2.2%)**
	14(5.1%)	1(0.3%)	67(24.4%)	5(1.8%)	182(66.2%)	6(2.2%)	**275(100%)**

3.2.4 Type of sponsor by programme attended

The findings in Table 5 of this study indicate that the majority of students at NIT are sponsored by the government through the Higher Education Students' Loans Board (HESLB), accounting for 157 students (57.1%). Family or relatives are the second most common source of sponsorship, supporting 89 students (32.4%), followed by self-sponsorship. The level of commitment from sponsors was found to vary depending on the programme. Government and family/relatives have different motivations for sponsoring students. Families or relatives generally have positive expectations when investing in their children's education. They anticipate that, upon completion of their studies, their children will secure employment. As a result, parents are often willing to finance highly competitive programmes that are in high demand in the labour market. Conversely, the

government sponsors students with the aim of promoting national development, placing a strong emphasis on programmes related to science and innovation. Additionally, the government's support aligns with international commitments and development goals, ensuring inclusivity and that no one is left behind in the education system.

Despite these commendable efforts, there remains a need for increased funding to support students pursuing short or professional courses, given their significant contribution to workplace performance. Furthermore, records show that student dropouts and postponements in TVET institutions are largely attributed to financial challenges faced by parents and the inability of some students to secure government loans. Therefore, it is recommended that parents set aside a dedicated budget for their children's education when planning for enrolment in technical colleges or institutes. Relying solely on government support may not be sustainable, especially considering that many parents have already demonstrated the ability to finance secondary education, often at substantial cost.

Table 5: Type of Sponsor by Field of Specialisation

Field of specialisation	Sponsor (N=275)					Total
	Myself	Family/relatives	Scholarship /Sponsorship	Employer	Government-sponsored (HESLB)	
Naval Architecture and Marine Engineering	0(0%)	0(0%)	0(0%)	0(0%)	1(0.4%)	**1(0.4%)**
Aircraft Maintenance Engineering	1(0.4%)	8(2.9%)	0(0%)	1(0.4%)	5(1.8%)	**15(5.5%)**
Freight Clearing and Forwarding	1(0.4%)	9(3.3%)	2(0.7%)	0(0%)	0(0%)	**12(4.4%)**
Logistics and Transport Management	6(2.2%)	28(10.2%)	0(0%)	0(0%)	31(11.3%)	**65(23.6%)**
Road and Railway Transport Logistics Operations	1(0.4%)	5(1.8%)	0(0%)	0(0%)	26(9.5%)	**32(11.6%)**
Shipping and Port Logistics Operations	1(0.4%)	8(2.9%)	1(0.4%)	0(0%)	4(1.5%)	**14(5.1%)**
Shipbuilding and Repair	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Automobile Engineering and Locomotive Technology	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Mechanical Engineering and Railway Vehicle Technology	2(0.7%)	5(1.8%)	0(0%)	0(0%)	0(0%)	**7(2.5%)**
Procurement and Logistics Management	2(0.7%)	8(2.9%)	0(0%)	0(0%)	21(7.6%)	**31(11.3%)**
Accounting and Transport Finance	1(0.4%)	8(2.9%)	1(0.4%)	0(0%)	21(7.6%)	**31(11.3%)**
Auto-Electrical and Electronic Engineering	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**

Field of specialisation	Sponsor (N=275)					Total
	Myself	Family/relatives	Scholarship /Sponsorship	Employer	Government-sponsored (HESLB)	
Electrical and Railway Electrification Engineering	1(0.4%)	2(0.7%)	1(0.4%)	0(0%)	0(0%)	**4(1.5%)**
Pipe works, Oil and Gas Engineering	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Electrical Engineering with Railway Electrification	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Mechanical Engineering with Transportation Machinery	2(0.7%)	0(0%)	0(0%)	1(0.4%)	1(0.4%)	**4(1.5%)**
Information Technology / Computer Science	2(0.7%)	0(0%)	0(0%)	0(0%)	8(2.9%)	**10(3.6%)**
Business Administration	0(0%)	0(0%)	0(0%)	0(0%)	11(4%)	**11(4%)**
Human Resource Management	0(0%)	1(0.4%)	1(0.4%)	0(0%)	8(2.9%)	**10(3.6%)**
Marketing and Public Relations	0(0%)	2(0.7%)	0(0%)	0(0%)	15(5.5%)	**17(6.2%)**
Education with Mathematics and IT	1(0.4%)	0(0%)	0(0%)	0(0%)	5(1.8%)	**6(2.2%)**
Total	**21(7.6%)**	**89(32.4%)**	**6(2.2%)**	**2(0.7%)**	**157(57.1%)**	**275(100%)**

3.2.5 Reasons for Choosing NIT

The study assessed the factors that influenced graduates to choose the National Institute of Transport (NIT) for their studies. Table 6 presents various opinions expressed by graduates during the survey. The majority of respondents, 132 graduates (32%), indicated that they chose NIT primarily because of the marketable programmes offered by the Institute. However, this was not the only reason behind their decision to join NIT.

A significant number of graduates, 116 (28.2%), also cited the availability of teaching and learning resources, such as well-equipped lecture rooms, qualified lecturers, and student accommodations, as influential factors. The Institute's strong reputation was another key reason, mentioned by 69 graduates (16.7%).

The combination of a positive institutional reputation, market-oriented programmes, accessible learning resources, and the Institute's proximity to students' homes continues to make NIT an attractive choice for many. The uniqueness of its academic offerings and its growing prestige in the education sector further enhance its appeal. Additionally, being located within the community provides students with access to a wide range of nearby hostels for accommodation. The Institute has made significant investments in learning and teaching infrastructure and is expected to maintain this progress with additional funding from the World Bank through the EASTRIP project.

Moreover, parents play a substantial role in influencing their children's decision to enrol at NIT. Many parents recognise the value and uniqueness of the programmes offered, as well as the professionalism and expertise of the teaching staff. Given that NIT provides science-based and specialised programmes, most students pursuing bachelor's degrees are eligible for government loans through the Higher Education Students' Loans Board (HESLB).

Table 6: Reasons for choosing NIT

Criteria for Choosing NIT	Frequency
Vicinity to my parents'/guardians' home	44(10.7%)
Availability of scholarship	4(1%)
Availability of accommodation	8(1.9%)
Reputation of NIT	69(16.7%)
The attractiveness of the learning environment at NIT	20(4.9%)
My parents/relatives influenced me	13(3.2%)
Guarantee me an education Loan	6(1.5%)
Marketable programmes/courses	132(32%)
Availability of teaching and learning facilities	116(28.2%)
Total	**412(100%)**

3.2.6 Reasons for Choosing the Programme

In addition to examining the reasons for choosing NIT, the study also sought to understand the factors influencing students' selection of academic programmes. The findings presented in Table 7 reveal that the majority of respondents, 104 (37.8%) indicated that their primary motivation for choosing a specific programme was the potential for future employment. A significant number of graduates are driven by passion when selecting their programmes, which has contributed to their success in both self-employment and formal employment. Communication through alumni networks has also played an influential role. By sharing experiences with peers who are either employed or self-employed, prospective students gain valuable insights that guide their programme choices. Only a small proportion of graduates, 5(1.8%), reported that they were compelled to enrol in a particular programme solely due to affordability concerns and the associated cost implications. Furthermore, factors such as high school performance and parental influence have also affected programme selection, sometimes leading graduates to pursue studies that were not their personal preference. Overall, the data suggests that

Logistics and Transport Management is the most commonly chosen programme among students enrolling at NIT.

Table 7: Reasons for choosing a course by field of specialisation

Field of specialisation	Reasons for choosing programme (N=275)						Total
	I like/enjoy it	I wanted a hands-on experience	It was what I qualified for	It was what I could afford	A friend/family member advised me to	It would give me employment opportunities/it is marketable	
Naval Architecture and Marine Engineering	1(0.4%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Aircraft Maintenance Engineering	7(2.5%)	0(0%)	0(0%)	3(1.1%)	0(0%)	5(1.8%)	**15(5.5%)**
Freight Clearing and Forwarding	4(1.5%)	3(1.1%)	2(0.7%)	0(0%)	0(0%)	3(1.1%)	**12(4.4%)**
Logistics and Transport Management	17(6.2%)	14(5.1%)	5(1.8%)	0(0%)	1(0.4%)	28(10.2%)	**65(23.6%)**
Road and Railway Transport Logistics Operations	7(2.5%)	6(2.2%)	4(1.5%)	0(0%)	1(0.4%)	14(5.1%)	**32(11.6%)**
Shipping and Port Logistics Operations	4(1.5%)	2(0.7%)	0(0%)	1(0.4%)	1(0.4%)	6(2.2%)	**14(5.1%)**
Shipbuilding and Repair	1(0.4%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Automobile Engineering and Locomotive Technology	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	1(0.4%)	**1(0.4%)**
Mechanical Engineering and Railway Vehicle Technology	4(1.5%)	1(0.4%)	0(0%)	0(0%)	0(0%)	2(0.7%)	**7(2.5%)**
Procurement and Logistics Management	8(2.9%)	5(1.8%)	5(1.8%)	0(0%)	0(0%)	13(4.7%)	**31(11.3%)**
Accounting and Transport Finance	12(4.4%)	5(1.8%)	3(1.1%)	0(0%)	0(0%)	11(4%)	**31(11.3%)**
Auto-Electrical and Electronic	0(0%)	0(0%)	0(0%)	0(0%)	1(0.4%)	0(0%)	**1(0.4%)**

Field of specialisation	Reasons for choosing programme (N=275)						Total
	I like/enjoy it	I wanted a hands-on experience	It was what I qualified for	It was what I could afford	A friend/family member advised me to	It would give me employment opportunities/it is marketable	
Engineering							
Electrical and Railway Electrification Engineering	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	3(1.1%)	**4(1.5%)**
Pipe, Oil and Gas Engineering	0(0%)	1(0.4%)	0(0%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Electrical Engineering with Railway Electrification	1(0.4%)	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	**1(0.4%)**
Mechanical Engineering with Transportation Machinery	1(0.4%)	0(0%)	1(0.4%)	0(0%)	0(0%)	2(0.7%)	**4(1.5%)**
Information Technology / Computer Science	1(0.4%)	3(1.1%)	1(0.4%)	0(0%)	0(0%)	5(1.8%)	**10(3.6%)**
Business Administration	5(1.8%)	1(0.4%)	1(0.4%)	0(0%)	0(0%)	4(1.5%)	**11(4%)**
Human Resource Management	5(1.8%)	1(0.4%)	1(0.4%)	0(0%)	2(0.7%)	1(0.4%)	**10(3.6%)**
Marketing and Public Relations	4(1.5%)	4(1.5%)	2(0.7%)	1(0.4%)	3(1.1%)	3(1.1%)	**17(6.2%)**
Education with Mathematics and IT	2(0.7%)	1(0.4%)	0(0%)	0(0%)	0(0%)	3(1.1%)	**6(2.2%)**
Total	**84(30.5%)**	**48(17.5%)**	**25(9.1%)**	**5(1.8%)**	**9(3.3%)**	**104(37.8%)**	**275(100%)**

3.2.7 Methods used to know the programme

One of the key questions in the tracer study aimed to understand how graduates became aware of their chosen programmes. The results in Table 8 show that majority of students, 175 (42.5%), obtained information from the Institute's official website. This indicates that the website is both effective and informative. Given this, the Institute needs to ensure

the website is regularly updated with self-explanatory content, as many prospective applicants rely on it to make informed decisions before applying. Additionally, parents often use the Institute's website to verify the availability and credibility of programmes before allowing their children to apply. Despite some variations by gender, a significant number of students, 159 (38.6%), reported receiving information from family members or friends. This highlights the important role of personal networks in influencing programme selection.

Moreover, 51 graduates (12.4%) mentioned that education exhibitions were another useful channel for learning about the different programmes offered at NIT. In light of this, the Communication and Marketing Office, under the Public Relations Department, should prioritise attending such exhibitions. These events attract not only prospective students but also parents who are actively involved in helping their children select suitable higher learning institutions. The study also found gender-based variations in the sources of information, except the NACTVET website, which accounted for 27 graduates (6.5%) who obtained programme information through this platform, as shown in Table 8. For secondary school students planning to pursue higher education, a major consideration in selecting an institution is the potential for future employment. As such, they tend to prioritise institutions like NIT, which are perceived to offer strong career prospects in the labour market.

Table 8: Method used to know the programme

Method used to know the programme	**Frequency**
Through friends/family members	159(38.6%)
Website of the Institute	175(42.5%)
Education exhibition	51(12.4%)
Through the NACTVET website	27(6.5%)
Total	**412(100%)**

3.2.8 Recommendations for others on the programme

The study evaluated whether graduates would be willing to recommend NIT to prospective applicants. Specifically, the results indicated that 245 male graduates (59.5%) expressed their willingness to do so, while 162 female graduates (39.3%) also stated they would recommend NIT (as shown in Table 9). Overall, 98.8% of both male and female graduates indicated a readiness to recommend the institution. The findings also show that the proportion of graduates unwilling to recommend NIT was minimal. Therefore, it can be concluded that the likelihood of graduates recommending NIT to others is very high, regardless of gender.

Table 9: Recommend others to join NIT

Recommend others	**Gender(N=412)**		**Total**
	Male	**Female**	
Recommend	245 (59.5%)	162 (39.3%)	407 (98.8%)
Not recommended	2 (0.5%)	3 (0.7%)	5 (1.2%)
Total	**247 (60.0%)**	**165 (40.0%)**	**412 (100.0%)**

3.3 Employability of Graduates

3.3.1 Employment Status after Graduation

The study sought to assess the employability of graduates six months after graduation. In the tracer study, the employment includes those employed in private and public sectors, either permanent or temporary, self-employed and those undertaking further studies. This study segregated the employability of graduates by gender to understand the demographic patterns of graduates. Also, the study analysed graduates who were unemployed and looking for a job. The results in Table 10 show that 311 (75.4%) of graduates were employed while 101 (24.6%) of graduates who participated in the exercise were unemployed. In addition, the findings revealed that graduate employment six months after graduation for female students was 129 (78.2%). Moreover, among those who were employed, 101 (24.5%) of graduates were employed on a contract basis, 84

(20.4%) were self-employed, 71 (17.2%) were permanently employed, and 55(13.3%) were attending further studies. This indicates that the majority of graduates are finding employment soon after completing their studies, and a few of them remain unemployed 101 (24.5%). These findings call for the Government and other stakeholders to create employment opportunities that will absorb graduates who are staggering in the streets looking for jobs after completing their studies.

Table 10: Employability status

Employment status	Gender (N=412)		Total
	Male	Female	
Permanent Employed	37(8.9%)	34(8.3%)	71(17.2%)
Employed on a Contract Basis	63(15.3%)	38(9.2%)	101(24.5%)
Attending further Academic Training	32(7.8%)	23(5.5%)	55(13.3%)
Self-employed	50(12.1%)	34(8.3%)	84(20.4%)
Unemployed and looking for employment	65(15.9%)	36(8.7%)	101(24.6%)
Total	**247(60%)**	**165(40%)**	**412(100%)**

3.3.4 Time for searching job (in months)

The study aimed to assess the duration spent searching for employment based on employment status. It found that the majority of respondents 230 individuals (74%) spent six months or more seeking employment, while 81 respondents (26%) secured employment in less than six months (see Table 11). These findings suggest that the optimal time for conducting a tracer study is six months or more after graduation, as this is typically when graduates begin actively searching for jobs. Conducting a tracer study in less than six months after graduation may not provide accurate or meaningful insights into employment outcomes, as many graduates may not yet have secured employment during that period.

Table 11: Duration for searching for a job by employment status

Employment status	Duration (n=311)		Total
	Less than 6 months	6 months and above	
Permanent Employed	30(9.6%)	41(13.2%)	71(22.8%)
Employed on a Contract Basis	31(10%)	70(22.5%)	101(32.5%)
Attending further Academic Training	0(0%)	55(17.7%)	55(17.7%)
Self-employment	20(6.4%)	64(20.6%)	84(27%)
Total	**81(26%)**	**230(74%)**	**311(100%)**

3.3.5 Distribution of employers contacted

Table 12 reveals that about 57(41%) of graduates who participated in the study contacted between 4 to 6 employers before securing the job. Findings show that those who contacted less than 3 employers constitute 56(40.3%) of graduates who participated in the exercise. Also, those who contacted more than 7 employers before getting employment are insignificant. The overall disaggregate of contacted employers by field of specialisation found that the logistics and transport management graduates were contacted more frequently, 26(18.7%), than graduates in other programmes, followed by accounting and transport finance, 16(11.5%). The study shows that the graduates attempt the interview several times before securing the job, which is the workup call to the Institute to improve the curriculum by embedding soft skills, which will enable the candidates to succeed in the interview easily. Such information is useful to policymakers and the labour force, as the number of graduates completing their studies must go hand in hand with the availability of jobs. The long stay of graduates without employment enables youth to engage in illegal activities, including drug abuse, theft and mobile crime.

Table 12: Distribution of contacted employers by field of specialisation

Field of specialisation (N=139)	Contacted employers				Total
	0-3	4-6	7-9	10 and above	
Naval Architecture and Marine Engineering	1(0.7%)	0(0%)	0(0%)	0(0%)	1(0.7%)
Aircraft Maintenance Engineering	2(1.4%)	3(2.2%)	2(1.4%)	1(0.7%)	8(5.8%)
Freight Clearing and Forwarding	3(2.2%)	2(1.4%)	0(0%)	1(0.7%)	6(4.3%)
Logistics and Transport Management	10(7.2%)	13(9.4%)	3(2.2%)	0(0%)	26(18.7%)
Road and Railway Transport Logistics Operations	6(4.3%)	7(5%)	3(2.2%)	0(0%)	16(11.5%)
Shipping and Port Logistics Operations	3(2.2%)	2(1.4%)	2(1.4%)	0(0%)	7(5%)
Shipbuilding and Repair	0(0%)	1(0.7%)	0(0%)	0(0%)	1(0.7%)
Automobile Engineering and Locomotive Technology	0(0%)	1(0.7%)	0(0%)	0(0%)	1(0.7%)
Mechanical Engineering and Railway Vehicle Technology	2(1.4%)	2(1.4%)	1(0.7%)	0(0%)	5(3.6%)
Procurement and Logistics Management	6(4.3%)	6(4.3%)	1(0.7%)	1(0.7%)	14(10.1%)
Accounting and Transport Finance	5(3.6%)	7(5%)	3(2.2%)	1(0.7%)	16(11.5%)
Auto-Electrical and Electronic Engineering	0(0%)	0(0%)	1(0.7%)	0(0%)	1(0.7%)
Electrical and Railway Electrification Engineering	1(0.7%)	1(0.7%)	1(0.7%)	0(0%)	3(2.2%)
Pipe works, Oil and Gas Engineering	0(0%)	1(0.7%)	0(0%)	0(0%)	1(0.7%)
Electrical Engineering with Railway Electrification	1(0.7%)	0(0%)	0(0%)	0(0%)	1(0.7%)
Mechanical Engineering with Transportation Machinery	1(0.7%)	1(0.7%)	0(0%)	0(0%)	2(1.4%)
Information Technology / Computer Science	3(2.2%)	1(0.7%)	1(0.7%)	0(0%)	5(3.6%)
Business Administration	3(2.2%)	3(2.2%)	0(0%)	0(0%)	6(4.3%)
Human Resource Management	2(1.4%)	3(2.2%)	1(0.7%)	1(0.7%)	7(5%)
Marketing and Public Relations	5(3.6%)	2(1.4%)	1(0.7%)	0(0%)	8(5.8%)
Education with Mathematics and IT	2(1.4%)	1(0.7%)	1(0.7%)	0(0%)	4(2.9%)
Total	**56(40.3%)**	**57(41%)**	**21(15.1%)**	**5(3.6%)**	**139(100%)**

3.3.6 Methods used to know about the vacancy by gender

The study assessed how graduates learn about job vacancies, based on information provided by employers. Findings in Table 13 revealed that the most common sources were relatives, friends, and colleagues (33.1%), followed closely by social networks such as Facebook, WhatsApp, and LinkedIn (32%). Industry linkages established during practical training and internships also played a role, with 16.9% of graduates obtaining vacancy information through these channels. Employers are encouraged to publish job

openings through open-access platforms to ensure broader reach. Additionally, the Institute is advised to raise awareness among final-year students about the key channels organizations commonly used to advertise job opportunities.

Table 13: Methods used to know the available vacancy by gender

Method used to know the available vacancy	Gender (N=172)		Total
	Male	Female	
Newspaper /Television/Radio	12(7%)	9(5.2%)	21(12.2%)
Government/Company/Organisation websites	3(1.7%)	3(1.7%)	6(3.5%)
Relatives, friends and colleagues	34(19.8%)	23(13.4%)	57(33.1%)
Referral/School Endorsement	3(1.7%)	1(0.6%)	4(2.3%)
Industry Linkages during Training (e.g., On-the-Job Training)	18(10.5%)	11(6.4%)	29(16.9%)
Social networks (e.g., Facebook, WhatsApp, LinkedIn)	31(18%)	24(14%)	55(32%)
Total	**101(58.7%)**	**71(41.3%)**	**172(100%)**

3.3.7 Reasons for unemployment by gender

Recently, Tanzania has experienced a rise in graduates' unemployment (Kibona, 2024). Employers and policymakers have identified several contributing factors. The findings in Table 14 reveal that the majority of respondents, 51(50.5%) attributed their unemployment to unsuccessful job applications; 39 (38.6%) cited difficulty in securing employment within their desired field. Notably, male respondents reported a higher unemployment rate, with 65 (64.4%) attributing it to the increasing number of graduates completing their studies each year, compared to their female counterparts. Also, 6 (5.9%) of male respondents indicated that they had chosen not to seek employment at all. These statistics may reflect broader issues, such as graduates feeling discouraged by low salary prospects or being dissuaded by their parents from actively seeking employment.

Table 14: Reasons for unemployment by Gender of graduates

Reasons for unemployment	Gender (n=101)		Total
	Male	Female	
Opted not to look for a job	6(5.9%)	0(0%)	6(5.9%)
Unsuccessful application	33(32.7%)	18(17.8%)	51(50.5%)
Lost previous job	2(2%)	3(3%)	5(5%)
No employment opportunity in the desired field	24(23.8%)	15(14.9%)	39(38.6%)
Total	**65(64.4%)**	**36(35.6%)**	**101(100%)**

3.4 Self-Employed Status

Technical training institutes like NIT aim to prepare graduates who can engage in self-employment. The curriculum and training modality is prepared to ensure that graduates can enter the labour market and use their skills and knowledge to start any business. Education systems and the labour force have been working hand in hand to ensure that graduates don't wait for formal employment because the economy does not support that. Graduates are aware of the competition and job insecurity in the private sector. As a result, the majority prefer to start their own business soon after graduation. Also, graduates face job challenges because they lack experience and the mismatch between their training and labour market requirements. As a result, the tracer study wanted to assess the dimension of the problem and how graduates have managed to engage in self-employment.

3.4.1 Difficulties Encountered in self-employment by gender

Statistics show that males are more highly invested in self-employment than females, and their challenges vary accordingly. The results in Table 15 indicate that difficulties in obtaining capital for business are the major problem contributing to unemployment, reported by 32 (38.1%) respondents, with females leading at 17 (20.2%) and males at 15 (17.9%). Lack of soft skills is the second most cited challenge, affecting 16 (19%) graduates who miss some essential skills such as communication, interview techniques, and practical entrepreneurial knowledge that build confidence in the labour market. Additionally, 14 (16.7%) respondents identified a lack of entrepreneurship skills as a

barrier to starting a business. Other factors include inadequate market conditions 10 (11.9%) and non-ideal business locations 12 (14.3%), with females slightly more affected by these challenges. These findings are important for policymakers and labour force experts, highlighting the need for urgent interventions to support graduates interested in self-employment, which can significantly contribute to national development and reduce the problem of unemployment in our country.

Table 15: Difficulties Encountered in self-employment by gender

Difficulties Encountered in Self-Employment	Gender (n= 84)		Total
	Male	Female	
Lack of soft skills	9(10.7%)	7(8.3%)	16(19%)
Inadequate market conditions (high competition, low demand)	6(7.1%)	4(4.8%)	10(11.9%)
Difficulty in getting funding	15(17.9%)	17(20.2%)	32(38.1%)
The location of the business is not ideal	7(8.3%)	5(6%)	12(14.3%)
Lack of entrepreneurial skills	8(9.5%)	6(7.1%)	14(16.7%)
Total	**45(53.6%)**	**39(46.4%)**	**84(100%)**

3.5 Relevance of Training to Graduates' Employability

This section explores the relationship between the training received by graduates and their employability. The study intended to assess the relevance of the training programmes offered by NIT in relation to the employment outcomes of its graduates.

3.5.1 Relevance of training on the current employment

This study employed a range of statements to evaluate the relevance of NIT training programmes to the employment of current or former graduates. The results in Table 16 reveals that, 223(87.1%) of respondents affirmed that the knowledge and skills acquired at NIT played a key role in enabling them to perform their job responsibilities effectively. Furthermore, 231 (90.3%) reported that both their field of study and the level of education obtained at NIT were relevant to their current employment. Overall, 227 (88.7%) of respondents acknowledged that the training they received at NIT supported their transition into the labour market. These findings provide valuable insights into the effectiveness of the institution's curriculum in preparing students to meet the demands of the workforce.

Table 16: Relevance of training on the current employment

Relevance of training to the current employment	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
The knowledge and skills that I acquired at NIT have been useful in my work	3.0	6.0	24.0	110.0	113.0	**256.0**
	1.2%	2.3%	9.4%	43.0%	44.1%	**100%**
The field of study I took is appropriate to my work	2.0	5.0	18.0	120.0	111.0	**256.0**
	0.8%	2.0%	7.0%	46.9%	43.3%	**100%**
My job is appropriate for my level of education	4.0	7.0	26.0	108.0	111.0	**256.0**
	1.6%	2.7%	10.2%	42.2%	43.4%	**100%**
The course I took adequately prepared me for work	5.0	4.0	20.0	115.0	112.0	**256.0**
	2.0%	1.6%	7.8%	44.9%	43.7%	**100%**
My employer is satisfied with my level of knowledge and skills	3.0	8.0	22.0	112.0	111.0	**256.0**
	1.2%	3.1%	8.6%	43.8%	43.3%	**100%**

3.5.2 Irrelevance of training to employability

The findings of this study in Table 17 show that 23 respondents (79.3%) were unable to secure employment aligned with the field of study pursued during their time at the Institute. Additionally, 6 respondents (20.7%) indicated that their current job does not offer a salary commensurate with the qualifications and knowledge gained from their studies. Across all responses, male graduates, 19(65.5%), were more likely to report a lack of relevance between their training and current employment. than their female counterparts 10(34.5%). These insights provided by graduates are both valid and valuable, serving as critical feedback for assessing the institute's reputation and guiding efforts to improve the curriculum in alignment with labour market needs.

Table 17: Reasons for the irrelevance of the training programme

Reasons for irrelevancy	Gender (n = 29)		Total
	Male	Female	
I did not find an employment opportunity related to my programme of study	16(55.2%)	7(24.1%)	23(79.3%)
I did not find employment that offered a better salary and benefits	3(10.3%)	3(10.4%)	6(20.7%)
Total	**19(65.5%)**	**10(34.5%)**	**29(100%)**

3.6 Methods of Teaching and Learning Environment

The findings in Table 18 present graduate ratings on two aspects of academic quality at the National Institute of Transport (NIT): the methods of teaching and learning environment. A total of 412 respondents participated in each category. Regarding the methods of teaching, the highest number of responses fell under the *"Very Good"* category, with 181 students (43.9%) selecting this option. This was followed by 164 students (39.8%) who rated the methods as *"Excellent"*. Additionally, 57 students (13.8%) rated the teaching methods as *"Fair"*, while only 6 students (1.5%) and 4 students (1.0%) rated them as *"Very Poor"* and *"Poor"*, respectively. This implies that most students appreciate the teaching methods used by the Institute's instructors.

Similarly, for learning environment, the majority of responses were also in the *"Very Good"* category, with 188 students (45.6%) indicating this rating. This was followed by 134 students (32.5%) who rated it as *"Excellent"*. A moderate number, 77 students (18.7%), rated it as *"Fair"*, while 9 students (2.2%) and 4 students (1.0%) rated it as *"Poor"* and *"Very Poor"*, respectively. Based on these findings, a total of 345 students (83.7%) and 322 students (78.1%) reported that the methods of teaching and learning environment, respectively, at NIT are conducive to equipping students with the necessary skills. This indicates that the majority of students who graduated from NIT are satisfied with the teaching and learning environment, but the Institute must continue improving them, as they are essential for students to achieve their dreams.

Table 18: Respondents' Opinions on Methods of Teaching and Learning Environment

	Methods of teaching ratings at NIT	Learning environment ratings at NIT
Very poor	6(1.5%)	4(1%)
Poor	4(1%)	9(2.2%)
Fair	57(13.8%)	77(18.7%)
Very Good	181(43.9%)	188(45.6%)
Excellent	164(39.8%)	134(32.5%)
Total	**412(100%)**	**412(100%)**

3.7 Satisfaction

The study sought to assess the overall satisfaction of graduates with the competencies gained at NIT. The feedback will be useful for improving the learning environment and curriculum delivery. Also, the level of satisfaction with the impact of the activity in terms of job opportunities, employability and demographic characteristics.

3.7.1 Satisfaction with the Current Job

The findings presented in Table 19 reveal that a majority of the respondents that is 110 (64%), reported being satisfied with their current employment. In contrast, 62 (36%) indicated dissatisfaction with their current job situations. Among those who expressed dissatisfaction, several key reasons were identified. Primarily, these graduates/respondents cited a mismatch between their job roles and their fields of study, noting that they are engaged in tasks that are not aligned with their academic qualifications or professional training. Additionally, many respondents pointed out that their current salaries are inadequate when compared to prevailing standards in the job market, further contributing to their dissatisfaction.

Table 19: Satisfaction with current employment

Are you satisfied with your current employment	Frequency
Yes	110(64%)
No	62(36%)
Total	**172(100%)**

3.7.2 Overall satisfaction

Graduates were asked to rate their satisfaction with their current employment based on a number of aspects. The findings in Table 20 revealed that graduates were highly satisfied (satisfied and very satisfied) by motivation and engagement, which was ranked the highest, with 69.8% suggesting that graduates are more likely to remain in jobs where they feel inspired, valued, and connected to their work. In addition, the supervision and management, at 69.7% highlighted the importance of effective leadership, supportive work environments, and clear communication in ensuring job satisfaction. Career progression satisfied graduates and was rated at 62.8% indicating that graduates seek opportunities for advancement, professional development, and long-term growth within an organisation. Interestingly, salary and benefits, while still relevant, received the lowest rating at 53.5% suggesting that although adequate compensation is important, it is not the main determinant of job satisfaction among graduates.

Table 20: Satisfaction in Current Job

	Very Dissatisfied	**Dissatisfied**	**Neutral**	**Satisfied**	**Very Satisfied**	**Total**
Salary and Benefits: Adequate compensation and a comprehensive benefits package	8(4.7%)	8(4.7%)	64(37.2%)	56(32.6%)	36(20.9%)	**172(100%)**
Career Progression: Opportunities for advancement and professional growth	4(2.3%)	8(4.7%)	52(30.2%)	60(34.9%)	48(27.9%)	**172(100%)**
Supervision and Management: Effective supervision and a supportive work environment	8(4.7%)	4(2.3%)	40(23.3%)	68(39.5%)	52(30.2%)	**172(100%)**
Motivation and Engagement: Feeling motivated and engaged in their work	8(4.7%)	8(4.7%)	36(20.9%)	60(34.9%)	60(34.9%)	**172(100%)**

3.7.3 Overall comments

The study sought to assess what NIT should improve in the training environment. Graduates provided their comments on various areas for NIT to improve. The pattern of comments between males and females was almost equal. Most said that NIT must improve its learning infrastructure and facilities. The participants also suggested enhancing the practical content of all programs, particularly by incorporating workshops, simulations, and real-world projects. There were also repeated suggestions to integrate missing but essential subjects, such as labour laws, digital skills, and soft skills, to better prepare graduates for the realities of the workforce and self-employment.

3.8 Assessment of employers

Apart from the graduates' feedback about the training conducted at NIT on employability, the study wanted to capture opinions from employers. Opinions from employers aimed to complement the information provided by graduates in different aspects. Also, the demographic characteristics of employers were included in the study to cement graduates' views. It was assumed that employers with high education and work experience are knowledgeable in assessing graduates joining their organisations. Other information gathered from employers is presented comprehensively in subsections.

3.8.1 Type of sector by classification

Since graduates are dispersed across various locations and enrolled in different programs, it is assumed that employers are similarly distributed. The findings presented in Table 21 indicate that the private sector has employed more graduates than the public sector. Specifically, the private sector accounted for 50 graduates (52.1%), while the public sector employed 44 graduates (45.8%). These figures suggest a higher absorption rate by the private sector. Even though private sector employs more of our graduates, it is however, public sector employers appeared more willing to provide data compared to those in the private sector, many of whom were reluctant to disclose information about the sectors in which they operate. In addition to identifying the types of sectors

employing graduates, the study also sought to determine whether graduates are employed in areas aligned with their fields of specialisation.

Table 21: Type of sector by classification

Type of sector	Classification (N=96)			Total
	Government	Private	NGO's	
Aviation	1(1%)	2(2.1%)	0(0%)	**3(3.1%)**
Transport and logistics	1(1%)	14(14.6%)	0(0%)	**15(15.6%)**
Marine and shipbuilding	1(1%)	1(1%)	0(0%)	**2(2.1%)**
Automative	0(0%)	2(2.1%)	0(0%)	**2(2.1%)**
Building and construction	1(1%)	5(5.2%)	0(0%)	**6(6.3%)**
Energy and extractives	3(3.1%)	4(4.2%)	0(0%)	**7(7.3%)**
Health system and social work	3(3.1%)	0(0%)	0(0%)	**3(3.1%)**
Agriculture	2(2.1%)	1(1%)	1(1%)	**4(4.2%)**
Education	9(9.4%)	7(7.3%)	1(1%)	**17(17.7%)**
Manufacturing	0(0%)	4(4.2%)	0(0%)	**4(4.2%)**
Business, financial services and insurance	6(6.3%)	4(4.2%)	0(0%)	**10(10.4%)**
Maintenance Service	2(2.1%)	2(2.1%)	0(0%)	**4(4.2%)**
Electronics and electrification	0(0%)	1(1%)	0(0%)	**1(1%)**
ICT and telecommunications	0(0%)	3(3.1%)	0(0%)	**3(3.1%)**
Public administration and governance	15(15.6%)	0(0%)	0(0%)	**15(15.6%)**
Total	**44(45.8%)**	**50(52.1%)**	**2(2.1%)**	**96(100%)**

3.8.2 Method used to publish vacant positions

The findings presented in Table 22 reveal that a significant number of employers 29 (20.9%), advertise their job vacancies through the Public Service Recruitment Secretariat. This is followed by those who use their official websites and social media platforms such as Facebook, WhatsApp, and LinkedIn, accounting for 26 employers (18.7%). Observations from graduates indicated that they became aware of job vacancies through means other than newspapers and social media, suggesting diverse information sources.

Additionally, the findings show that 23 employers (16.5%) reported receiving applications directly from graduates without prior advertisement. Based on the data in Table 22, it can be inferred that graduates frequently visit the Public Service Recruitment Secretariat website, as many employment opportunities are posted there.

It is therefore recommended that employers utilise a variety of platforms to advertise vacant positions. This would enhance transparency and ensure that a larger pool of potential applicants has access to the opportunities available.

Table 22: Methods used to publish vacant positions

Methods used to publish	Responses (N=139)	
	Frequency	Percent
Advertisements for vacancies in newspapers	10	7.2%
Advertisements on the websites	26	18.7%
Direct application by graduates	23	16.5%
Advertisement on social media (such as Facebook, WhatsApp, LinkedIn)	26	18.7%
Public Service Recruitment Secretariat	29	20.9%
Career advisory agency	6	4.3%
Personal contacts with graduates	7	5.1%
Directly from the technical and vocational training institution	12	8.6%
Total	**139**	**100.0%**

3.8.3 Level of education attained by graduates employed

The study assessed the level of education attained by graduates employed by employers. The findings presented in Table 23 indicate that the majority of employers, 58 (39.2%), hire graduates who have completed a Bachelor's degree. This is followed by those who employ graduates with an Ordinary Diploma, accounting for 39 respondents (26.4%). Furthermore, the findings show that 15 employers (10.1%) also hire graduates with a Master's degree. These observations suggest that graduates from NIT are well-equipped to take on managerial positions upon employment, as they have received appropriate and comprehensive training to meet industry demands.

Table 23: Level of graduates employed

Level of graduates employed	Responses(N=148)	
	Frequency	Percent
Basic technician certificate	19	12.8%
Technician certificate	17	11.5%
Ordinary Diploma	39	26.4%
Bachelor's Degree	58	39.2%
Master's Degree	15	10.1%
Total	**148**	**100.0%**

3.8.4 Field of specialisation preferred by employers

In addition to assessing the employment levels of graduates, the study also examined the fields of specialisation preferred by employers. The findings revealed that graduates specialising in Logistics and Transport Management had higher employment rates than those from other areas of study, with 57 graduates (28.8%) securing employment. In contrast, graduates from Freight Clearing and Forwarding, as well as Road and Railway Transport Logistics Operations, accounted for 22 graduates (11.2%) employed across various organisations (Table 24). These outcomes were anticipated, as student enrollment varies from one program to another. Accordingly, the number of graduates differs across programs, and the employment percentages tend to reflect these variations. The results highlight the need to focus on programs with lower employment outcomes. This includes increasing awareness and visibility of such programs to enhance their attractiveness and relevance in the job market.

Table 24: Field of specialisation preferred by employers

Field of Specialisation	Responses(N=198)	
	Frequency	Percent
Naval Architecture and Marine Engineering	1	0.5%
Aircraft Maintenance Engineering	6	3.0%
Freight Clearing and Forwarding	12	6.1%
Logistics and Transport Management	57	28.8%
Road and Railway Transport Logistics Operations	10	5.1%
Shipping and Port Logistics Operations	5	2.5%
Shipbuilding and Repair	1	0.5%
Automobile Engineering and Locomotive Technology	10	5.1%
Mechanical Engineering and Railway Vehicle Technology	2	1.0%
Procurement and Logistics Management	37	18.7%
Accounting and Transport Finance	28	14.1%
Auto-Electrical and Electronic Engineering	11	5.6%
Piping, Oil and Gas Engineering	3	1.5%
Telecommunication and Railway Signalling Engineering	4	2.0%
Electrical Engineering with Railway Electrification	2	1.0%
Mechanical Engineering with Transportation Machinery	9	4.5%
Total	**198**	**100.0%**

3.8.5 Criteria Used to Employ Graduates

Employers were asked to rank the criteria they consider important when hiring graduates for vacant positions. All employers rated over 70% as important for each criterion presented in the questionnaire, indicating that all factors are considered important in the recruitment process. Among these, soft skills and work ethics such as communication, punctuality, and teamwork received the highest rating at 90.6% followed by practical and technical skills at 89.6% and practical experience acquired during studies at 88.6%. Other key factors included customer service skills (87.5%) and the reputation of NIT (84.4%). The institute is recommended to maintain soft skills and practical and technical skills, as these are very important criteria in graduates' employability. All criteria rated important by the employers must be taken care of in curriculum development, actual training sessions and the Institute's short and long-term plans. Table 25 presents the results for the above-mentioned and other criteria employers use to employ graduates.

Table 25: Criteria for employing graduates

Criteria for employing graduates	Responses (N=96)					Total
	Not important	Slightly important	Moderately Important	Important	Very Important	
Practical and technical skills	1(1.0%)	2(2.15%)	7(7.3%)	22(22.9%)	64(66.7%)	**96(100%)**
Soft skills/work ethics (communication, punctuality, teamwork, etc.)	1(1.0%)	2(2.1%)	6(6.3%)	32(33.3%)	55(57.3%)	**96(100%)**
Administrative skills	1(1.0%)	3(3.1%)	12(12.5%)	47(49.0%)	33(34.4%)	**96(100%)**
Knowledge in the area of specialisation	1(1.0%)	2(2.1%)	13(13.5%)	35(36.5%)	45(46.9%)	**96(100%)**
Analytical skills	1(1.0%)	4(4.2%)	13(13.5%)	43(44.8%)	35(36.5%)	**96(100%)**
Computer skills	1(1.0%)	5(5.2%)	15(15.6%)	37(38.5%)	38(39.6%)	**96(100%)**
Customer service skills	1(1.0%)	1(1.0%)	10(10.4%)	37(38.5%)	47(49.0%)	**96(100%)**
Grades of examinations	3(3.1%)	5(5.2%)	13(13.5%)	48(50.0%)	27(28.1%)	**96(100%)**
The practical experience acquired during the study	1(1.0%)	5(5.2%)	5(5.2%)	33(34.4%)	52(54.2%)	**96(100%)**
Reputation of NIT	2(2.1%)	4(4.2%)	9(9.4%)	35(36.5%)	46(49.9%)	**96(100%)**
Recommendations/references from third parties	3(3.1%)	6(6.2%)	17(9.4%)	35(36.5%)	35(36.5%)	**96(100%)**

3.8.6 Satisfaction of employers with graduates

Employers' opinions regarding the satisfaction with NIT graduates were mostly positive. The results in Table 26 show that 92 (95.8%) of employers reported that graduates' competence was satisfactory, indicating that they meet or exceed workplace expectations in skills, knowledge, and job performance. However, 4.2% expressed dissatisfaction, citing issues such as graduates' inability to work independently and reluctance to learn new skills. Despite this, employers continue to hire NIT graduates, reflecting their overall potential and the effectiveness of the institution's training programs.

Table 26: Employer's satisfaction with the graduates' skills

	Responses (N=96)	
	Frequency	**Percent**
Very satisfied	57	59.3%
Satisfied	35	36.5%
Neutral	4	4.2%
Total	**96**	**100%**

3.8.7 Recommendation to NIT

Employers who participated in the study provided useful information for improvements. Most employers said that NIT should add the skills to the main curriculum. Also, the Institute must work hand in hand with the industry to improve graduates' practical training and confidence. Also, the institute is recommended to improve the learning environment and equipment.

Furthermore, there were also strong calls for continuous employer involvement in curriculum development to ensure relevance and adaptability. Similarly, employers urged NIT to track graduate outcomes and create mechanisms that connect alumni with employment opportunities. Other important emphasised areas included career guidance, staffing in technical areas and increased public visibility through platforms like social media. While appreciation for NIT's efforts was evident, the feedback signals a clear expectation for more responsive, practice-oriented, and employment-focused training delivery.

CHAPTER FOUR

DISCUSSION OF THE FINDINGS

4.1 Chapter Overview

The discussion of the findings is based on the key specific objectives, which are to: examine the employment status of the graduates, assess the employer's level of satisfaction with NIT graduates, evaluate the relevance of NIT training and employment, assess the NIT teaching and learning environment and evaluate the methods of teaching and learning used by NIT.

4.1.1 Employment Status of the Graduates

The study sought to examine the employability of graduates six months after graduation. In the tracer study, the employment includes those employed in private and public sectors, either permanent or temporary, self-employed and those undertaking further studies. The results show that males in all employability cases were dominant compared to females. The study expected such patterns because the number of female students enrolled in programmes offered at NIT is lower than that of males. There is a promising increase in female students in enrollment because the institute has invested a lot in infrastructure for learning equipment, which is favourable for female students to join. The findings of this study concerning the low employment rate among female graduates are consistent with those of a study conducted in the Philippines by Preciado *et al*. (2022).

Their research asserts that gender role inequalities persist in the workplace due to imbalances in power and authority, which are often held predominantly by men. These disparities hinder women from advancing into higher-paying or leadership positions at the same rate as their male counterparts. Despite ongoing debates and initiatives aimed at addressing gender inequality in professional environments, progress in narrowing the gender gap remains limited. Importantly, this underrepresentation of women in the workforce is not attributed to a lack of education or competence, but rather to entrenched gender roles that influence organisational dynamics. In contrast, the study by Manuel and

Desiree (2020) presents differing results regarding employment outcomes for male and female graduates. Their findings indicate that there is no significant difference in the employability of graduates based on gender. These contrasting results highlight the need for further research, including graduate tracing studies, to produce more comprehensive and valid conclusions. Furthermore, the findings emphasise the importance of strategically improving academic programs and curricula to better align with the demands of the labour market and enhance the employability of all graduates.

4.1.2 Employer's Level of Satisfaction with NIT Graduates

The study aimed to assess employers' levels of satisfaction with graduates from our institution. The results revealed that while employers rated the overall competence of graduates as very satisfactory, their responses regarding specific areas of satisfaction painted a more critical picture. When asked about the performance of employed graduates, employers expressed dissatisfaction across all assessed statements. In particular, they noted that graduates often struggle to work independently and demonstrate an unwillingness to learn new skills or adapt to new challenges.

These views are somewhat difficult to interpret, especially considering that employers continue to hire graduates from NIT, suggesting that these graduates do possess the fundamental skills and knowledge required for roles in the production and service sectors. This apparent contradiction highlights a complex relationship between perceived graduate potential and actual workplace performance. The findings of this study align with those of a tracer study conducted at a university in South Africa by Brits (2018), which reported that 50.4% of employers were very satisfied with graduates' ability to demonstrate mastery of relevant skills. Furthermore, up to 93% of employers in that study indicated satisfaction with graduates' adaptability and flexibility in the workplace, with 50 respondents specifically affirming these competencies.

These findings may prompt important discussions at the institutional level regarding graduate attributes, employability skills, and the need for strategic curriculum enhancement. It is argued that NIT already incorporates skill acquisition approaches aimed at developing employability competencies among its students. However, to ensure

continued relevance and quality, the institution should implement ongoing employer and student satisfaction assessments, such as surveys and graduate feedback sessions as integral components of its quality assurance framework. These mechanisms would support the effective implementation of curricula that embed essential workplace skills while also ensuring that the voices of both employers and graduates are heard in the process of improving learning experiences and employment outcomes.

4.1.3 Relevance of NIT Training on Employment Outcome

This study aimed to evaluate the relevance of training programs to the employment outcomes of recent graduates. The findings revealed that the knowledge and skills acquired by students during their education are closely aligned with the requirements of their current jobs. These competencies have been instrumental in enabling graduates to perform their assigned tasks effectively and efficiently. Furthermore, the study highlighted that both the field of study and the level of education attained at NIT are pertinent to the roles graduates are undertaking, thereby demonstrating strong alignment with the demands of the labour market.

The results of this study are consistent with the findings of Silwal and Bhatta (2017), who argue that vocational education and training (VET) play a vital role in equipping young individuals with practical skills, fostering self-employment, and enhancing employability within industries and companies. Their research also supports the view that vocational training programs contribute significantly to socioeconomic development and poverty reduction.

4.1.4 NIT Teaching and Learning Environment

This study assesses the environment of teaching and learning at NIT. The results indicate that the majority of students who graduated from NIT are satisfied with the teaching and learning environment. Teaching and learning environments play a crucial role in supporting students' academic success and overall development at the university level. A well-equipped teaching and learning environment ensure students have access to essential academic resources such as libraries, laboratories, digital platforms, textbooks, and

research databases. These resources support independent learning, research, and knowledge acquisition.

Experienced and well-trained lecturers create a productive learning environment by using effective teaching methodologies, offering academic guidance, and encouraging critical thinking. Their mentorship helps students grasp complex concepts and develop confidence in their academic abilities. Active learning strategies such as group discussions, case studies, problem-solving tasks, and project-based learning promote student engagement and deeper understanding. These methods require a conducive environment for students to learn, participate and acquire practical application of knowledge. Therefore, through the findings of this study, NIT is argued to continue providing modern lecture rooms equipped with the necessary materials for learning and supportive learning spaces for the students. These environments bring calm learning and thinking for the students when accomplishing their academic endeavours.

4.1.5 Methods of Teaching and Learning Used by NIT

The study evaluated whether the methods of teaching and learning can enhance the students' learning, ranging from excellent to very poor. The results indicated that the methods of teaching and learning used by NIT are promising. The findings imply that students appreciate the methods of teaching and learning used at the Institute. Teaching and learning methods significantly affect students' learning outcomes. The approach a lecturer uses to deliver content, engage students, and assess understanding can influence not only how well students grasp the material but also their motivation, critical thinking abilities, and long-term retention (Kamran *et al.,* 2023). Based on the findings, NIT should continue to improve the methods of teaching and learning as this influences students' learning and motivates them to have critical thinking and improve their learning

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Chapter Overview

This chapter presents the conclusion and recommendations based on the findings of this tracer study conducted by NIT. Specifically, the tracer study intended to assess the employment status and the employer's level of satisfaction with NIT graduates, as well as to evaluate the learning environment and teaching methods used by the Institute.

5.2 Conclusion

The 2024 NIT graduates' tracer study aimed to evaluate the employment status of the graduates and assess the teaching and learning environment of the institute, as well as the employers' level of satisfaction with the graduates. The findings show that the National Institute of Transport is producing graduates who are largely entering the labour market. Additionally, these findings show that employers are satisfied with NIT graduates, and the tracer study also found that teaching and learning environments are generally favourable.

Despite these achievements, the study identified several challenges that require attention. These include a shortage of practical training opportunities, limited exposure to real work environments, a lack of soft skills among graduates, and the need for continuous curriculum review. Some employers highlighted gaps of the graduates on practical competence, and communication skills. Furthermore, self-employed graduates cited access to start-up capital as a significant challenge. These findings indicate a strong foundation at NIT but underscore the need for continuous quality improvement in programme delivery and industry engagement.

5.3 Recommendations

In relation to graduate employment status, it is recommended that the National Institute of Transport strengthen the Industrial Liaison and Career Guidance Unit. The Institute should capacitate this Unit to assist students and alumni in their job searches, fortify their connections with employers, and furnish them with timely labour market information.

Interventions should be designed to address skill gaps and career transition challenges. Also, graduate tracking systems should be strengthened to allow continuous monitoring of employment outcomes and alumni feedback.

Employers are satisfied with graduates since they meet workplace expectations in terms of skills, knowledge, and overall job performance. However, efforts should be made to ensure that practical and soft skills such as communication, time management, adaptability, and work ethics are integrated across all academic programmes. With reference to the teaching and learning environment, upgrading of training infrastructure and practical laboratories should be prioritized. The adoption of modern ICT tools and expansion of digital learning platforms is also necessary to complement in-person instruction. Alongside infrastructure improvements, academic advisory, counselling, and career guidance services should be enhanced to support students. Concerning the teaching and learning methods, it is recommended that academic staff should be continuously trained in learner-centred and competency-based instruction, with support for industrial attachment to reflect real-world challenges. Also, teaching methods should be reviewed based on structured feedback from employers and graduates to ensure ongoing alignment with industry expectations.

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APPENDICES

Appendix I: Graduate Questionnaire

UNITED REPUBLIC OF TANZANIA
MINISTRY OF TRANSPORT
NATIONAL INSTITUTE OF TRANSPORT

All correspondences to:
The National Institute of Transport
P. O. BOX 705,
Mabibo Road, Dar es Salaam
Email: rector@nit.ac.tz

2024 NIT Graduates Survey Questionnaire for Tracer Study

Dear Graduate,

The National Institute of Transport (NIT) requests that you fill in this questionnaire as a graduate who completed your studies in 2024. NIT seeks to understand your post-graduation progress. Specifically, we are interested in your current employability status and whether the knowledge and skills acquired during your studies have adequately prepared you for the labour market.

The findings of this study will assist the Institute in improving its curricula, delivery methods, and learning environment. Your information will be treated with strict confidentiality.

The results of this survey will be published on the website of the Institute (http://www.nit.ac.tz).

We thank you for your cooperation

PART A: DEMOGRAPHIC INFORMATION

Please fill in or put a tick (√) where appropriate

A.1 What is your gender?

1) Male
2) Female

A.2 What is your age group (years)?

1) Below 25
2) 25-35
3) Above 35

PART B: TRAINING/STUDIES AT NIT

B.1 What level of training or qualification did you complete at NIT?

1) Basic Certificate (NTA 4)
2) Technician Certificate (NTA level 5)
3) Diploma (NTA level 6)
4) Higher Diploma (NTA level 7)
5) Bachelor' Degree (NTA Level 8)
6) Master's Degree (NTA Level 9)

B.2 What Programme did you study at NIT?

1) Naval Architecture and Marine Engineering
2) Aircraft Maintenance Engineering
3) Freight Clearing and Forwarding
4) Logistics and Transport Management
5) Road and Railway Transport Logistics Operations
6) Shipping and Port Logistics Operations
7) Shipbuilding and Repair
8) Automobile Engineering and Locomotive Technology
9) Mechanical Engineering and Railway Vehicle Technology
10) Procurement and Logistics Management
11) Accounting and Transport Finance
12) Auto-Electrical and Electronic Engineering
13) Electrical and Railway Electrification Engineering
14) Pipe works, Oil and Gas Engineering
15) Telecommunication and Railway Signalling Engineering
16) Electrical Engineering with Railway Electrification
17) Mechanical Engineering with Transportation Machinery

B.3 Did you attend any short or professional courses at NIT?

1. Yes 2. No

B.4 If yes, what type of short course did you attend?

1) Transport Officers Course
2) Passenger Services Vehicles (PSV)
3) Heavy Goods Vehicles (HGV)
4) Folk Lift
5) Advanced Driver Grade II (VIP)
6) Advanced Driver Grade I
7) Defensive Driving Course
8) Cabin Crew
9) Driver Instructor
10) Bus Passengers Customer Service
11) Fleet Operation
12) Road Safety Audit
13) Vehicle Inspection and Driver Examiner

B.5 Based on your response in B.2 or B.4 above, why did you study this programme?

1) I like/enjoy it
2) I wanted a hands-on experience
3) It was what I qualified for
4) It was what I could afford
5) A friend/family member advised me to
6) It would give me employment opportunities/it is marketable
7) Other (specify)

B.6 What was the source of funds for paying for your studies?

1) Myself
2) Family/relatives
3) Scholarship/sponsorship
4) Employer
5) Government-sponsored (HESLB)
6) Other (specify)

B.7 Why did you prefer to study at NIT?

1) Vicinity to my parents'/guardians' home
2) Availability of scholarship
3) Availability of accommodation
4) Reputation of NIT
5) The attractiveness of the learning environment
6) at NIT
7) My parents/relatives influenced me
8) Guarantee me an education Loan
9) Marketable programmes/courses
10) Availability of teaching and learning facilities

B.8 How did you get to know about this training programme?

1) Through friends/family members
2) Website of the Institute
3) Education exhibition
4) Through the NACTVET website
5) Other (Please specify

B.9 Can you recommend the programme you studied at NIT to a friend, colleague or relative?

1) Yes
2) No

If No, provide the reasons_____

PART C: TEACHING AND LEARNING EXPERIENCE

C1. How would you rate the methods of teaching and learning that were used when you were at NIT?

1) Excellent
2) Very good
3) Fair
4) Poor
5) Very poor

C2. How would you rate the teaching and learning environment at NIT?

1) Excellent
2) Very Good
3) Fair
4) Poor
5) Very poor

C.3 How did the Training received at NIT improve your competencies?
(5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree). Use a Tick (√) to rank

Statement	1	2	3	4	5
It helped me acquire the theoretical knowledge that is required in my profession	( )	( )	( )	( )	( )
It helped me develop the practical skills that are required in my profession	( )	( )	( )	( )	( )
It helped me to develop social competencies and individual attitudes that are required in the World of work	( )	( )	( )	( )	( )
Has laid the foundations that could (potentially) become self-employed	( )	( )	( )	( )	( )
Enabled me to get along independently in life	( )	( )	( )	( )	( )

PART D: EMPLOYMENT STATUS

Please fill or put a tick (√) where appropriate

D.1 What were you doing six (6) months after completing your studies/graduation? (***Multiple answers possible***)**?**

1) Employed
2) Self-Employed
3) Attending further Academic Training
4) Unemployed
5) Other (Please Specify)
_____

D.2 What is your current employment status?

1) Permanent Employed
2) Employed on a Contract Basis
3) Attending further Academic Training
4) Self-employment with/without employee
5) Unemployed and looking for employment

D.3 If EMPLOYED, please provide information on your employer

(a) Name of Company/Organisation: _____

(b) Postal address: _____

(d) Physical address: _____

(e) District_____

(e) Region:_____

(c) Country: _____

(d) E-mail Address_____

(f) Telephone number of your supervisor or Human Resource Officer_____

(g) Sector/industry_____

D.5 How long did it take you to get a job after completing your training/after graduation?

1) Less than 6 months
2) 6 – 11 months
3) 1 – 2 years
4) 2 – 3 years
5) Over 3 years

D.6 How did you get to know about your current employment?

1) Newspaper /Television/Radio
2) Government/Company/Organisation websites
3) Relatives, friends or/and colleagues
4) Referral/School Endorsement
5) Industry Linkages during Training (e.g., On-the-Job Training)
6) Social networks (e.g., Facebook, WhatsApp, LinkedIn)
7) Other (Please Specify) _____

D.7 How many applications did you apply for before finding your first job?

1) 0 – 5
2) 6 – 10
3) 11 – 20
4) Over 20

D.7 How many interview sessions did you attend before getting into employment?

1) 0-3
2) 4-6
3) 7-9
4) 10 and above

D.8 What type of employers do you work for?

1) Government
2) Private
3) NGOs
4) Other Specify _____

D.9 How long have you been working for your current employer?

1) Less than one year
2) 1- 2 years
3) More than 2 years

D.10 How many employers have you worked for before your current employer?

1) 1
2) 2
3) More than 2

D.11 If your current employer is not your first one, why did you leave your previous employment? (***Multiple answers possible***)

1) Sought an improved wage
2) Sought improved working conditions
3) Wanted a new challenge
4) Retrenched
5) Found employment in my area of specialisation
6) Termination of employment
7) Other (Please specify) _____

D.12 Is the current job related to the role you specialized in during the training at NIT?

1) Yes
2) No

D.13 What is your job title/position? _____

D.14 If you are Unemployed, what is the reason?

1) Opted not to look for a job
2) Unsuccessful application
3) Lost previous job
4) No employment opportunity in the desired field
5) Other (*Please Specify*)_____

PART E: RELEVANCE OF TRAINING TO EMPLOYMENT

Please fill in or put a tick (√) where appropriate

E.1 Is your present job related to the programme you studied at NIT?

1) Yes
2) No

E.2 Please ate the extent to which the knowledge/skills you acquired during the Training at NIT are useful in your current employment (5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree)

	Knowledge/Skills	1	2	3	4	5
E.2a	The knowledge and skills that I acquired at NIT have been useful in my work	( )	( )	( )	( )	( )
E.2b	The field of study I took is appropriate to my work	( )	( )	( )	( )	( )
E.2c	My job is appropriate for my level of education	( )	( )	( )	( )	( )
E.2d	The course I took adequately prepared me for work	( )	( )	( )	( )	( )
E.2e	My employer is satisfied with my level of knowledge and skills	( )	( )	( )	( )	( )

E.3 If your current employment does not relate to the programme you studied at NIT, what is/are the reason(s)?

1) I did not find an employment opportunity related to my programme of study
2) I did not find employment that had better salary and benefits

Other (Please specify) _____

F: SELF-EMPLOYED GRADUATES

F.1 When did you start self-employment?

1) I started before I did the course
2) I started while I was doing the course
3) I started after completing the course
4) Other (specify)

F.2 Why did you go into self-employment? _____

F.3 Please specify the type of business you are engaged in.

_____

F.4 Is the work you do in your business related to the programme of study attended at NIT?

1) Yes
2) No

F.5 How long have you been in self-employment?

1) Less than 6 months
2) 6 – 12 months
3) Over 1 year – 2 years
4) Over 2 years – 3 years
5) Over 3 years

F.6 What was the source of capital for starting your business/company (Multiple answers possible)

1) Parents/relatives
2) Loans
3) Friends/joint venture
4) Other (Please specify)_____

F.7 Have you employed any assistant(s)?

1) Yes
2) No

F.8 If Yes, how many assistants have you employed?

1) 1-3
2) 4-6
3) 7 and above

F.9 Did you encounter any difficulties when starting your business?

1. Yes
2. No

F.10 If yes, what were the challenges you faced? (Multiple responses possible)

1) Lack of educational background (including technical skills)
2) Inadequate market conditions (high competition, low demand)
3) Difficulty in getting funding
4) Location of business not ideal
5) Lack of entrepreneurial skills
6) Other (Please specify)

_____

F.11 Please provide information about your business

(a) Name of Company/Organisation

_____

(b) Postal address:_____

(c) Physical address:_____

(d) District:_____

_

(e) Regional:_____

_

(f) Telephone/mobile number:_____

(g) E-mail Address:_____

(h) Sector/industry:

_____

F.12 Relationship between entrepreneurial skills acquired at NIT and self-employment

To what extent do you agree or disagree with the following statements?

		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
F.12a	I am capable of inspiring and motivating teams to achieve goals					
F.12b	I can communicate effectively both verbally and in writing					
F.12c	I am capable of building and maintaining relationships with other professionals					
F.12d	I can identify and resolve challenges effectively					
F.12e	I can think outside the box, develop new ideas, and find unique solutions					

PART G: WORK ORIENTATION AND JOB SATISFACTION

Please fill in or put a tick (√) where appropriate

G.1 Are you satisfied with your current employment?

1. Yes
2. No

G.2 If yes, rate the level of satisfaction based on the following statements (where 5 = Very Satisfied, 4 = Satisfied, 3 = Neutral, 2 = Dissatisfied, 1 = Very Dissatisfied)? Use a Tick (√)

Statement	1	2	3	4	5
Salary and Benefits: Adequate compensation and a comprehensive benefits package	( )	( )	( )	( )	( )
Career Progression: Opportunities for advancement and professional growth	( )	( )	( )	( )	( )
Supervision and Management: Effective supervision and a supportive work environment	( )	( )	( )	( )	( )
Motivation and Engagement: Feeling motivated and engaged in their work	( )	( )	( )	( )	( )

PART H: COMMENTS AND RECOMMENDATIONS

1. Any additional comments/suggestions you would like to address regarding this survey?

Thank you very much for completing this questionnaire

Details of your name are optional, but your phone number is important

1. Your surname (optional): _____
2. Your first name (optional): _____
3. Your mobile number: _____

Appendix II: Employers' Questionnaire

UNITED REPUBLIC OF TANZANIA
MINISTRY OF TRANSPORT

NATIONAL INSTITUTE OF TRANSPORT

NATIONAL INSTITUTE OF TRANSPORT
P. O. BOX 705, Mabibo Road, Dar es Salaam
QUESTIONNAIRE FOR TRACER STUDY SURVEY GRADUATES
Email: rector@nit.ac.tz

QUESTIONNAIRE SURVEY FOR EMPLOYERS

Dear Sir/Madam,

The National Institute of Transport (NIT) is conducting a tracer study among NIT graduates to assess the employability of our graduates and the relevance of the curricula and programmes offered by the Institute. The survey focuses on capturing employers' views, comments, and opinions regarding NIT graduates who graduated in 2024, as well as the quality of training offered at NIT. You are kindly requested to spare a few minutes to complete a survey regarding the employment outcomes of NIT Graduates. The data obtained will assist NIT in effectively formulating and implementing training plans that focus on employability and labour market demand. All information obtained will be handled with the utmost confidentiality.

Thank you very much in advance for your kind support.

PART A: Background Information

A.1 Please put a tick (√) or fill in the required information below

1) Name of Company/Organisation: _____

2) Postal address: _____

3) Physical location: _____

4) District/Region: _____

5) Country: _____

6) E-mail Address: _____

7) Telephone/Mobile number: _____

A.2 What is your role in the company/organization?

1) Owner ☐

2) Manager/Department head ☐

3) Supervisor ☐

4) Human resources ☐

5) Administration ☐

6) Other (specify)

_____

A.3 What is the highest level of education that you completed?

1) Primary

2) Secondary (O'Level or A'Level)

3) Technical and Vocational Education

4) University Education

5) Others (Specify)

_____

A.4 What type of entity is your company/organization?

1) Government

2) Private

3) NGOs

4) Other Specify

_____

A.5 What is the major sector that your entity operates in?

1) Aviation industry

2) Transport and logistics

3) Marine and shipbuilding

4) Automotive

5) Building and construction

6) Energy and extractives

7) Health system and social work

8) Agriculture

9) Education

10) Manufacturing

11) Business, Financial Services and Insurance

12) Maintenance Services

13) Electronics and Electrification

14) Other (please specify)

_____

PART B: Recruitment Procedures and Criteria

(Please put a tick (√) in the correct response in the space provided)

B.1 How many NIT graduates have you employed in the last 3 years?

1) 1 – 5 ☐
2) 6 – 10 ☐
3) 11 – 15 ☐
4) 16 – 20 ☐
5) More than 20 ☐

B.2 Which methods does your business/organization use to advertise vacant position(s)? (Tick all that apply.)

1) Advertisements for vacancies in newspapers ☐
2) Advertisements on the websites ☐
3) Direct application by graduates ☐
4) Advertisements on social media (such as Facebook, WhatsApp, LinkedIn) ☐
5) Public Service Recruitment Secretariat ☐
6) Career advisory agency ☐
7) Personal contact with graduates ☐
8) Directly from the technical and vocational training institution ☐
9) Others(Please specify) _____

B.3 At what level do you employ graduates from NIT? (multiple responses possible)

1) Professional Certificate ☐
2) Basic technician certificate ☐
3) Technician certificate ☐
4) Ordinary Diploma ☐
5) Bachelor's Degree ☐
6) Master's Degree ☐
7) Other (Please specify) _____

B.4 In which field of specialization (s) do you employ graduates from the following NIT long courses programmes?

1) Naval Architecture and Marine Engineering
2) Aircraft Maintenance Engineering
3) Freight Clearing and Forwarding
4) Logistics and Transport Management
5) Road and Railway Transport Logistics Operations
6) Shipping and Port Logistics Operations
7) Shipbuilding and Repair
8) Automobile Engineering and Locomotive Technology
9) Mechanical Engineering and Railway Vehicle Technology
10) Procurement and Logistics Management
11) Accounting and Transport Finance
12) Auto-Electrical and Electronic Engineering
13) Electrical and Railway Electrification Engineering
14) Pipe works, Oil and Gas Engineering
15) Telecommunication and Railway Signalling Engineering
16) Electrical Engineering with Railway Electrification
17) Mechanical Engineering with Transportation Machinery

B.5 In which profession do you employ graduates from the following NIT short courses programmes?

1) Transport Officers
2) Folk Lift
3) Advanced Driving
4) Cabin Crew
5) Driver Instructor
6) Bus Passengers Customer Service
7) Fleet Operation
8) Road Safety Audit
9) Vehicle Inspection and Driver Examiner

PART C: EVALUATION OF NIT GRADUATE EMPLOYEES

C.1 How satisfied are you with employees who graduated from NIT?

1) Very satisfied
2) Satisfied
3) Neutral
4) Dissatisfied
5) Very dissatisfied

If satisfied , please provide reasons

If not satisfied, please provide reasons

C.2 How would you rate the level of competence of NIT graduates in performing the assigned responsibilities?

5) Very good

4) Good

3) Fair

2) Poor

1) Very poor

If you rated 1,2, or 3, why do you think that their level of competence is not good?

_____

_____

C.3 How important are the following aspects for the recruitment of Graduates from NIT? (where 1=Not Important ,2=Slightly Important, 3=Moderately Important, 4=Important, 5=Very Important). Use Tick (√)

Statements	**1**	**2**	**3**	**4**	**5**
Practical and technical skills	()	()	()	()	()
Soft skills/work ethics (communication, punctuality, teamwork, etc.)	()	()	()	()	()
Administrative skills	()	()	()	()	()
Knowledge in the area of specialization	()	()	()	()	()
Analytical skills	()	()	()	()	()
Computer skills	()	()	()	()	()
Customer service skills	()	()	()	()	()
Grades of examinations	()	()	()	()	()
The practical experience acquired during the study	()	()	()	()	()
Reputation of NIT	()	()	()	()	()
Recommendations/references from third parties	()	()	()	()	()

PART D: ADDITIONAL INFORMATION ABOUT THE TRAINING OF NIT GRADUATES

D.1 Based on your experience with the performance of NIT graduates employed in your organization, do you think that they need additional training?

☐ Yes

☐ No

If yes, please specify which additional skills and knowledge are needed.

_____

_____

_____

D.2 In your view, provide suggestions on how NIT training can be improved.

_____

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PART E: Comments and recommendations

E.1 Do you have any additional comments?

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Thank you very much for completing this questionnaire