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Level and Factors affecting the Performance of Health Information Technicians among Public Healthcare Facilities in Dire Dawa Administration, Ethiopia

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Level and Factors affecting the Performance of Health Information Technicians among Public Healthcare Facilities in Dire Dawa Administration, Ethiopia

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MASTER OF PUBLIC HEALTH IN GENERAL PUBLIC HEALTH

Alemayehu Girma Diressie

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I hereby certify that I have read and evaluated this Thesis entitled Level and Factors affecting the Performance of Health Information Technicians among Public Healthcare Facilities in Dire Dawa Administration, Ethiopia prepared under my guidance by **Mr Alemayehu Girma Diressie**. I recommend that it be submitted by fulfilling the thesis requirement.

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Dedication

I dedicate this MPH research to my late father, who has guided my journey and fueled my passion through his love, inspiration and enduring guidance to reach at this level.

Statement of the Author

By my signature below, I declare and affirm that this Thesis is my own work. I have followed all ethical and technical principles of scholarship in the preparation, data collection, data analysis, and compilation of this Thesis. Any scholarly matter that is included in the Thesis has been given recognition through citation.

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Department: - Public Health

Biographical Sketch

My name is Alemayehu Girma Diressie, I was born on April 20, 1976, in East Hararghe Province, Kersa Woreda, Kersa 01 kebele Ethiopia, is a distinguished public health administrator and management professional with over two decades of leadership experience. A 49-year-old Ethiopian national, currently I reside in Dire Dawa, Kebele 02, with my family.

I was attended my primary and secondary school (Grade 1-10) at Kersa primary and my secondary school (Grade 11-12) at Harar Junior Secondary School. I was earned a Bachelor of Arts in Management from Haramaya University in 2008, graduating with great distinction. Building on this foundation, I completed a Master of Business Administration from Leadstar College of Management and Leadership on July 28, 2019. My educational background equips me with robust skills in strategic planning, organizational leadership, and performance evaluation, critical for my public health and management roles.

Since December 2012, I have been serving as the Plan, Monitoring, and Evaluation Directorate Director at the Dire Dawa Administration Health Bureau. In this role, I oversee health program implementation, performance tracking, and policy evaluation, significantly contributing to improving healthcare delivery in the Administration.

My career objective is to secure a senior management position in a dynamic organization where my extensive experience in health administration, strategic planning, and team leadership can drive impactful outcomes. Known for my data-driven approach and dedication to public service, I have been instrumental in advancing health system efficiency in Dire Dawa. Outside work, I am a devoted family man, balancing my professional ambitions with personal commitments. my vision is to continue leveraging my expertise to create sustainable, rewarding systems in challenging environments.

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ACRONYMS AND ABBREVIATIONS

BLR	Binary Logistic Regression
CEO	Chief Executive Officer
DDA	Dire Dawa Administration
DDAHB	Dire Dawa Administration Health Bureau
EHR	Electronic Health Records
EP	Employee Performance
HC	Health Center
HHR	Health Human Resources
HIT	Health Information Technology
HITs	Health Information Technicians
HR	Human Resources
PHCU	Primary Health Care Unit
TCD	Training and Career Development
WC	Working Condition
WHO	World Health Organization

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ABSTRACT

Background: Employee performance is vital for healthcare organizational goals. Health Information Technicians (HITs) manage patient data, improve delivery, and support decisions, directly impacting outcomes. However, evidence on their performance levels and factors is scarce in Dire Dawa and Ethiopia.

Objective: To assess HITs performance levels and influencing factors in Dire Dawa Administration's public healthcare facilities from January 13–31, 2025.

Methods and Materials: Cross-sectional mixed-methods design as employed to survey all 34 HITs across 18 public healthcare facilities (2 hospitals, 16 health centers) with 100% response rate via self-administered questionnaires. Quantitative data analyzed in STATA using descriptive statistics and logistic regression (variables $p<0.2$ advanced to multivariable; significance at $p<0.05$ with AOR and 95% CI). Qualitative data thematically analyzed in Atlas.ti and integrated.

Results: 67.65% exhibited high performance. Multivariable regression: males had 91.5% lower odds vs. females (AOR=0.085, 95%CI:0.010–0.749, p=0.026); rural facilities increased odds 17-fold (AOR=17.119, 95%CI:1.332–220.010, p=0.029); dissatisfaction with infrequent pay raises decreased odds by 65.4% (AOR=0.346, p=0.042). >85% reported strong self-perceived competencies; >50% dissatisfied with extrinsic motivators (pay, promotion, rewards). Work environment positive (mean=4.21) but resource shortages common. Thematic analysis of 17 interviews revealed behavioral competency inconsistencies.

Conclusion and Recommendations: HIT performance moderately high but limited by extrinsic dissatisfaction and environmental barriers; influenced by socio-demographics, setting, and pay; supported by training, competencies, intrinsic rewards, and social networks. Recommend salary enhancements, equitable promotions/benefits, standardized training, infrastructure upgrades (e.g., networks), supportive supervision; call for larger studies.

Keywords: Health Information Technicians; Employee Performance; Job Satisfaction; Training; Working Environment; Ethiopia; Dire Dawa Administration.

1. INTRODUCTION

1.1. Background

Employee performance is generally understood as the comparison between an employee's actual work outcomes and established performance standards. It reflects the degree to which assigned tasks are achieved and contributes directly to organizational effectiveness (Aaltonen, 2017). Job performance serves as a key metric for evaluating employee efficiency and determining whether organizational goals are met. It is influenced by diverse elements such as working conditions, access to tools and skills, compensation, motivation, and promotion policies (Gomes et al., 2012). Collectively, these factors shape the multifaceted nature of job performance and its implications for organizational success.

The global health system functions as an interconnected structure aimed at improving health outcomes through quality healthcare, disease prevention, and coordinated health promotion. Its success depends on a concerted effort among stakeholders and, most importantly, on the competency of healthcare workers. Strengthening healthcare services across public and private sectors requires robust health human resources, which form the foundation of effective health systems (Zamboni et al., 2020).

Health Human Resources (HHR) are central to the performance of health organizations. Human resources constitute an integral input in healthcare production processes and are essential to service quality and organizational productivity (Tso, 2015). A skilled and motivated workforce is therefore indispensable for delivering high-quality health services (Yang, 2015).

Within this workforce, **Health Information Technicians (HITs)** play a critical role in maintaining the integrity, accessibility, and security of patient information. Their responsibilities include collecting, organizing, coding, and safeguarding Electronic Health Records (EHRs); supporting telehealth platforms; and managing data for mobile health applications. HIT performance is primarily measured by accuracy, adherence to privacy standards, and contributions to efficient health processes (Moore et al., 2020). High-performing HITs enhance healthcare delivery by minimizing manual data entry, improving data integrity, reducing medication errors, and optimizing chronic disease management and hospital readmissions (North westeren college, 2018, USF Health, 2023). They also contribute to patient empowerment by ensuring accessible and secure records that enhance engagement and self-management (North westeren college, 2018, USF

Health, 2023). Through standardized data processes, HITs promote evidence-based clinical decision-making (Noreen, 2023).

Despite their importance, HITs encounter challenges such as interoperability problems, data security threats, and complex system interfaces. These challenges can disrupt workflows, introduce manual workarounds, heighten workloads, and jeopardize patient safety through delays and errors (Noreen, 2023). Their roles therefore significantly influence healthcare quality, with performance measured through improvements in data accuracy, patient safety, and provider efficiency (Kim et al., 2017). In practice, HITs often manage high workloads involving full-time office-based tasks and extensive computer use, resulting in potential strain from repetitive data handling.

Multiple factors affect HIT performance, including motivation, working conditions, training, and supervisory support (Satyvendra, 2019). Motivation determines the energy, commitment, and innovation employees bring to data-related tasks and is strongly associated with productivity in coding, documentation, and compliance (Rachman, 2020). System quality, information quality, organizational culture, education level, experience, and digital tool usage also contribute significantly to performance, while cybersecurity issues and outdated interfaces may impede it (Sugiarto, 2020, Anggapradja, 2017), (Sujiati, 2017).

The work environment comprising physical conditions, supervisor and coworker support, and workload plays a vital role in shaping employee performance and preventing work-related stress (Chandrasekar, 2011).Training similarly enhances employee knowledge, skills, and competencies (Afsana et al., 2016). Studies consistently show that training and development programs improve staff motivation, professional growth, and performance outcomes (Baten, 2018, Njeri and Kepha, 2021, Ayalew, 2017, Mengistu, 2014).

In Ethiopia, strengthening the health workforce remains essential due to a long-standing shortage of qualified personnel. The World Health Organization (WHO) emphasized the significance of robust health systems to address human resource gaps as early as 2006 (WHO, 2006).

As in many sub-Saharan African countries, human resource challenges pose a serious barrier to effective healthcare delivery. HITs, who manage critical patient data, directly influence service quality and institutional efficiency. Determining factors that influence HIT performance is therefore essential for improving healthcare outcomes (Busca et al., 2021).

1.2. Statement of the Problem

Health Information Technology (HIT) is globally recognized as a foundational component of modern health systems, offering opportunities to strengthen clinical care, patient safety, and health service efficiency (Chidambaram et al., 2024). However, the performance of HIT remains inconsistent across systems, raising concerns about its effectiveness and determinants (Busca et al., 2021). While some health systems benefit from advanced HIT integration, others struggle due to infrastructural limitations, financial restrictions, shortages of trained workforce, and cultural challenges.

HITs are key actors in the health information system, responsible for generating, compiling, analyzing, synthesizing, and communicating health data functions essential to informed decision-making (WHO, 2008). A study from Kenya highlighted variation in HIT performance due to technical efficiency differences across facilities (Busca et al., 2021).

Accurate and reliable data management by HITs improves patient safety by reducing medication errors, ensuring up-to-date patient information, and supporting effective clinical decisions (Brenner et al., 2016). Evidence shows that HIT systems can reduce hospital stays, lower readmission rates, and improve adherence to clinical protocols (Kim et al., 2017, Bouvé, 2023). However, system failures—such as interface problems or software malfunctions—may interrupt care delivery and compromise patient outcomes. A systematic review found that information technology-related issues contributed to patient harm or fatalities in over half of the studies examined (Kim et al., 2017). Continuous monitoring and improvement of health information systems are therefore essential (Amer et al., 2023).

In Ethiopia, HITs are expected to support the Information Revolution agenda (2019–present), yet local evidence on determinants of HIT performance is limited. Prior studies highlight factors such as motivation, working conditions, training, physical work environment, and reward systems as influencing employee performance (Kimeu, 2015, Ghaffari et al., 2017, Jayaweera, 2015), (Hailemariam and Yang, 2023). Despite this, the specific factors affecting HIT performance in public health facilities particularly in the Dire Dawa Administration remain underexplored.

Given the strategic role of HITs in Ethiopia's Health Sector Transformation Plan (HSTP II), and are central to Ethiopia's Information Revolution, performance is constrained by limited training coverage, workload pressure, infrastructure gaps (unreliable connectivity, inadequate workspace),

and weak reward/incentive systems. Prior studies examined general health workers; no comparable HIT-specific assessment existed for DDA before this study.

Therefore, this study aims to assess the level of performance and examine the determinants influencing HIT performance in public healthcare facilities in the Dire Dawa Administration. The study focuses exclusively on HITs and employs a cross-sectional mixed-methods approach, utilizing data from HITs and facility heads across all public health facilities in the administration.

1.3. Significance of the Study

Dire Dawa Administration Health Bureau is expected to be primary beneficiary of this study. The Bureau is expected to benefit from the findings of this study by acknowledging factors affecting HITs performance. This enables the Bureau to make key decisions with regard to provision of incentive packages such as favorable working condition, training and career development, and motivation mechanisms to ensure that HITs are working in harmony to attain the intended performance.

Healthcare facilities are expected to benefit from the findings of the study. The study highlights factors affecting HITs performance in the healthcare facility. The findings should enable the healthcare facilities to make informed decisions when it comes to factors hindering the performance of HITs to ensure that they can achieve their mission and vision.

Government and other policy making partners are expected to benefit from the findings of this study by acknowledging factors affecting HITs performance in the healthcare sector. They may also use the findings of this study for formulating interventions to improve the HITs performance.

The study can help academicians and researchers in acquiring specific information concerning the factors affecting the performance level of HITs in public health facilities. They should be able to use the study for reference and also in gathering information and data at the same time should help them in their research and studies. In addition, they can use the study to critique the issue at hand and may conduct further research expounding on the area of study.

1.4. Objectives

1.4.1. General Objective

The general objective of this study was to examine level of performance and the factors that affect the performance of Health Information Technicians in public healthcare facilities of Dire Dawa Administration (DDA) from January 13, 2025 – January 31, 2025.

1.4.2. Specific Objectives

1. To determine the level of HITs Performance at public healthcare facilities in DDA.
2. To assess factors affecting the level of performance of HITs at public healthcare facilities in DDA

2. LITERATURE REVIEW

2.1. Level of HITs Performance

Employee performance is the accumulative result of the skills, efforts and abilities of all the employees contributed in organizational improved productivity leading towards its goal achievement. Improved organizational performance indicates the efforts towards goal achievement while requiring more efforts in terms of improved employee performance (Ellinger, 2003). Employee performance is among the critical factors that contribute significantly in the success of any health system.

Most empirical studies measure the performance level of employees by using job performance measurement items. For example, a self-rated job performance assessment of health workers, a cross sectional study among 422 health workers in public hospitals of West Hararghe zone ,Oromia East Ethiopia was conducted in 2022 (Worku, 2022). According to this study, the overall mean level of health workers job performance was computed to be 3.56 on the five-point Likert scale used in this study. This overall level of health workers job performances in percentage was computed to be 71.22%. The overall self-rated job performance showed that, majority 187[51.8%] of health workers had poor level of job performance. Job performance level of 100[51%] male was scored good job performance.

Another cross-sectional study done in 2010 in five public hospitals among 290 nurses in Addis Ababa City Administration indicated that the level of job performance was below average with a mean=2.71 and SD=0.48 (Negussie N, 2018).

2.2. Factors Affecting HITs Performance

2.2.1. Socio-demographic Factors and Employee Performance

Every organization should be concerned with the management of demographic factors at work since their dynamism, attitude toward work and movement is important in organization management. The efficiency and effectiveness as well the general well-being of an employee can be under threat due to demographic failures. Employee biographical variables, which are inherent in each employee, are one of the predictors of employee performance, according to (Hendrawijaya, 2019). Socioeconomic variables of personnel, such as age, educational level, gender, marital status, and years of service, are capable of influencing their various work performance aspects (Palakurthi and Parks, 2000).Socio-demographic characteristics can have a significant impact on HITs performance level within the healthcare industry. For example, a study conducted at Burundi to investigate the socio-demographic factors of health workers that are associated with their utilization of the DHIS-2 platform indicated that, Gender was significantly associated with the enhancement of health information accessibility ($\chi2$= 7.995, P=.005), with 92.8% for males and 66.7% for females. In the same study, information error minimization was significantly associated with educational level ($\chi2$ = 7.243, P=.007), with 91.1% for a secondary level and 67.9% for university level, and also Marital status or being married was significantly associated with both improvement of quality information ($\chi2$ = 6.437, P= .011) and health information management ($\chi2$= 5.053, P= .025) (Yandemye and Nimubona, 2024).

In another study conducted in the teaching hospital in North-West Ethiopia to assess healthcare professionals' knowledge, attitude and its associated factors toward electronic personal health record system (e-PHRS) was found that, Sex was found to be statistically significant with knowledge of e-PHRS. Male study participants were 2.7 [AOR = 2.7, 95% CI (1.4–5.0)] times more likely to have knowledge of e-PHRS than females (Wubante et al., 2023).Experience has an effect on employee performance (Hendrawijaya, 2019). A high working period indicates that the sense of impact will also increase (Dickson, 2009).

2.2.2. Job Satisfaction and employee performance

A study conducted in the construction Industry of Pakistan to investigate the relationship between Job Satisfaction and Employee Performance, using a sample size of 85 employees and a questionnaire survey was employed to collect data, A multiple regression model was used to

analyze the data statistically and its finding indicated that, job satisfaction has a high ability to predict an increase in employee performance (Memon et al., 2023),

Another study conducted in Jordanian Industrial sector to explore the determinants of employees' performance, specifically the impact of employees' satisfaction, management standards and trainings on employee's performance, using convenient sampling technique to select a sample of 100 administrative and executive managers from industrial sector of Jordan, and utilized structural equation modelling to analyze the quantitative data using AMOS software. The study observed that employee's satisfaction has a significant impact on employees' performance, among others, and the study concluded that organizations should focus on employee satisfaction, management standards and trainings to enhance employees' engagement towards work and thereby improve their performance (Dahkoul, 2018).

A health facility based cross-sectional study conducted from August 27 to September 17, 2018 to assess the level of job performance and associated factors among health workers working in public hospitals of Chiro, Galemso and Asebot Hospitals in West Hararghe zone, Oromia Region, East Ethiopia using quantitative methods, and the study utilized a simple random sampling technique to select 422 study participants among 670 health workers. The. Self-administered questionnaire was employed to collect data and SPSS version 23 were used to analyze the data. The study performed descriptive statistics such as frequency, percentages, mean and standard deviation to summarize the data. Multivariate regression model was applied to identify predictor variables associated with level of job performance, and it was found that sex [AOR=1.896[1.130, 3.180]], marital status [AOR=1.910 [1.11, 3.27]], working hours [AOR=2.910[1.653, 5.123]], working condition [AOR= 2.164[1.128, 3.844]] and job satisfaction [AOR= 2.480[1.374, 4.476]] were the most predicting variables of health workers job performance. The study concluded that health workers in public hospitals of West Hararghe zone have poor level of job performance. Predicting variable such as sex, marital status, working hours, working condition and job satisfaction were significantly associated with job performance, and recommends that, Regional Health office, Zonal health office and hospitals should give more attention on job satisfaction and working condition to improve health worker's job performance (Ousman and Worku, 2022).

Another cross-sectional study has been carried out in Amhara national regional state health bureau to measure the level of work performance and to identify associated factors among workers by

using data collected from 357 employees through self-administrated structured questionnaires and analyzed using SPSS software. Descriptive statistics was computed to summarize the result and presented by tables. Binary logistic regression was calculated to explore the relationship between the predictors and outcome variable. Multivariate logistic regression model with 95% C.I. was also computed to determine the independent association of factors with work performance. The findings of this study indicated that the level of work performance was 76.64% (76.25-77.03), indicated that majority of the employees' performance level found to be good. Salary [AOR=3.94 (1.41, 10.99)], years of working [AOR=3.07 (1.25, 7.49)], type of working department [AOR=6.77 (2.57, 17.79)] and type of work [AOR=0.32 (0.13, 0.77)] were independently predicting level of work performance. The study concluded that the level of performance was comparable to other studies in similar settings and recommended that, encouraging employees with reasonable salary based on work experience and availing conducive work structure should be given due attention by the health bureau to have better organizational performance for development (Bereda and Debalkie, 2018).

An institutions-based cross-sectional study also made to assess satisfaction of Health Informatics professionals and associated factors with Ethiopian health system; in selected three zones of the Southern Nations Nationalities and Peoples' Regional (SNNPR) State to provide evidence for future improvements. A simple random sampling technique was applied to select 215 participants, a structured standard questionnaire used to collect data, and analyzed using SPSS version 0.25. The study applied binary logistic regression to examine the relationship between explanatory and response variables, and also a p-value of < 0.25 to include variables in the final model and a p-value of < 0.05 to declare the presence of associations. Data presented using numbers, mean, percent, and standard deviation for descriptive data and an Adjusted Odds Ratio (AOR) with a 95% CI used for inferential statistics. The results indicated that out of 211(98%) Health Informatics professionals, 50.8% (95%CI: 47.74%-53.86%) were satisfied. Age (AOR=0.57; 95% CI: 0.53, 0.95), experience (AOR=5; 95% CI: 1.50, 19.30), working time (AOR=1.35; 95% CI: 1.10, 1.70), working as HMIS officers (AOR 2.30; 95% CI: 3.80, 13), single marital status (AOR=9.60; 95% CI: 2.88, 32), and urban residence (AOR=8.10; 95% CI: 2.95, 22) were the factors associated with Health Informatics professionals satisfaction. The study found low satisfaction among health informatics professionals compared to other studies and the researcher recommended that the

responsible bodies must keep experienced professionals and reduce pressure from other professions through panel discussions. Work departments and working hours need consideration, as they are the determinants of satisfaction. Improving educational opportunities and career structure is the potential implication area (Gilano et al., 2023).

2.2.3. Training and employee performance

There are studies that highlight the relationship between training and employee performance.

A cross-sectional survey research conducted to examine the effect of training on employees' quality of work in consumer goods firms in Ibadan, Nigeria. Both descriptive and inferential statistics including Pearson product moment correlation co-efficient was used to test the postulated hypotheses/ The findings reveal a significant positive correlation between on-the-job training and employees' quality of work ($R = 0.208^{**}$, $N = 158$, $p < 0.09$). This suggests that as on-the-job training rises, there is a commensurate rise in employees' quality of work, leading to improved employee performance. The results indicated a significant positive relationship between on-the-job training and employee quality of work and when organizations undertake on-the-job training, employees' performance tends to improve through high quality (Ibojo and Akinade, 2024).

A quantitative study employed descriptive and causal method conducted to determine the effect of training on the performance of employees at PT. Astra International Tbk - Toyota Sales Operation (AUTO2000) Soekarno Hatta Bandung Branch, Indonesia. The type of sample used is a saturated sampling. Simple regression data analysis technique was used to analyse data. The findings of the study indicated that training improves employee performance by 0.441. Training affects the performance of technician employees by 65.1%, while 34.9% is influenced by other factors. The study concludes that training has a positive and significant effect on employee performance, with a coefficient of determination of 65.1% (Mahardika and Luturlean, 2020).

A descriptive case study conducted to assess the impact of training and development practices on employees' performance in commercial banks in Sierra Leone, with a focus on Union Trust Bank. The researchers analyzed the data both qualitative and quantitative. The statistical tool employed in the study was regression analysis. Stata 18 was used to do regression analysis. The study uses the Ordinary Least Square as model fit for doing analysis. From the analysis, effective training and development has a positive and significant effect on employee performance, as it increases the

performance level of employees by 0.5724 which can easily translate to UTB productivity (Conteh, 2024).

Many other studies have also reported that, training and development positively and significantly related to employee's performance (Ayalew, 2017, Valentine, 2017, Assefa, 2016); (Romanework, 2015, Tsegay, 2015)

2.2.4. Working environment and employee performance

A health facility based cross-sectional study conducted to assess the level of job performance and associated factors among health workers working in public hospitals of West Hararghe zone, Oromia Region, Multivariate logistic regression was computed to identify predictor variables associated with level of job performance variables with $p \leq 0.05$ were considered statistically significant with 95% CI. The result indicated that, working condition is one of the most predicting variable of health workers job performance: respondents who had good job performance were those who work in good working condition were likely two times [AOR= 2.164[1.128, 3.844]] greater than those working in poor working condition.(Ousman and Worku, 2022)

A cross-sectional study design was conducted to measure level of work performance and to identify associated factors among workers in Amhara national regional state health bureau. Binary logistic regression was calculated to explore the relation between the predictors and outcome variable. Multivariate logistic regression model with 95% C.I. was also computed to determine the independent association of factors with work performance. The research finding demonstrated that types of working department (AOR=2.49; 95% CI: 1.22, 5.12), and type of work (AOR=0.32; 95% CI: 0.13, 0.77) had significantly associated with performance.(Bereda and Debalkie, 2018)

A facility-based cross-sectional study was conducted to assess the job performance and associated factors of nurses working in adult emergency departments at selected public hospitals in Addis Ababa, Ethiopia. A binary logistic regression analysis was done to determine factors associated with the performance of nurses. The strength of the association was measured using an adjusted odd ratio (AOR) with a 95% confidence interval (CI), and a P-value < 0.05 was considered statistically significant. The research finding demonstrated that objectives to be achieved [AOR = 1.88 (95% CI: 1.32–2.67)], and feedback on performance appraisals [AOR = 1.65 (95% CI: 1.17–2.33)] were identified as significantly associated with nurses' performance. (Daba et al., 2024)

Another descriptive study conducted to understand "the role of digital technology in improving the performance of employees in the Palestinian banking sector. The SPSS program was utilized to process and analyze the data. Simple regression test applied to determine the size of the effect of the independent variable on the dependent variable. The study result shows that there is a positive, direct relationship between the use of digital technology and the performance of employees in Palestinian banks, as the correlation coefficient between them reached (0.581). It was also shown that the independent variable (use of digital technology) has an impact on (employees' performance), based on the values of the calculated (t) amounted to (12.731), which is greater than the tabulated (t) value (1.96) at the significance level (0.05). It also shows that, the digital technology use explained 33.6% of the variance in employee performance and the use of digital technology contributes significantly to increasing the effectiveness and efficiency of workers in Palestinian banks (Tomizh, 2024).

The importance of physical work environment has now been realized and modern healthcare sectors are making all possible efforts to make the work environment more comfortable, safe and healthy. The physical environment which includes office design, lighting, ventilation and other basic amenities seem to have a great impact on the performance of workers in the health facility (Edem et al., 2017).

The working environment plays a crucial and critical role in ensuring that the employees are comfortable, satisfied and are able to exploit their full potential and at the same time while have the right working condition, ambiance and support that they will need to carry out their duties (Chaurasia and Shukla, 2014). Physical work environment influences quality and quantity of work being performed by employees. When physical structure of organization is poorly designed it may create inefficiency, dissatisfaction, and less productivity in employees. If such conditions are prevailed for longer time, they influence health and wellbeing of employees and create delays in achieving targets and organizational goals (Mathews et al., 2016). Coworkers support is so effective and influential when it comes to cancelling out job stress and managing workload (Mohamed and Ali, 2016). Overwhelming number of evidence proves the support from supervisor and/or coworkers influences positively and greatly in an employees' performances (Awan and Tahir, 2015).

A study done in Turkey found that employees who performed under the unpleasant working conditions influence employee to demonstrate low level job performance than the others who work under better work conditions (Kahya.E., 2007)..

A cross-sectional study which aims to investigate the relationship between the employee performance and work environment and to determine the impact work environment has on employees' performances at work has been conducted in a in a Turkish real estate company Investo Global. Data were collected from 92 selected employees using a structured quantitative questionnaire and data analyzed through SPSS. Pearson's Correlation Analysis was used to see the relationship of variables. The factors which were selected for measuring work environment were employee benefits, supervisors and coworker's support, training and development, adequate workload, physical work environment. The results show all the variables had a significant and positive relationship with employee performance. The most dominating variable out of all was employee benefits as considered by the employees of Investo Global which effect their work performance greatly (Shammout, 2022).

The physical working environment is an important factor that influences employee performance (Ashkanasy et al., 2014). The working environment is a key factor that greatly influences the job performance of employees (Markey, 2013). Providing favorable working conditions or environment will guarantee the well-being of employees as well as motivate them to focus and channel their energy to their jobs translating to higher performance (Harley et al., 2010).

The perks of creating and maintaining a positive working environment are huge, since it translates to satisfied, happy employees, increasing productivity which means more profits for the organization and the overall performance of the organization (Birhane, 2016). In addition, by improving the workplace environment, an organization is able to cut on costs, lawsuits, strikes and go- slows and lastly reduce the number of error rates (Bhatnagar and Biswas, 2010). The current physical environment is distinguished by technology, computers, machines, the general furniture and furnishings which continually affect the brain and overall health of the employees (Boxall and Macky, 2014).

Leadership style has an influence on employee performance (Tamtomo et al., 2022). The study focused only on the leadership style and how it impacted the results. The leadership style used in

an organization has a direct impact on employee performance (Sari and Fuadati, 2022). According to this study, leadership style has a significant positive impact on performance.

There is a positive coefficient between management style and employee performance, the more suitable the management style is for the employees, the higher the final performance of the employee (Nurjaya et al., 2022). According to this study, the regression coefficient of the leadership style variable (X) is 0.63, which means that if leadership style increases by 1 unit, then employee performance (Y) will increase by 0.63.

An investigation was made on the effect of corporate culture on organizational performance (Ghumiem et al., 2023). A sample of 408 participants from administrative and technical staff was selected using random sampling. A questionnaire survey was used as data collection instrument. In this study, a quantitative research approach and Structural Equation Modelling (SEM) were used to address the objectives of the study and to examine the impact of organizational culture on performance. Confirmatory Factor Analysis (CFA) using AMOS was utilized to evaluate the measurement model for this study. The findings showed a significant positive impact of culture on corporate performance. The study concluded that corporate culture positively impacts organizational effectiveness and performance. The study demonstrated that companies with a strong corporate culture have loyal workers who actually perform well, which increases their capacity to manage and reduce the consequences of the external environment.

Another study examined the impact of organizational culture and employee performance on Islamic banks in Indonesia, as well as understanding the mediating role of organizational leadership commitment on job satisfaction (Sopiah et al., 2021). This study applied a survey method to collect data from a sample of 600 employees in several Islamic banks in Indonesia, including Bank Muamalat, BTN Syariah, Bank Mandiri Syariah, BRI Syariah, and BNI Syariah, who have worked for more than three years. The study used a quantitative method using path analysis to understand the relationship between variables and the existing phenomenon. The results found that corporate culture positively and significantly affects employees' performance in the Islamic banking sector. The study concluded that organizational culture positively impacts Islamic banks performance both directly and indirectly through organizational commitment and job satisfaction.

A study was conducted to investigate the impact of organizational structure on employee performance (Kampini, 2018). The study employed a survey research design and targeted the whole population 25 staff of New Era secondary school using purposive sampling. The study used a structured questionnaire to collect data. The results also revealed that building a strong and effective organizational structure is critical to enhancing employees' performance because it serves as a drive to boost performance. From the results, it also shows that building a good organization structure is important for employee to perform well in their work. This is true as 44% of the respondents from the study indicate that it is necessary for organization to have good organization structure since it helps in motivating employee performance. Furthermore, the results of the study also provide evidence that group decision making help employees to experience achieve job satisfaction.

An investigation on "Organizational structure and employees' performance: A study of brewing firms in Nigeria" has revealed that, organizational structure had a significant positive effect on staff performances of brewing firms in Nigeria (Shahzad, 2017). Hence, the study recommended that brewing firms should prioritize the development of adequate structures that align with all organizational units and component parts in order to improve employees' performance.

A sector-based study conducted on the "Impact of organizational structure on employees' creativity:" (Hassan et al., 2014). The study used stratified random sampling to draw a sample of 240 participants. The study applied both descriptive and inferential statistics to analyze the data. The study found that there is a strong positive association between organizational structure and employees' creativity. The study suggested that findings of the study will help the managers and top management of the organization to make effective structural changes associated with the employees' creativity.

An empirical study on the effectiveness of organizational corporate culture on employee performance as well as employee's productivity using Indian banking industry was presented by (Gunaraja, 2014). A sample of 110 employees was selected using stratified random sampling and simple random sampling methods. The findings revealed that a large number of respondents almost more than 50% of the respondents strongly agreed that organizational corporate culture has an influence on employee work performance and the study further showed that there is a positive relationship between corporate culture and employee's job performance.

A study was conducted in Ghana University by (Mariama Zakari, 2013) on organizational culture and Performance. The study examined the relationship between organizational culture and performance in Ghana, using five-point Likert scale and the Denison's Organizational Survey Instruments. The analysis was based on 296 respondents from various departments with varied positions. The results indicated that there was a positive relationship between Organizational Culture and Performance in the case of banking Industry in Ghana. Among the Organizational dimensions, Mission was the Culture trait with the strongest potential of impacting positively on Performance.

Finally, a study conducted on the impact of organizational culture on employee performance revealed that, value and norms of an organization were based upon employee relationship (Awadh and Saad, 2013). And at last the strong culture of an organization based upon managers and leaders help in improving level of performance. Managers relate organization performance and culture to each other as they help in providing competitive advantage to firms. Significant demonstration of both positive and negative characteristic of culture has significant consequences on employees as well as firm's performance.

It has been more than 5 years since the information revolution agenda was designed and implemented to address the multifaceted problems associated with using information for decision-making by updating the health information management system in the health sector. In recent times, there have been many improvements at the national and regional levels, but in terms of the goals set in the agenda, there are still many problems in terms of using information for decision-making, digitalization of the information system, and in terms of leadership and management.

Routine reports issued by the DDAHB and the Federal Ministry of Health, Ethiopia indicates that, the major cause of these problem is majorly associated with lack of infrastructure, shortage of budget, insufficient manpower both in number and professional mix which arises from improper organization of jobs are worthy to be mentioned. For example, in the 16 health centers and two general hospitals under DDAHB, only 34 Health Information Technicians are currently hired as permanent staff. At the health center level, these professionals are directly accountable to the Primary Health Care Unit (PHCU) director, and at the hospital level, to the hospital's CEO. This is due to the fact that the work related to the health information system at the hospital or health

center level is not organized as team or department, but, it is organized as a flat structure so that the work is carried out under the direct supervision of the head of the health facility.

As a result of this, the work related to the health information system has been conducted in a scattered manner without an independent coordinator; Failure to assign a number of professionals commensurate with the work; The problems of lack of manpower with the required professional mix are having a negative impact on the implementation of strategies and different initiatives related to enhancing the culture of using information for decision making and digitalization. On the other hand, it creates burden/workload and has reduced the work motivation of HITs currently employed in every health facility, and is becoming the main reason for the poor data quality (DDAHB and Federal Ministry of Health annual and routine reports).

On the other hand, following the point evaluation system that was recently implemented at the national as well as at DDA level, the grade that was given to level 4 HITs in the position classification method would go up one level from level 4 nurse specialist.

Complaints and petitions are being submitted to the relevant leaders in every forum to resolve the issue, but the problem has continued since the last two three years. This situation has had a negative impact on the work motivation of HITs and the quality of health information, and has resulted in layoffs for professionals. Situations are happening where they are forced to change their profession by pursuing their studies in another professional field.

2.2.5. Competence and Employee Performance

The effect of competence on employee performance at the Education and Culture Office of Enrekang Regency was investigated by (Musa and Natsir, 2023). The study used simple linear regression analysis to analyze the data. The results of the study indicated that competence has a significant influence on employee performance.

A descriptive, quantitative, verification study which aims to determine how much the Human Resources Competency affects employees and staff's performance working at Planet Fashion Retail Company, Bandung, Indonesia was conducted. Multiple Linear Regression Analysis techniques used to determine the influence of human resource competencies on employee performance. To measure the strength and proportion of the relationship between variables, Correlation Coefficient and Coefficient of Determination used. The significance of the influence of human resource competency on employee performance were tested by using the T-test value.

The study found a positive influence of human resource competency on employee performance. The correlation coefficient between human resource competency and employee performance was 0.505, indicating a fairly strong relationship. The coefficient of determination showed that 25.5% of the variation in employee performance could be explained by human resource competency. The T-test results indicated that human resource competency has a significant effect on employee performance, with a t-value of 3.067, which is greater than the t-table value of 2.039, and a p-value of 0.000 leading to the rejection of the null hypothesis (H0) and acceptance of the alternative hypothesis (H1) (Aprilia et al., 2020).

A descriptive and verification method used which aims to discuss the effect of competencies and incentives on Performance through job satisfaction at the Bulukumba Regency Health Office in Indonesia. The data analysis technique utilized is path analysis with the help of SPSS software, and the Sobel test was conducted. The findings of the study showed that competence has a positive and significant effect on employee performance. The criteria for acceptance of hypotheses is if t-count > t-table and P-value ≤ α (0.05), while the hypothesis is rejected if t-count < t-table and P-value > α (0.05). Guided by the t-table is 1,983 and obtained t-count of 2,076. This indicates that the t-count of the table or 2,076 > 1,983 and the p-value of the t-test result of the competency variable, is 0.040 smaller than the significant level of α = 5% or (0.040 < 0.05). Hence the accepted hypothesis means competency has a positive and significant effect on employee performance (Bahari et al., 2021).

Another descriptive study conducted with the aim of determining the effect of competence on the performance of employees at the Department of Fisheries and Marine Pelalawan District. The number of samples in this study as many as 41 employees. Simple Linear Regression Analysis techniques used to determine the effect of competency on employee performance. The results of simple linear regression test obtained value Y = 12.455 + 0.635X. From result of hypothesis test on result of t test obtained t count (5,795) bigger than t table value (2,022) with significant level 0.000 <0.05 which depicts that competence have positive and significant effect to performance. And the test of coefficient of determination (R 2) obtained value shows that, 46.3 % of employee performance influenced by competence and the remaining by other variables not examined by this research (Hendra and Alfaris, 2019).

Another study also examined the effect of competence on employee performance with satisfaction as a moderating variable at the Makassar City Social Service (Andi Ismawaty, 2022). This study uses a quantitative approach. Data were analyzed using multiple regression model. The results showed that competence had an effect on employee performance.

2.3. Conceptual Framework of the Study

The conceptual framework of this study outlines a graphical representation the relationship between incentive packages (training, competence, job satisfaction, work environment, and socio-demographic characteristics) and HIT's performance in public healthcare facilities of the Dire Dawa administration investigated from different literature review.

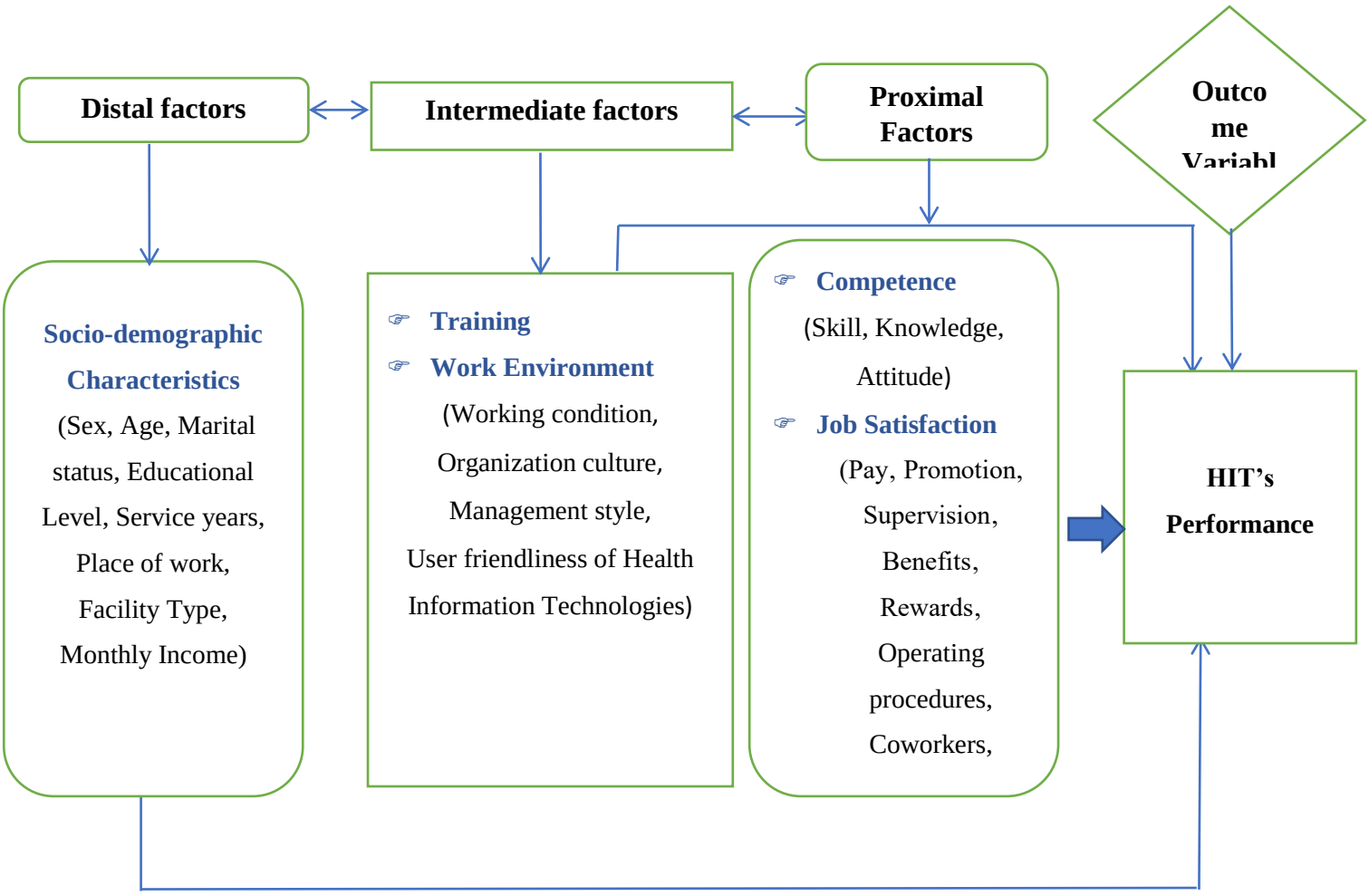


Figure 1: Conceptual framework in assessing the level and predictors of HIT's performance in public health facilities of DDA, 2025

Source: Adopted from various literature

3. METHODS AND MATERIALS

3.1. Study Area/Setting and Period

This study was conducted in the Dire Dawa Administration (DDA) from January 13, 2025, to January 31, 2025. The Dire Dawa Administration is one of the chartered city administrations established by Proclamation No. 416/2004 under the Federal Democratic Republic of Ethiopia, located in the eastern part of Ethiopia and composed of outer lowlands in its eastern parts. The Dire Dawa Administration is bordered by the Somali National Regional State in the northwest, north, and east, and by the Oromia National Regional State in the south. The administration covers an area of 1,547 square kilometers (Central Statistical Agency ATLAS 2011). The administration is divided into a total of 47 kebeles (38 rural and 9 urban). According to the Central Statistical Agency (CSA) population projection, the administration was forecasted to have about 565,865 inhabitants (close to 0.52% of the total population size of the country) in 2024, of which 50.5% were male and 49.5% were female (CSA, 2007). Of the total population, 66% lived in urban areas, while the remainder dwelled in rural kebeles. Regarding health facilities and the health workforce, there were 54 public health facilities (2 hospitals, 16 health centers, and 36 health posts) directly accountable to the Dire Dawa Administration Health Bureau (DDAHB). In terms of distribution, 2 hospitals and 9 health centers were located in urban areas, while the remaining 43 health facilities (36 health posts and 7 health centers) were situated in rural areas. According to the administration health bureau's 2024 report, 1,506 permanently hired health professionals (652 male and 854 female) were working at both rural and urban health facilities mentioned above.

3.2. Study Design

This study employed a cross-sectional study design with both quantitative and qualitative research approaches to assess the level of Health Information Technicians performance and identify determinants in public healthcare facilities of the DDA.

3.3. Source Population

The source population for this study was all HITs, Hospital CEOs and PHCU Directors in public health facilities of DDA, and the bi-annual performance appraisal result of HITs

3.4. Study Population

As it is mentioned below in 3.7, this study employed a census method of sampling techniques and the source population and study population are the same. The minimum sample size needed for a survey is mainly influenced by the total population size and the level of accuracy desired for the results. The consensus among statisticians is that in order to obtain any significant findings, a minimum sample size of 100 is required. If a population is smaller than 100, it is necessary to survey the entire population. Therefore, based on the above propositions, the study aimed to survey the entire population, because, the population of the current study is all permanently hired HITs working ≥ 1 year, 18 purposively included HF heads and bi-annual performance appraisal result of all HITs which falls below the minimum sample size of 100.

3.5. Inclusion and Exclusion Criteria

3.5.1. Inclusion criteria

Health information technicians hired on permanent base and working in all public healthcare facilities (16 Health centers and 2 General Hospitals) and who have greater than ≥ 1year work experience included in the study.

3.5.2. Exclusion criteria's

Exclusion criteria's; those HITs permanently hired but who have less than ≥1year work experience or on probation period, HITs who are on the leave, on long-term training or critically ill during the data collection period are excluded. HITs with less than 1 year of service and the temporarily employed one's are excluded, because, according to the Administration's public service proclamation, employees on a probation period are not considered as permanent employees and also those employed on contractual base are not considered as a public servant and not administered by the public service rules & regulations.

3.6. Sample size Determination

A total of 18 public health facilities (2 General Hospitals and 16 Health Centers) in DDA and 34 HITs are employed permanently and working in these health facilities. The source population and study population are the same and the study used all HITs (34 permanently employed HITs) and all (18) health facility heads in public healthcare facilities (2 General Hospitals and 16 Health Centers) in DDA, and the bi-annual performance appraisal result of 34 (all) HITS

3.7. Sampling Technique and Procedure

In this study, a total sampling or census method was used. Therefore, the sample for the quantitative study amounted to all 34 Health Information Technicians (for all guided interview and their annual BSC performance), whereas for the qualitative study, it included 18 health facility heads working at all public healthcare facilities (16 health centers and 2 general hospitals) in the Dire Dawa Administration. In studying the performance of Health Information Technicians, primary data sources were utilized. Primary data were collected from Health Information Technicians and heads of public healthcare facilities in the Dire Dawa Administration, with data regarding the performance level of each Health Information Technician collected from health facility heads.

Total Sampling or Census Method used

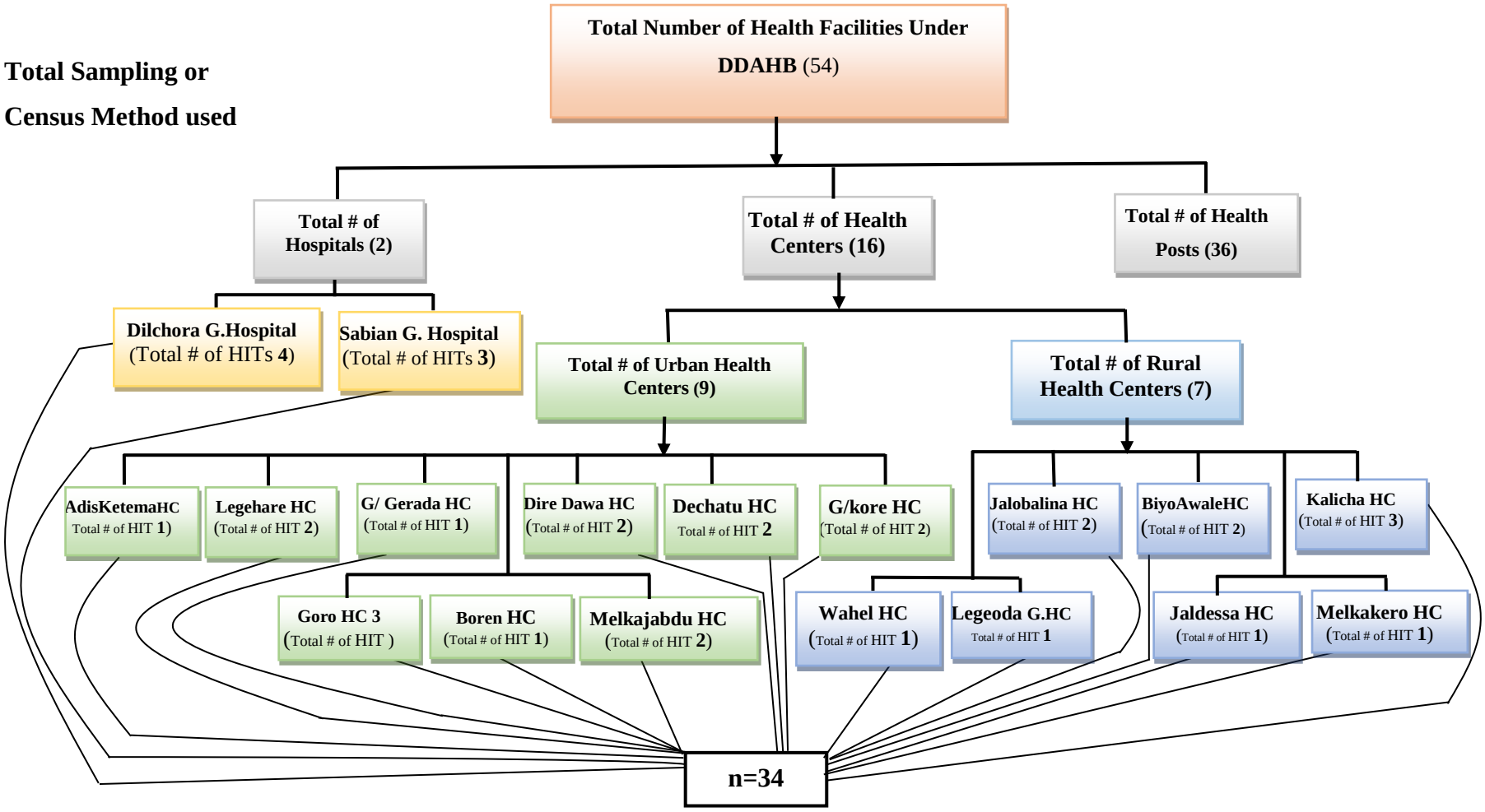


Figure 2: Sampling Procedures in assessing the level and predictors of HIT's performance in public health facilities of DDA, 2025

3.8. Methods of Data Collection

3.8.1. Data collection instrument

This study used primary data collected from public healthcare facilities in the Dire Dawa Administration. This research utilized document abstraction (annual individual HIT BSC performance review) questionnaires and interviews as instruments to collect primary data from Health Information Technicians and relevant bodies. A structured self-administered questionnaire consisting of close-ended questions was applied. The questionnaire had two sections: the first section involved the respondent's personal data, while the remaining sections were designed to gather data on the factors influencing the performance of Health Information Technicians. The entire questionnaire involved five-level Likert scale questions, consisting of ordinal data. For the qualitative part, in-depth interview question guides were designed to collect information that helped triangulate the quantitative data collected through questionnaire surveys.

3.8.2. Data collectors and supervisors

Three data collectors with background of public health officers, Nurses and Management, were recruited out of the study area and one supervisor with qualification of Master's degree in Health Informatics were involved in data collection facilitation.

3.8.3. Data collection procedure

Before starting both quantitative and qualitative data collection, the principal investigator asked for and obtained a permission letter from the administrative health bureau head to collect information from public health facilities. For the quantitative part, before starting data collection, the aim of the study, the risks and benefits of the study, confidentiality of information, and the rights of the participants were explained to the participants; after their permission and voluntary consent, a signature was taken. Data were collected using a self-administered data collection technique. For the qualitative part, as the data collection method was through in-depth interviews, the data collectors identified and communicated with the facility head and set up a schedule for data collection. During the data collection phase, the data collector followed the same steps mentioned above for quantitative data collection to obtain permission and voluntary consent from health facility heads and then asked open-ended questions using the structured interview guide. The data collectors then took detailed notes and recorded the sessions for later analysis.

3.9. Variables

3.9.1. Dependent Variable

The main variable of interest was the performance level of Health Information Technicians, which was measured using the bi-annual performance appraisal results conducted by their respective health facility. According to the Public Service and Human Resource Development Bureau of the Dire Dawa Administration, any permanently employed government employee's performance shall be evaluated twice a year (every six months) at the office where they are employed. Based on the performance evaluation result, if the score is 95% and above or 5 points, it is rated as very high performance; if the score is between 85% and 94.99% or 4 points, it is rated as high performance; if the score is between 65% and 84.99% or 3 points, it is rated as medium performance; if the score is between 50% and 64.99% or 2 points, it is rated as low performance; and if the score is below 50% or 1 point, it is rated as very low performance. Accordingly, any employee whose score is 65% and above or 3 points and above has the right to receive a salary increment every two years, but those who score below 65% or below 3 points are not entitled to any salary increment and, if they do not improve their results in the next 2 consecutive evaluations, they will be subjected to disciplinary action according to the public service law of the administration. Therefore, based on the above five levels of performance threshold, the performance of Health Information Technicians was regrouped into two categories as high (1) and low (0) for the convenience of analysis in this study. Hence, the overall performance level of Health Information Technicians was calculated using the average score of two consecutive performance evaluation results from the 2016 Ethiopian Fiscal Year, and if the Health Information Technicians scored ≥85%, it was rated as high performer or (1), while those who scored <85% were rated as low performer (0).

3.9.2. Independent Variables

The determinants affecting the performance level of Health Information Technicians were measured by factors such as socio-demographic characteristics of the employee (sex, age, marital status, level of education, service year, place of work, facility type, and monthly income), Training, Competency (knowledge, skill, and attitude), Job Satisfaction (pay, promotion, supervision, benefits, rewards, operating procedures, co-workers, work itself, and communication), and Work

Environment (working condition, organizational culture, management style, and user-friendliness of health information technologies). To identify factors affecting Health Information Technicians' performance level, which was the outcome variable of interest, respondents were asked to rate the extent to which they agreed with each question listed under the above items. Each item was designed on a five-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree). In this study, the computation method was used to produce a single measure of a variable from Likert scale variables; to achieve this, the mean of the scores for each respondent was computed to determine a composite score that reflected the average response for each item on the scale.

3.10. Operational Definitions

Health Information Technicians' performance level: In this study, Health Information Technicians' performance level was measured using the bi-annual performance appraisal results of Health Information Technicians. The overall performance level of Health Information Technicians was calculated using the average score of two consecutive performance evaluation results from the 2016 Ethiopian Fiscal Year. Hence, those Health Information Technicians who scored ≥85% were rated as high performers or (1), and those who scored <85% were rated as low performers (0).

Training: The relationship between training and its influence on Health Information Technicians' performance level was measured using 13 items on a five-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree).

Competency: The association between Health Information Technicians' competency and their performance level, as well as its relationship with other independent variables, was measured using 16 questions categorized under three sub-items on a five-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree); questions one to five were knowledge-related, questions six to nine were skill-related, and questions ten to sixteen were attitude-related.

Job Satisfaction: To assess the relationship between Health Information Technicians' job satisfaction with their performance level and other independent variables, 36 questions categorized

under 9 sub-items (pay, promotion, supervision, benefits, rewards, operating procedures, co-workers, work itself, and communication) were used on a five-point Likert scale (1=strongly dissatisfied, 2=dissatisfied, 3=neutral, 4=satisfied, and 5=strongly satisfied); questions one to four were pay-related, questions five to eight were promotion-related, questions nine to twelve were supervision-related, questions thirteen to sixteen were benefits-related, questions seventeen to twenty were rewards-related, questions twenty-one to twenty-four were operating procedures-related, questions twenty-five to twenty-eight were co-workers-related, questions twenty-nine to thirty-two were work itself-related, and questions thirty-three to thirty-six were communication-related. The overall job satisfaction of Health Information Technicians was calculated by taking the average scores of the nine sub-items.

Working Environment: The relation between the organization's work environment and its influence on Health Information Technicians' performance level was measured by four vital components (work condition, organizational culture, management style, and user-friendliness of health information technologies) on a five-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree); questions one to seven were work condition-related, questions eight to ten were organizational culture-related, questions eleven to sixteen were management style-related, and questions seventeen to nineteen were user-friendliness of health information technologies-related.

3.11. Data Quality Assurance

The study applied content validity to assess the clarity, simplicity, and relevance of the questionnaires through discussions with health research experts. The questionnaire was pretested, and 5 questionnaires were administered to randomly selected Health Information Technicians in government health facilities of the Harari region. The collected data were checked for consistency and completeness before any attempt to enter, code, and analyze them. Furthermore, the completeness and consistency of data were assured through direct and daily supervision by the supervisor and principal investigator. One day of data collection facilitation training was given on how to identify subjects and distribute and collect back questionnaires. For qualitative data, a high-

definition tape recorder was used in addition to note-taking, and daily debriefing was also done to correct errors encountered during data collection.

3.12. Method of Data Analysis and Presentation

For the quantitative part, the data collected through questionnaires were analyzed using both descriptive and inferential statistical analyses. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarize the data, and results were presented using frequency tables. Inferential statistics such as regression and correlation analysis were utilized to test the effect of the distal and proximal independent variables on the dependent variable of the study. STATA version 17.0 were used as data management and statistical analysis tools to analyze data. Data were presented using tables and figures. For the qualitative part, the collected data were transcribed and coded into themes using either inductive (data-driven) or deductive (theory-driven) approaches. Atlas.ti was utilized for coding. The coding process continued until saturation was reached, meaning no new themes emerged from the data. Throughout this process, to ensure data validity, techniques such as member checking (where participants verified the accuracy of the data and interpretations) and triangulation (where multiple sources or methods confirmed the findings) were used. Finally, after gaining a full understanding of the depth and richness of the data through an iterative and nonlinear process, data were interpreted, and findings were presented in a meaningful way.

3.13. Ethical Considerations

Ethical approval was sought from the Institutional Health Research Ethics Review Committee (IHRERC) of the Haramaya University College of Health and Medical Sciences before data collection. For this study's data collection, data collectors were recruited from public health facilities using educational background and previous experience in data collection as selection criteria. Before starting data collection at health facilities, a letter of request regarding the study and its purposes was submitted to the administration health bureau to obtain permission to conduct data collection from health centers and hospitals. After permission was granted, informed, voluntary, written, and signed consent was obtained from participants (Health Information Technicians and heads of health facilities) after a discussion on the study objectives. Participation

was voluntary, and participants' rights and information confidentiality were ensured during and after the data collection process. The participants were given the choice of participating in the study or not, and they had the right to withdraw themselves from the study at any time they wished. In addition, the respondents were reassured that their responses would be confidential during the research process, and participants' identities would not be disclosed.

3.14. Information Dissemination

The findings of this study will be presented at the Haramaya University master's thesis defense, the Dire Dawa Administration Health Bureau health information system review meeting, the annual review meeting, and various symposia. Finally, a manuscript will be developed and published in a peer-reviewed journal.

4. RESULTS

4.1. Quantitative Finding

4.1.1. Socio-Demographic Characteristics of Health Information Technicians (HITs) of Public Healthcare Facilities in DDA

The study achieved a 100% response rate, with all available HIT professionals in public health facilities within the Dire Dawa Administration (DDA) participated. The participants were predominantly young (mean age: 28.4 ± 4 years), indicating a fairly homogeneous early-career group (likely aged 24-32 years). A majority were female (58.82%), had mid-level experience (mean years of service: 7.3 ± 3.8), worked in urban areas (70.59%), and were employed in health centers (88.24%).

Table 1: Socio-Demographic Characteristics of HITs in Public Healthcare Facilities in DDA (2025).

S.N	*Variables*	*Categories*	*Frequency*	*Percentage*
1	Sex	Female	20	58.82
		Male	14	41.18
2	Age	Mean	28.4	-
		SD	4	-
3	Marital Status	Married	18	52.94
		Single	16	47.06
4	Level of Education	Level 4	31	91.18
		Degree	3	8.82
5	Years of Service	Mean	7.3	-
		SD	3.8	-
6	Place of Work	Urban	23	67.65
		Rural	11	32.35
7	Facility Type	Hospital	7	20.60
		Health Center	27	79.40
8	Monthly Income	Mean	4,202.7	-

4.1.2. Capacity Building, Competency, Job Satisfaction and Working Environment Among HITs in Public Healthcare Facilities in DDA

To segregate the data, the composite variables have been grouped into three sub-tables: (1) Capacity Building (focusing on training); (2) Competency (knowledge, skills, and attitude toward HIT's); and (3) Job Satisfaction (encompassing pay, promotion, supervision, benefits, rewards, operating procedures, coworker availability, work itself, communications, job satisfaction) and Working Environment as (working conditions, organizational culture, management, user-friendliness of the system, and work environment).

4.1.2.1. Capacity building/Training

Training is a crucial factor in enhancing job performance, skill development, and overall productivity of Health Information Technicians (HITs) working in public healthcare facilities in Dire Dawa Administration. The findings in Table 2 indicate that the majority of respondents have a positive perception of the training programs provided by their organizations. Across all the listed training-related statements, a significant proportion of respondents agreed that training has contributed to improving their performance, with an average percentage of 88.24% agreeing or strongly agreeing (50% strongly agreeing) for various aspects of training effectiveness.

Despite the overwhelmingly positive responses, some areas require attention. About 11.8% of respondents were indeterminate whether they are provided with sufficient growth opportunities through training, and also felt that the training they received had or had no significant effect on their job performance. Furthermore, these respondents were not sure that equal training opportunities are provided within the organization, suggesting the need for a more inclusive and standardized approach to training allocation.

Table 2: Capacity Building (Training) among HIT's in Public Healthcare Facilities in DDA (2025)

S. N	Variables	Categories	Frequency	Percentage
1	Training	Neutral	4	11.76
		Agree	13	38.24
		Strongly Agree	17	50.00

4.1.2.2. Competency (Knowledge, Skills, and Attitude Toward HITs) among HITs in Public Healthcare Facilities of DDA

In a survey of 34 respondents assessing competence in Health Information Technicians (HITs), the majority reported high levels of knowledge and skills, with 85% agreeing or strongly agreeing that they possess adequate knowledge (52.94% strongly agreeing) and 88% affirming strong skills (61.76% strongly agreeing). Attitudes toward HITs were less uniformly positive, with 61.76% agreeing or strongly agreeing, while 38.24% remained neutral or disagreed. Overall, 85.3% rated their HITs competence positively, with 47.06% agreeing and 38.24% strongly agreeing, indicating robust self-perceived proficiency despite moderate variability in attitudes.

Table 3: Competency (Knowledge, Skills, and Attitude of HITs) among HITs in Public Healthcare Facilities in DDA (2025)

S.N	*Variables*	*Categories*	*Frequency*	*Percentage*
1	Knowledge of HITs	Disagree	2	5.88
		Neutral	3	8.82
		Agree	11	32.35
		Strongly Agree	18	52.94
2	Skills of HITs	Disagree	2	5.88
		Neutral	2	5.88
		Agree	9	26.47
		Strongly Agree	21	61.76
3	Attitude of HITs	Disagree	6	17.65

S.N	Variables	Categories	Frequency	Percentage
		Neutral	7	20.59
		Agree	11	32.35
		Strongly Agree	10	29.41
	Competence (Overall)	Disagree	4	11.76
		Neutral	1	2.94
		Agree	16	47.06
		Strongly Agree	13	38.24

4.1.2.3. Job Satisfaction

Job satisfaction among HITs of public health facilities in DDA (2025) is low (overall mean: 2.41). High dissatisfaction in pay (70.59%, mean 2.06), benefits (64.71%, mean 2.15), rewards (61.76%, mean 2.29), promotion (58.82%), operating procedure 52.94% and supervision (50%). Communications (mean 3.00) and work itself (mean 2.68) are better, but only 14.71% overall satisfied.

Table 4: Job Satisfaction among HITs in Public Healthcare Facilities in DDA (2025)

S.N	Variables	Categories	Frequency	Percentage
1	Pay	Strongly Dissatisfied	15	44.12
		Dissatisfied	9	26.47
		Neutral	4	11.76
		Satisfied	5	14.71
		Strongly Satisfied	1	2.94
2	Promotion	Strongly Dissatisfied	10	29.41
		Dissatisfied	10	29.41
		Neutral	6	17.65
		Satisfied	6	17.65
		Strongly Satisfied	2	5.88

S.N	*Variables*	*Categories*	*Frequency*	*Percentage*
3	Supervision	Strongly Dissatisfied	6	17.65
		Dissatisfied	11	32.35
		Neutral	10	29.41
		Satisfied	6	17.65
		Strongly Satisfied	1	2.94
4	Benefit	Strongly Dissatisfied	13	38.24
		Dissatisfied	9	26.47
		Neutral	8	23.53
		Satisfied	2	5.88
		Strongly Satisfied	2	5.88
5	Reward	Strongly Dissatisfied	9	26.47
		Dissatisfied	12	35.29
		Neutral	9	26.47
		Satisfied	2	5.88
		Strongly Satisfied	2	5.88
6	Operating Procedure	Strongly Dissatisfied	9	26.47
		Dissatisfied	9	26.47
		Neutral	8	23.53
		Satisfied	6	17.65
		Strongly Satisfied	2	5.88
7	Availability of Coworkers	Strongly Dissatisfied	10	29.41
		Dissatisfied	7	20.59
		Neutral	7	20.59
		Satisfied	7	20.59
		Strongly Satisfied	3	8.82

S.N	*Variables*	*Categories*	*Frequency*	*Percentage*
8	Work Itself	Strongly Dissatisfied	9	26.47
		Dissatisfied	9	26.47
		Neutral	4	11.76
		Satisfied	8	23.53
		Strongly Satisfied	4	11.76
9	Communications	Strongly Dissatisfied	2	5.88
		Dissatisfied	12	35.29
		Neutral	7	20.59
		Satisfied	10	29.41
		Strongly Satisfied	3	8.82
10	**Job Satisfaction (Overall)**	Strongly Dissatisfied	5	14.71
		Dissatisfied	15	44.12
		Neutral	9	26.47
		Satisfied	5	14.71

4.1.2.4. Working Environment

Working environment is highly positive (overall mean: 4.21). Strong satisfaction in system user-friendliness (91.18%, mean 4.44), organizational culture (88.24%, mean 4.24), management style (85.29%, mean 4.18), and working conditions (67.65%, mean 3.88). Dissatisfaction minimal (0-6%), indicating a supportive setup to offset job satisfaction gaps.

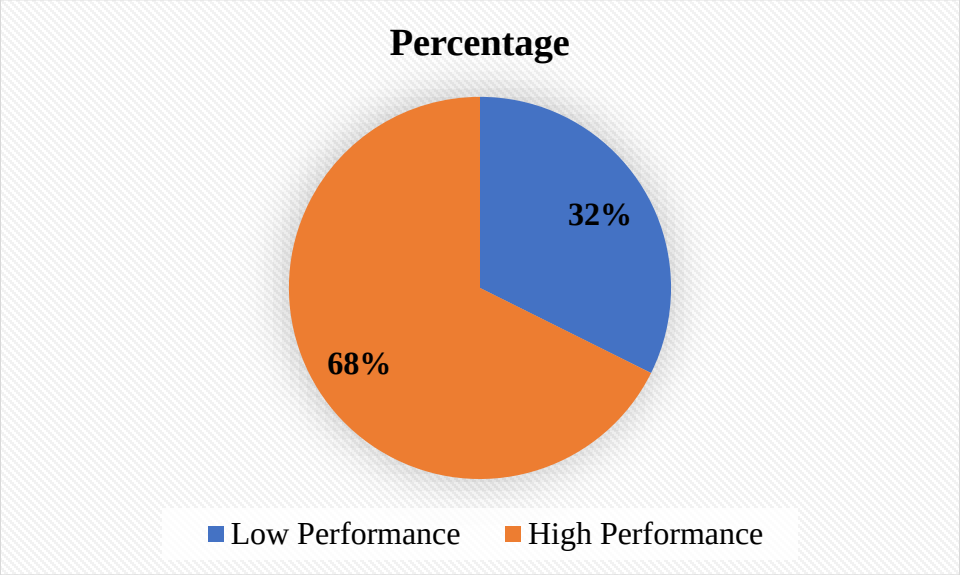
Table 5: Working Environment among HITs in Public Healthcare Facilities in DDA (2025)

S.N	*Variables*	*Categories*	*Frequency*	*Percentage*
1	Working Condition	Disagree	2	5.88
		Neutral	9	26.47
		Agree	14	41.18
		Strongly Agree	9	26.47
2	Organizational Culture	Disagree	1	2.94
		Neutral	3	8.82
		Agree	17	50.00
		Strongly Agree	13	38.24
3	Management style	Disagree	1	2.94
		Neutral	4	11.76
		Agree	17	50.00
		Strongly Agree	12	35.29
4	User Friendliness of the System	Neutral	3	8.82
		Agree	13	38.24
		Strongly Agree	18	52.94
5	**Work Environment (Overall)**	Disagree	1	2.94
		Neutral	6	17.65
		Agree	12	35.29
		Strongly Agree	15	44.12

4.1.3. HITs Performance Level among Public Healthcare Facilities in DDA

Approximately two-thirds of HITs exhibited high performance levels (67.65%).

Figure 3: Overall HITs Performance in Public Healthcare Facilities in DDA (2025)



4.1.4. Factors Associated with HIT's Performance: Standardized Logistic Regression Results

Logistic regression was employed to model the binary outcome of HITs performance (high vs. low), treating it as a generalized linear model where the logit of the probability (p) of high performance is expressed as a linear function of predictors: quantify predictor effects, fulfilling linearity in the logit, independence of observations, no multicollinearity, and adequate population size. However, with N=34, the model faces constraints on statistical power, elevating risks of overfitting and wide confidence intervals (CIs), as evident in the results.

The model's overall significance was confirmed by the likelihood ratio test ($\chi 2(4) = 16.55 \backslash chi^2(4) = 16.55 \chi 2(4) = 16.55$, $p=0.0024$), rejecting the null hypothesis of zero coefficients. Pseudo-$R^2=0.3867$ indicates moderate explanatory power, common in behavioral logistic models. Variance inflation factors (VIFs) were low based on distinct predictors.

Predictors included Sex (Male vs. Female reference), Work Place (Rural vs. Urban reference), Pay raises are too far and few between (a continuous dissatisfaction scale, where higher values denote greater dissatisfaction with pay raises being too infrequent and inadequate), and User

(categorical, representing user-related factors). Significant effects ($p<0.05$) are bolded in the table below, which standardizes presentation with OR, standard error (SE), z-statistic, p-value, and 95% CI.

Table 6: Standardized Logistic Regression Coefficients for Factors Associated with High HITs Performance in Public Healthcare Facilities in DDA

Predictor	*AOR*	*p-value*	*95% CI Lower*	*95% CI Upper*
Sex (Male)	**0.085**	**0.026**	**0.010**	**0.749**
Work Place (Rural)	**17.119**	**0.029**	**1.332**	**220.010**
Pay raises are too far and few between	**0.346**	**0.042**	**0.124**	**0.962**
User	0.662	0.652	0.110	3.983
Intercept (cons)	178.365	0.239	0.032	1,002,092

Sex of HITs Provider (Male) showed 91.5% lower odds of high performance compared to females ($\beta \approx -2.466$, $p=0.026$). This suggests potential gender-specific dynamics, such as role expectations or biases, aligning with social role theory. The wide CI reflects sample size limitations. **Work Place of HITs being (Rural)** increase odds of high performance by over 17 times ($\beta \approx 2.840$, $p=0.029$), possibly due to lower stress, stronger community ties, or adapted resource management. The broad CI indicates estimate imprecision. **Payment RAISES ARE TOO FAR AND Few between (**pay raises being too infrequent and inadequate): Each unit increase in pay dissatisfaction reduces high performance odds by 65.4% ($\beta \approx -1.062$, $p=0.042$), underscoring the role of perceived rewards in motivation per expectancy theory.

Table 7: Integrated Summary of Quantitative + Qualitative Findings

Domain	*Quantitative*	*Qualitative*	*Synthesis*
Training	88% received	Limited, beneficial, needs refreshers	**High access, low continuity** → impacts skill retention
Competency	85% self-rated high	Medium; strong in basics, weak in analysis	**Overconfidence in routine tasks**
Job Satisfaction	Mean 2.41; 15% satisfied	Low pay/benefits; high intrinsic rewards	**Extrinsic deficits offset by meaning and support**
Work Environment	Mean 4.21	Supportive culture, management; resource gaps	**Strong social buffer** against dissatisfaction
Performance	68% high	"Medium"; varies by individual	**Compliance high, excellence limited**
Predictors	Sex, rural, pay	Gender isolation, rural autonomy, pay unfairness	**Model validated by context**

4.2. Qualitative Findings

4.2.1. Socio-Demographic Characteristics

The socio-demographic profile of public health facility heads in Dire Dawa Administration reveals a leadership cadre that is young, educated, and increasingly gender-balanced, yet marked by a deepening urban-rural divide that threatens equitable service delivery.

Gender composition shows 11 (61%) male and 7 (39%) female leaders overall a notable female representation in facility leadership in DDA.

The average age health facility heads are in their late 30s (mean age: 38.1 ± 19.7 years), indicating a mature and experienced workforce. Educational attainment remains a standout strength, with 8 (44%) holding Master's degrees and the remaining 10 (56%) are bachelor degree holders. With regards to work experience, the majority of health facility heads are senior practitioners who have over a decade of experience (mean years of service: 10.6 ± 2.4), with a smaller group of mid-level professionals

The two general hospitals embody the ideal leadership model: 100% female, 100% Master's-educated, and 100% with over 10 years of experience.

Table 8: Summary of Socio-demographic Characteristics of Public Health Facility Heads in DDA, 2025

Variable	Category	Frequency	Percentage
Sex	Male	11	61
	Female	7	39
Age	Mean	38.1 years	-
	SD	19.7	-
Level of Education	Bachelor Degree	10	56
	Master's	8	44
Years of Service	Mean	10.6	-
	SD	2.4	-
Place of Work	Urban	11	61
	Rural	7	39

4.2.2. Training

Facility heads described the available training as "good when it happens," but emphasized that it is "not enough" and occurs too infrequently. Most sessions are program-specific—focusing on areas like malaria, HIV, or the DHIS2 system—and are typically delivered by the Administration Health Bureau or external partners.

"Now it's good; it wasn't before, focusing on data management, quality improvement (QI), and DHIS2" (GHCEO 2).

"...But it is not enough" (PHCU Head U3).

Participants credited training with meaningful improvements in data analysis, quality improvement implementation, and overall staff confidence. Trained Health Information Technicians (HITs) were viewed as more proactive, better at identifying gaps, and providing stronger support across departments.

> *"After the QI training… they have brought change; they themselves and the hospital have benefited" (GH CEO* 2).

A major concern was the absence of regular refresher courses, which leads to gradual skill decay over time.

> *"Since our reading habits are not good, there should be refresher training" (PHCU Head R3).*

4.2.3. Competency

4.2.3.1. Knowledge

Health Information Technicians (HITs) demonstrate a solid foundation in core operational tasks, including recognizing key health indicators, performing accurate data entry, and generating reports through the DHIS2 platform. However, they exhibit notable weaknesses in more sophisticated areas, such as triangulating data from multiple sources, conducting thorough root cause analyses, and applying evidence to inform decision-making. Yet, the same leader pointed out a critical shortfall and underscoring the challenges in deeper interpretive skills.

> *"Some are active, have good knowledge… they know what they are doing to a certain extent," (GH CEO 1).*
>
> *"There is a gap in HIT in terms of triangulating and identifying the problems," (GH CEO 1).*

4.2.3.2. Skills

In terms of practical execution, HITs perform at a moderate level, showing proficiency in straightforward activities like data entry and basic aggregation of figures. Despite this, their abilities fall short when it comes to analytical depth and advanced techniques reflecting an acknowledgment of baseline competence that does not fully meet expectations for higher-order application.

"Their skills are good... but they are not performing as well as expected in terms of knowledge and technique," (PHCU Head U3).

4.2.3.3.Attitude

Overall, HITs display a positive and progressively improving attitude toward their roles, with many expressing genuine interest in their work. Nevertheless, inconsistencies persist in levels of commitment and a sense of ownership over health data processes. In contrast, some facility heads identified some attitude gaps indicating variability that could undermine sustained performance.

"It is also good in terms of attitude. They are interested in doing the job." (GH CEO 1).

"There are gaps [in] the attitude they have toward health data," (PHCU Head U8).

4.2.4. Job Satisfaction (Pay, Benefit, Reward, Promotion, supervision, Communication, Work itself)

Respondents reported low pay for HIT relative to workload and national data importance. Representative Quotes: And some reported Limited to duty/overtime pay; and even no incentive packages. But non-monetary recognition like certificates were valued.

"The salary is not fair; it is low" (GH CEO 2).

"They don't have incentive package" (PHCU Head U9).

"She has been provided certificates twice" (PHCU Head U2).

Regrading promotion the respondents reported as there exists standard but not transformative promotion. One of the PHCU head informed that training aids promotion but it lacks life-changing impact. Whereas supportive supervision boosts morale. And HITs will be satisfied from impactful roles they deliver. And Good communication making them part of the solution improves their satisfaction. However, DHIS2 interruptions cause frustration on HIT, the good thing is, despite interruptions frustrate, DHIS2 was generally accepted.

"Promotion is like any health professional… it can be said that it is good" (PHCU Head U3).

"Pushing them to give presentation; and encourage them… this has helped them…When they identify gaps… this makes them satisfied…. Interruption of DHIS2 makes them dissatisfied; because it affects data collection and timelines" (GH CEO 1).

4.2.5. Working Environment (Working Conditions, Working Environment)

Regarding working environment respondents had reported mixed HIT working environment as Some HITs have their own offices, but others shared spaces. And the capacity of WiFi used at facility was with low capacity. And the organizational culture about the profession's perception was improved as HITs now seen as professionals, not "card room clerks" or "fault finders". Generally, the good working environment has a positive effect on HIT performance.

"The working conditions are good… but low WiFi capacity" (GH CEO 2).

"Previously health workers were perceived HITs as fault finders… Now we have cleared the misunderstandings" (PHCU Head U6).

"If the working environment is good... it will have a positive effect" (PHCU Head R3).

4.2.6. HITs Performance

Facility heads across the evaluated sites generally rated the performance of Health Information Technicians (HITs) as "medium" or "moderate" overall, reflecting a balanced but not exceptional view of their contributions. On the strengths side, facility heads highlighted consistent excellence in foundational tasks, such as accurate data entry, adherence to timeliness in submissions, and the generation of basic reports that keep essential operations running smoothly. However, notable weaknesses emerged in more sophisticated areas, including advanced data analysis, the ability to triangulate information from multiple sources, and proactive problem-solving to address emerging issues.

"I think their [perceived] performance is at the medium level," (hospital CEO).

"Some of their performance is good, and some is not," (another hospital CEO).

"The HITs with us are performing well. Their capabilities are good; they understand the work well and are doing it well," (PHCU Head R3).

4.3. Synthesis

High quantitative agreement on receiving training hides its underlying irregularity and inadequacy. While qualitative accounts highlight its positive impact, the limited frequency and depth ultimately restrict sustained competency and long-term performance gains.

The strikingly high self-rated competency score of 85.3% among HITs points to strong confidence in managing day-to-day routine tasks, yet it appears to overestimate their proficiency in advanced

domains. In alignment with supervisors' qualitative assessments, which converge on a "medium" overall competency rating, there is a clear disconnect between HITs self-perceptions and their actual observed performance. This disparity likely stems from limited self-awareness or overly optimistic confidence, potentially exacerbated by a lack of regular, constructive feedback mechanisms.

Quantitative data confirm low job satisfaction driven by extrinsic deficits, while qualitative responses highlight compensatory intrinsic motivators (impact, recognition, communication). This dual structure explains why performance remains high (67.65%) despite low satisfaction: intrinsic rewards, communication and supportive supervision partially offset financial dissatisfaction.

The highly positive working environment (mean 4.21) acts as a buffer against low job satisfaction. Supportive leadership, cultural acceptance, and system usability sustain engagement and performance. Physical resource gaps (offices, internet) are tolerated due to strong social and managerial support.

The quantitative finding of 67.65% high performance appears to stem largely from supervisor-assessed metrics focused on tangible outputs, like reporting completeness and regulatory compliance. Yet, the qualitative "medium" ratings delve deeper into gaps in analytical depth and independent initiative, revealing a key discrepancy: current performance evaluations may overly emphasize routine adherence at the expense of fostering true excellence in higher-order skills. This highlights an opportunity to refine metrics and training to bridge compliance with innovation.

5. Discussion

the performance of Health Information Technicians (HITs) was found to be moderately high relative to sub-national and low- and middle-income country (LMIC) benchmarks, primarily driven by supportive work environments and intrinsic motivators, yet constrained by extrinsic dissatisfaction and gaps in analytical skills. These findings align with the Human Capital and Job Demands-Resources frameworks, which posit that targeted investments in skills and resources can yield performance gains, whereas inadequate rewards may amplify occupational strain. Approximately two-thirds (67.65%) of participants demonstrated high performance (≥85% on Balanced Scorecard appraisals). Males were significantly less likely to achieve high performance compared to females, while those working in rural facilities were far more likely to do so. Dissatisfaction with infrequent pay raises was associated with a substantial reduction in the likelihood of high performance. More than 85% of HITs reported strong self-perceived competencies, yet over half expressed dissatisfaction with extrinsic motivators such as pay, promotion, and rewards. The work environment was generally rated positively (mean score = 4.21 on a 5-point Likert scale), although resource shortages were frequently noted as a limiting factor.

This study of 34 Health Information Technicians (HITs) working in public healthcare facilities in the Dire Dawa Administration (DDA), achieving a 100% response rate, reveals a young, predominantly female, urban-based workforce in health centers. Participants reported strong self-perceived competencies in HIT knowledge and skills (>85% agreement) but high dissatisfaction with extrinsic motivators, including pay, promotions, and rewards (>50% disagreement). Two-thirds demonstrated high performance; however, logistic regression identified sex, workplace location, and dissatisfaction from frequency of pay raise as significant predictors. Small population size (N=34) yielded wide confidence intervals, increasing risks of overfitting and estimate instability. Findings are interpreted through human capital theory (Becker, 1993), the job demands-resources (JD-R) model (Bakker and Demerouti, 2007), and expectancy theory (Kelli, 2015).

Males exhibited 91.5% lower odds of high performance (AOR=0.085, 95% CI), potentially due to challenges in sustaining concentration and dedication amid underrepresentation, limited peer

support, and reduced adaptability to evolving technologies and demands. This aligns with social role theory, which highlights differential expectations and biases in occupational outcomes (Van Lange et al.). Broader literature indicates men often perceive greater equity in promotions and leadership diversity initiatives, while women face network exclusion and bias, disrupting dynamics (Denend et al., 2020). Contrasting evidence from electronic health record (EHR) usage shows females, despite heavier documentation burdens (e.g., more time on notes and after-hours work), display greater dedication via prolonged engagement—though this elevates burnout risk and may impair long-term productivity (Malacon et al., 2024). Workforce analyses link gender with age, remuneration, and experience: women predominate yet face pay gaps, potentially demotivating underrepresented males through isolation (Butler-Henderson et al., 2025).

Comparative studies reveal context-dependent effects. (Wang et al., 2025), in multivariable logistic regression of 18,112 U.S. adults, found females experiencing higher psychological distress in secure jobs (interaction $p=0.040$), indirectly affecting performance via stress. In contrast, a hierarchical logistic study of 412 Spanish managers reported males with 1.875 times higher odds of high-responsibility roles ($p=0.002$), while females excelled in contextual performance ($p=0.011$) (Ana et al., 2024). Multiple regression in Taiwanese accounting firms showed males boosting certification revenue and females enhancing tax services ($p<0.05$) (Lee, 2024). HITs emphasis on meticulous, collaborative tasks may favor female strengths, though DDA-specific biases warrant exploration. The stark OR likely reflects small-sample inflation; larger studies suggest subtler effects. Gender-sensitive training could mitigate biases, yielding 10–15% productivity gains (Ana et al., 2024). Global trends of higher female dissatisfaction and turnover from stalled advancement may amplify relative male underperformance in specialized HITs roles, underscoring tailored interventions.

Gender significantly affects Health Information Technicians (HITs) performance. This aligns with literature on gender disparities in health technology, where men often perceive greater equity in promotions and leadership's diversity focus, while women face barriers like network exclusion and bias, disrupting workforce dynamics (Becker, 1993). Contrasting evidence from electronic health record (EHR) usage shows female professionals, despite heavier documentation burdens (e.g., more time on notes and after-hours work), demonstrate greater

dedication through prolonged engagement though this heightens burnout risk and may reduce long-term productivity (Bakker and Demerouti, 2007). Broader workforce analyses link gender with age, remuneration, and experience: women predominate yet endure pay gaps, which could indirectly demotivate underrepresented males via isolation (Kelli, 2015). This happened potentially due to challenges in sustaining concentration and dedication. Their underrepresentation in the field may limit peer support and adaptability to evolving technologies and work demands. These inconsistencies underscore the need for tailored interventions, as global trends show women reporting higher dissatisfaction and turnover intent from stalled advancement, potentially amplifying relative male underperformance in specialized HITs roles. Geographic location also influences HITs performance, with this study showing superior outcomes in rural facilities. This result negates with digital health research, where rural areas lag in adoption due to infrastructure gaps like poor broadband and telehealth access, sometimes increasing provider strain (Denend et al., 2020). However, urban settings provide resource advantages, while rural HITs benefit from lower burdens; urban providers face higher patient volumes and care disparities, exacerbating dissatisfaction (Malacon et al., 2024). Larger healthcare access studies highlight on tenure and focus suggests stable, less fragmented settings improve job fit and drive (Butler-Henderson et al., 2025). Key contextual factors include lighter workloads, better job-resource alignment, longer tenure in stable environments, fewer distractions (e.g., social media), and renewed motivation, all enhancing productivity. In urban areas, greater experience is undermined by compensation mismatches amid heavy burdens, fostering dissatisfaction and subpar performance. Rural-targeted support could leverage these strengths while addressing infrastructure deficits.

Rural settings conferred a >17-fold increase in high-performance odds (OR=17.119, 95% CI=1.332–220.010, p=0.029), attributable to lighter workloads, better job-resource alignment, longer tenure in stable environments, fewer distractions (e.g., social media), tighter community integration, renewed motivation, and adaptive resilience despite resource constraints. Urban areas, despite greater experience and resources, saw compensation mismatches against heavy patient volumes, care disparities, and bureaucratic burdens, fostering dissatisfaction and subpar performance.

This rural advantage partially contrasts digital health research, where rural areas lag in adoption due to infrastructure gaps (e.g., poor broadband, limited telehealth), sometimes heightening provider strain (Nils, 2024, Chen et al., 2019). However, urban providers face higher demands, exacerbating dissatisfaction (Chen et al., 2019). An ordered logistic analysis of 324 Ghanaian health workers found no rural-urban motivation differences ($p>0.05$) but superior rural clinical performance ($p=0.0219$), driven by intrinsic motivators like autonomy (Alhassan and Nketiah-Amponsah, 2016). Conversely, binary logistic decomposition of 12,953 Chinese employees revealed higher rural depressive symptoms (17.09% vs. 11.75%, $p<0.001$), with education explaining 39% of disparity, suggesting mental health detriments (Xie et al., 2025). DDA's HITs context—less bureaucratic interference, stronger peer networks, and eagerness to learn—may explain divergence. The wide CI highlights small-sample volatility (David et al., 2013). Replication in larger cohorts is needed; rural-targeted support (e.g., infrastructure improvements, community programs) could leverage strengths, potentially boosting urban retention by 20% (Xie et al., 2025) while addressing deficits.

Each unit increase in pay dissatisfaction reduced high-performance odds by 65.4% (OR=0.346, 95% CI not reported, $p=0.042$), consistent with expectancy theory's reward-effort linkage (Kelli, 2015) and JD-R model (Bakker and Demerouti, 2007). DDA's low mean income (4202.7 ± 1036.6 ETB) amplified impacts in this low-resource setting. Participants linked infrequent, insufficient raises lacking non-monetary incentives—and low duty pay (relative to other fields despite fixed hours) to reduced output.

Evidence supports structured compensation: performance bonuses enhance engagement, care quality, and retention, while flawed models (e.g., fee-for-service) hinder collaboration and breed resentment (Aggarwal et al., 2025). Salary, rewards, and benefits explain up to 65% of performance variance (Eley et al., 2023), misalignments (e.g., inadequate overtime) fuel dissatisfaction, predicting absenteeism and poorer care (Karaferis et al., 2022). Healthcare studies tie satisfaction—via recognition and security—to self-reported productivity gains (Platis et al., 2015). Logistic/linear regressions of 359 MTurk workers showed higher pay boosting satisfaction ($p<0.05$) but not directly performance, implying motivational pathways (Lara-Martínez et al., 2021). Logistic analysis of 5,010 employees identified work-life balance as key for accuracy (52% model accuracy; 1.50% drop upon removal). Subtler effects in larger studies

highlight small-sample inflation, yet underscore pay equity needs. Integrating extrinsic (e.g., bonuses) and intrinsic (e.g., autonomy) motivators with periodic reviews could yield 1.5–2.0 ROI via improved effort (Lara-Martínez et al., 2021) and higher-performing teams. In summary, addressing gender biases, rural-urban disparities, and compensation gaps through targeted policies could enhance HITs performance, retention, and care quality in DDA.

6. CONCLUSION

The findings of this cross-sectional mixed-methods study indicate that the overall job performance of Health Information Technicians (HITs) in public health facilities under the Dire Dawa Administration Health Bureau was moderately high, with approximately two-thirds (67.65%) of participants achieving high performance (≥85% on Balanced Scorecard appraisals) despite systemic challenges. HITs demonstrated strengths in routine health information system operations, reflecting effective compliance with operational responsibilities; however, performance was weaker in advanced analytical functions, such as data analysis, interpretation, and utilization for decision-making, as well as in demonstrating initiative. This suggests that while routine service delivery was well-maintained, HIT performance remained largely task-oriented rather than innovation- or excellence-driven, highlighting a gap between operational efficiency and analytical capacity.

HIT performance was shaped by a combination of organizational, motivational, and capacity-related factors, with intrinsic and workplace elements playing a more substantial role than extrinsic incentives. Supportive work environments, positive organizational cultures, effective managerial support, and user-friendly health information systems significantly contributed to sustaining performance levels, even amid widespread dissatisfaction with extrinsic motivators such as salary, promotion opportunities, benefits, and rewards. Although these extrinsic deficits limited potential performance enhancements, intrinsic motivation and strong social support networks acted as compensatory mechanisms, fostering organizational resilience. Additionally, limited depth in training particularly for analytical skills along with inequities related to workload distribution, gender (with males less likely to achieve high performance), and facility location (with rural settings associated with higher performance), further influenced outcomes. These results align with the Human Capital and Job Demands-Resources frameworks, emphasizing the need for targeted investments in skills and resources to optimize performance while addressing inadequate rewards that amplify occupational strain.

7 Recommendations

To sustain and enhance the moderately high performance of Health Information Technicians (HITs) in the Dire Dawa Administration, coordinated multilevel actions are recommended:

Health Facilities

Introduce more frequent performance-linked rewards (like., **quarterly bonuses, non-monetary recognition, etc...**) rather than relying solely on annual/infrequent raises

Improve workload equity through recruitment, timely feedback and support, improve infrastructures (offices, reliable WiFi)

Promote gender-inclusive team practices

Dire Dawa Administration Health Bureau

Put in place a system that enables advanced analytics training (including refreshers)

Introduce **performance-based financial incentives** & workload-adjusted pay systems to ensure equity

Equitable human resource assignment based on work load

Federal Ministry of Health

Design and implement CPD program for HITs

Revise HITs JD, performance measures to include both routine & innovative outputs as per their BSC performance evaluation system

Research & Academic Partners

Replicate similar studies in other regions with larger samples and also considering other factors affecting the performance level of HITs with robust designs

Incorporate multiple informant perspectives (department heads, M&E team, HITs themselves)

6.1. Limitation of the Study

It is true that research is more reliable and valid, if it is based on data obtained from a wider population of all healthcare facilities in Dire Dawa Administration. However, this study was exclusively confined to HITs of public healthcare facilities in Dire Dawa, and that the findings of this study could not be generalizable to other public health workers and HITs of private healthcare facilities.

Additionally, although health information technicians have a close working relationship with all department heads in the health facility and also with the administrative health bureau's Monitoring and Evaluation team, in this study, only health facility heads were selected for key informant interviews and data used for the qualitative study were collected only from health facility heads. Therefore, we recommend that experts who are interested in conducting future research in this area may fill this gap and consider these sources as a source of information in their research.

Further longitudinal research is needed to establish causality and also larger samples including private facilities.

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8. APPENDICES

I. Health Facility Information Sheet and Informed Voluntary Consent Form for Dire Dawa Administration Health Bureau Head

1. **Introduction:** My Name is **Alemayehu Girma**. I am the Principal Investigator of the study to be conducted in this health center/hospital. I kindly request you to lend me your attention to explain to you about the study and your institution being selected as the study setting.
2. **Title of the study:** Level and Factors affecting the Performance of HITs among Public Healthcare Facilities in Dire Dawa Administration, Ethiopia.
3. **Purpose/aim of the study:** the aim of the study is *to assess the level and factors affecting Health Information Technician's (HIT's) performance in public health facilities of the Dire Dawa Administration*, Ethiopia *which* will contribute to have necessary information for decision in designing and implementing appropriate interventions so as to enhance the performance of HIT's and ***for the partial fulfillment of the requirement for the degree of masters in General Public Health to be submitted to Haramaya University College of Health & Medical Science.***
4. **Procedure and duration:** I will be interviewing the participants using a questionnaire to provide me with pertinent data that is helpful for the study. There is **a total of 117 questions (92 questions for HIT's and 25 questions for Hospital CEO/Health Center Head) to answer and data collector** will record participants response using tape recorder. The interview will take about 30-45 minutes **for each**, so I kindly request you to give me a permission to conduct this study.
5. **Risk and benefits:** The risk of participating in this study is very minimal, only taking a maximum of 30-45 minutes from their time. There would not be any direct payment for participating in this study, but the findings from this research is vital for this health center/hospital, health information technicians (HIT's), healthcare providers, health care leaders at all levels, health care information users and the community.
6. **Confidentiality:** The information **they** provide will be confidential. There will be no information that will identify **them** in particular. The findings of the study will be general for the study population and will not reflect anything particular of individual person or

organization. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

7. **Rights:** Participation for this study is fully voluntary. **Participants** have the right to declare to participate or not in this study. If **they** decide to participate, **they** have the right to withdraw from the study at any time, this will not label **them** or **their** organization for any loss of benefit which **they** otherwise are entitled. **They** do not have to answer any question that **they** do not want to answer. **The Hospital/Health center also has the right to stop this study if any unethical procedures were observed in the premises of the Hospital/Health center.**
8. **Contact address:** If there are any questions or enquiry any time about the study or the procedure, please contact: Mr. Alemayehu Girma (PI), 0915 761197; as well as Institutional Health Research Ethics Review Committee (IHRERC) of Haramaya University, College of Health Sciences at office phone (+251**)- 025-466-20-11 or** P.O.Box 235, Harar.
9. **Declaration of Informed Voluntary Consent:** I have read the **health facility** information sheet and voluntary informed consent. I have clearly understood the purpose of the research, the procedures, the risk and benefits, issues of confidentiality, the rights of participating and contact address for any enquiry. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that participants have the right to withdraw from the study at any time or not to answer any question that they do not want. I was informed that the Hospital/Health center has the right to stop this study if any unethical procedures were observed in the premises of the Hospital/Health center. Therefore, I declared to participate in this study on behalf of the _____ management with my initials (signature) as indicated below:

   Name and Signature of Head of the Health center/Hospital: _____ _____Date_____

   Name and Signature of the Principal Investigator_____ _____Date_____

   N.B

   - **This is signed face to face in the presence of the Principal Investigator.**
   - **Please provide a copy of this signed consent to the responsible head.**

II. Participant Information Sheet and Informed Voluntary Consent Form for Health Center Head /Hospital CEO

1. **Introduction:** My Name is _____. I am working as a data collector for the study being conducted by **Mr Alemayehu Girma, studying his Master's Degree in General Public Health at Haramaya University, College of Health and Medical Science, Harar.**
2. **Title of the study:** Level and Factors affecting the Performance of HIT's among Public Healthcare Facilities in Dire Dawa Administration, Ethiopia.
3. **Purpose/aim of the study:** the aim of the study is ***to*** *assess the level and factors affecting Health Information Technician's (HIT's) performance in public health facilities of the Dire Dawa Administration*, Ethiopia *that* will contribute to have necessary information for decision in designing and implementing appropriate interventions so as to enhance the performance of HIT's **and** ***for the partial fulfillment of the requirement for the degree of Masters in General Public Health.***
4. **Procedure and duration:** I will be interviewing you using a questionnaire to provide me with pertinent data that is helpful for the study. There are 25 questions to answer where I will record your response using tape recorder. The interview will take about 30-45 minutes, so I kindly request you to spare me this time for the interview.
5. **Risk and benefits:** The risk of participating in this study is very minimal, only taking few minutes from your time. There would not be any direct payment for participating in this study, but the findings from this research may reveal important information for concerned bodies.
6. **Confidentiality:** The information you will provide will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study population and will not reflect anything particular of individual person or organization. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.
7. **Rights:** Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any time, this will not able you or your organization for any loss of benefit

which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

8. **Contact address:** If there are any questions or enquiry any time about the study or the procedure, please contact: Alemayehu Girma (PI), 0915 761197; as well as Institutional Health Research Ethics Review Committee (IHRERC) of Haramaya University, College of Health Sciences at office phone (+251**)- 025-466-20-11 or** P.O.Box 235, Harar.
9. **Declaration of Informed Voluntary Consent:** I have read the participant information sheet and voluntary informed consent. I have clearly understood the purpose of the research, the procedures, the risk and benefits, issues of confidentiality, the rights of participating and contact address for any enquiry. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declared my voluntary consent to participate in this study with my initials (signature) as indicated below:

Name and Signature of the participant: _____ _____Date_____

Name and Signature of the Data collector _____ _____Date_____

N.B

- **This is signed face to face in the presence of the data collector.**
- **Please provide a copy of this signed consent to the participant.**

III. Participant Information Sheet and Informed Voluntary Consent Form for Health Information Technicians

1. **Introduction:** My Name is _____. I am working as a data collector for the study being conducted by **Mr Alemayehu Girma, studying his Master's Degree in General Public Health at Haramaya University, College of Health and Medical Science, Harar.**
2. **Title of the study:** Level and Factors affecting the Performance of HIT's among Public Healthcare Facilities in Dire Dawa Administration, Ethiopia.
3. **Purpose/aim of the study:** the aim of the study is *to assess the level and factors affecting Health Information Technician's (HIT's) performance in public health facilities of the Dire Dawa Administration*, Ethiopia *that* will contribute to have necessary information for decision in designing and implementing appropriate interventions so as to enhance the performance of HIT's and ***for the partial fulfillment of the requirement for the degree of Masters in General Public Health.***
4. **Procedure and duration:** You will be interviewed using a self-administered questionnaire to provide me with pertinent data that is helpful for the study. There are **92** questions to answer where you are going to administer by yourself and I will collect your response. The interview will take about 30-60 minutes, so I kindly request you to spare me this time to answer/fill the questionnaire.
5. **Risk and benefits:** The risk of participating in this study is very minimal, only taking few minutes from your time. There would not be any direct payment for participating in this study, but the findings from this research may reveal important information for concerned bodies.
6. **Confidentiality:** The information you will provide will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study population and will not reflect anything particular of individual person or organization. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.
7. **Rights:** Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right to withdraw

from the study at any time, this will not able you or your organization for any loss of benefit which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

8. **Contact address:** If there are any questions or enquiry any time about the study or the procedure, please contact: Alemayehu Girma (PI), 0915 761197; as well as Institutional Health Research Ethics Review Committee (IHRERC) of Haramaya University, College of Health Sciences at office phone (+251**)- 025-466-20-11 or** P.O.Box 235, Harar.
9. **Declaration of Informed Voluntary Consent:** I have read the participant information sheet and voluntary informed consent. I have clearly understood the purpose of the research, the procedures, the risk and benefits, issues of confidentiality, the rights of participating and contact address for any enquiry. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declared my voluntary consent to participate in this study with my initials (signature) as indicated below:

Name and Signature of the participant: _____ _____Date_____

Name and Signature of the Data collector _____ _____Date_____

N.B

- **This is signed face to face in the presence of the data collector.**
- **Please provide a copy of this signed consent to the participant.**

IV. A Questionnaire to Be Filled by Health Information Technicians

This questionnaire is designed to survey views on 'the determinants of HIT's performance in Public health facilities of the Dire Dawa Administration' to identify problems encountered and finally to recommend possible solutions. Since the success of this study depends on your genuine response, you are kindly requested to be honest in answering the questions.

Please note that:

- Write your response in the empty box provided in front of the question
- Your name and phone number are requested only to clarify if there are any ambiguities in your responses to the questions, and not to use them for any other purpose.
- All responses will be kept confidential and used only for academic purpose.

Alemayehu Girma (MPH Student) Mob.0915 76 1197 E-mail: alexgirma11@yahoo.com, alexgirma22@gmail.com

Thank you in advance for your co-operation

Section I: General Information

Respondent name: - ----------

Telephone Number: ----------

Sr #	Questions	Response
1	Kindly indicate your Gender: **(Female, Male)**	
2	Kindly indicate your age in years	
3	Marital status **(Married, Single)**	
4	Kindly indicate your highest level of education **(College Diploma or Level 4, Degree, Masters)**	
5	Kindly indicate total years of services you have worked as HIT	
6	Kindly indicate your current location of work **(Urban/Rural)**	
7	Kindly indicate the health facility type you are currently working **(Hospital, Health Center)**	
8	Kindly indicate your monthly income (salary) in birr	

Section II: Determinants of HIT's Performance

1. **Training**

Key: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral: 4=Agree; 5 = Strongly Agree						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
1.	The training provided by the health facility/health bureau helped me improve my job performance					
2.	I get lots of training opportunities to develop my skills and use in this job					
3.	The training helps me to increase productivity.					
4.	The trainings I received helped me to improve service delivery to clients					
5.	The training provided helped me to improve my job quantity and quality					
6.	There is continuous learning and performance improvement at my workplace					
7.	I become more confident and committed toward my jobs after getting on-the-job training					
8.	I feel that training helped my organization to ensure its success with customer's satisfaction.					
9.	I become more responsible after on-the-job training					
10.	There are equal opportunities for training in this organization					
11.	The training I received has an effect on my job performance.					
12.	I am provided with growth opportunities in training.					
13.	The health facility/health bureau provides training with the necessary skills and knowledge required for my job performance.					

2. HIT's Competence

Key: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral: 4=Agree; 5 = Strongly Agree						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
A	**Knowledge.**					
1	I am knowledgeable in understanding the implications of new information for problem solving and decision-making					
2	I am knowledgeable in protecting the security of medical records for confidentiality.					
3	I am capable of using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.					
4	I have the ability to convey information and communicate orally and in writing.					
5	I am capable of reviewing records for completeness, accuracy and compliance with regulations.					
B	**Skill**					
6	I am capable of entering data, such as demographic characteristics, history and extent of disease, diagnostic procedures and treatment into computer					
7	I have the ability to compile and maintain patients' medical records, to document condition and treatment and to provide data for research.					
8	I am good at Planning, developing, maintaining and operating a variety of health record indexes and storage and retrieval systems to collect, classify, store and analyze information					
9	I have the skills to manage own time and the time of others					
C	**Attitude**					
10	I am interested in understanding written sentences and paragraphs in work related documents					

Key: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral: 4=Agree; 5 = Strongly Agree						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
11	I am satisfied with my current role and responsibilities					
12	I feel motivated and engaged in my work on a daily basis					
13	I feel valued and appreciated by my organization					
14	I Can easily approach my superiors with feedback or concerns					
15	I am able to maintain a positive attitude at work despite challenges or setbacks					
16	Overall, the morale and atmosphere in my workplace is encouraging					

3. Job Satisfaction

Key: 1 = Strongly Dissatisfied; 2 = Dissatisfied; 3 =Neutral: 4= Satisfied; 5 = Strongly Satisfied						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
A	**Pay**					
1	I feel I am being paid a fair amount for the work I do.					
2	Raises are too far and few between. (r)					
3	I am unappreciated by the health facility when I think about what they pay me. (r)					
4	I feel satisfied with my chance for salary increases.					
B	**Promotion**					
5	There is really too little chance for promotion on my job. (r)					
6	Those that do well on the job stand a fair chance of being promoted.					
7	People get ahead as fast here as they do in other places.					
8	I am satisfied with my chances for promotion.					
C	**Supervision**					
9	My supervisor is quite competent in doing his/her job.					

Key: 1 = Strongly Dissatisfied; 2 = Dissatisfied; 3 =Neutral: 4= Satisfied; 5 = Strongly Satisfied						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
10	My supervisor is unfair to me. (r)					
11	My supervisor shows too little interest in the feelings of subordinates. (r)					
12	I like my supervisor.					
D	**Benefits**					
13	I am not satisfied with the benefits I receive. (r)					
14	The benefits I receive are as good as most other organizations offer.					
15	The benefit package we have is equitable. (r)					
16	There are benefits we do not have which we should have (r)					
E	**Rewards**					
17	When I do a good job, I receive the recognition for it that I should receive.					
18	I do not feel that the work I do is appreciated. (r)					
19	There are few rewards for this who work here. (r)					
20	I don't feel my efforts are rewarded the way they should be. (r)					
F	**Operating procedures**					
21	Many of our rules and procedures make doing a good job difficult. (r)					
22	My efforts to do a good job are seldom blocked by red tape.					
23	I have too much to do at work. (r)					
24	I have too much paperwork. (r)					
G	**Coworkers**					
25	I like the people I work with.					
26	I find I have to work harder to my job than I should because of the incompetence of people I work with. (r)					
27	I enjoy my coworkers.					

Key: 1 = Strongly Dissatisfied; 2 = Dissatisfied; 3 =Neutral: 4= Satisfied; 5 = Strongly Satisfied						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
28	There is too much bickering and fighting at work. (r)					
H	**Work itself**					
29	I sometimes feel my job is meaningless. (r)					
30	I like doing the things I do at work.					
31	I feel a sense of pride in doing my job.					
32	My job is enjoyable.					
I	**Communication**					
33	Communications seem good within this health facility.					
34	The goals of this health facility are not clear to me. (r)					
35	I often feel that I do not know what is going on with the health facility. (r)					
36	Work assignments are often not fully explained. (r)					

4. Work Environment

Key: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral: 4=Agree; 5 = Strongly Agree						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
A	**Work Condition**					
1	Good work environment enhances my productivity.					
2	The working environment influence my work performance.					
3	Flexible working conditions enhance my retention in the health facility.					
4	A good working environment influences my commitment					
5	Working environment play a role in meeting my objectives in the health facility.					
6	A friendly working policy influences my productivity in the health facility.					

Key: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral: 4=Agree; 5 = Strongly Agree						
No	**Items to be rated**	**1**	**2**	**3**	**4**	**5**
7	My health facility provides me adequate material & equipment for the job.					
B	**Organizational Culture**					
8	I am in search of the opportunities to implement my ideas					
9	I always disseminate positive information to improve image of my organization					
10	I recommend others to be a part of this organization as it is a good place to be					
C	**Management Style**					
11	I feel comfortable in sharing feedback with my manager					
12	My manager effectively supports my professional growth and development					
13	I got recognition and appreciation from my manager for my work					
14	My manager provides me clear expectations and goals for my work					
15	My manager empowers me to make decisions and take initiative					
16	My manager is unfair to me					
D	**User Friendliness of HIT**					
17	There is use of modern technology to make work easier in my work environment					
18	It was easy for me to navigate through the interface of the existing health information technologies (EMR, DHIS 2)					
19	The instructions provided are clear and easy to understand					

V. Interview/ FGD Guide Questions for Discussion with Health Facility Heads

Assessment of Factors that Determine the Performance level of HITs among Public Healthcare Facilities in Dire Dawa Administration.

General Questions about Performance

1. Could you tell us about your position in your organization?
2. How do you rate the performance level of HITs in your health facility?
3. How do you see the competency (Skill, Knowledge and Attitudes) of HITs in your health facility?
4. Do you think that the existing work environment in your health facility is good for HIT's to perform their task properly?
5. How do you perceive that HIT's act when they are satisfied?
6. What challenges do you think obstruct public health facilities in improving HIT's performance level?

Questions about Factors determining HITs performance level

Working environment

1. Could you tell us about the level/status of working environment in your health facility?
2. Do you do anything to improve the working environment of your health facility?
3. How do rate your health facility work environment (Working conditions, organizational culture, Management Style & User friendliness of HIT)?

Job Satisfaction

1. How do you rate the pay scale, promotion and benefit packages allowed for HIT's?
2. Do you think that the existing pay scale and benefit package of HITs is fair compared with the amount of job they do?
3. Could you tell us about HIT's relationships with you in your health facility?
4. Do you do anything to improve HITs relationships with you?
5. How does your leadership style influence HITs satisfaction/motivation in the work place?
6. Do you think that the existing working procedure in your health facility positively affect HITs performance? How?
7. Could you tell us about HIT's relationships with their coworkers in your health facility?

Training

1. Could you tell us about the level of training opportunities of HITs in your health facility?
2. How do training opportunities influence the performance level of HITs in your health facility?
3. Could you believe that the current training practice made by your health facility or regional health bureau helps HITs to get promotion opportunities?
4. How do training provided for HITs improve health performance/outcome?
5. Do you believe that both the health facility and HITs are benefited from the current training practices conducted by your health facility and regional health bureau?

Competency

1. How do you see the competency (Knowledge, Skill and Attitude) of HITs in your health facility?
2. How do you see the behavioral competencies (collaborating with staffs, communication skills, decision making, and problem-solving abilities) of HIT in your health facility?
3. How do you express the technical competencies, (the competencies that possessed by an individual in understanding and acting to carry out their job effectively, which include knowledge and skills in overall data management, analysis, report presentation and the like) of HIT in your health facility?
4. How do the competency (Knowledge, skill and attitude) of HIT's influence their performance level in your health facility?

VI. Curriculum Vitae

I. Personal Information

1. **Name:** Alemayehu Girma Diressie
2. **Sex:** Male
3. **Date of Birth**: April 20, 1976 G.C
4. **Age:** 48
5. **Place of Birth:** East Hararghe Province, Kersa Woreda
6. **Nationality:** Ethiopian
7. **Residential Address**: Dire Dawa Kebele 03 **House No:**148 **Tell No** (+251)91576 1197
8. E-mail: alexgirma11@yahoo.com, alexgirma22@gmail.com
9. **Marital Status**: Married

II. Educational Back Ground & Status

1. MBA from Leadstar College of Management & Leadership on July 28,2019
2. BA Degree in Management from Haramaya University in 2008 with great distinction.

III. Job Experience

1. From December 1, 2012 - Present as a **Plan, Monitoring & Evaluation Directorate Director at Dire Dawa Administration Health Bureau.**
2. From December 1,2011 – Nov 30, 2012 as a Sales & Marketing Manager at Babile Mineral Water, Juice & Soft Drinks Factory**.**
3. From August, 2010 - November 30, 2011 as a company Sales Representative in EABSC Coca Cola**.**
4. From July 1/1998-July, 2002 as a Teacher & HR related positions at different levels.

IV. My Current Responsibilities & Other Areas of Participation/Engagement/

1. **My current responsibility at Dire Dawa health Bureau are:-**
   A. Conduct managerial functions like planning, organizing, staffing, coaching and evaluating performance of staffs under my supervision
   B. Coordinate the regional health bureau short, medium and long term fiscal & financial/ budget planning activities, monitor its progress towards meeting targeted goals.
   C. Coordinate the M&E activities of the health sector at bureau level,

D. Collect activity reports from health facilities & regional health bureau departments, and prepare quarterly and annual program performance & activity reports, and make sure its timely submitted to administrative level stakeholders & FMoH,
E. Prepare performance monitoring plan, organizing both program based & integrated supportive supervision, monitor progress of program performance through quarterly, bi annual & annual health sector review meeting with
F. Evaluate results using health service monitoring & evaluation techniques,
G. Analyze data using indicators, provide information for decision makers
H. Managing the health information system at regional health bureau
I. Facilitate basic or refresher M & E training of RHB/PHCU program staffs
J. Providing feed backs to health facilities related with data quality
K. Preparing capital projects related with health infrastructures from all health facilities within the administration, implement, monitor and evaluate projects
L. Coordinate/carryout the appraisal of new NGO's project proposals who are submitting to work with RHB, coordinate/conduct midterm & terminal evaluation of those projects.
M. Provide advisory support for regional health bureau head & process owners

2. Other Areas of Engagement

A. Organizational Restructuring, Business Process Re- Engineering/BPR/ and Job Evaluation & Grading
B. Strategic planning & management & Balanced Score Card
C. Managing & executing route to market strategies of beverages.

V. Career Objective

My career objective is to become a senior manager in a challenging as well as rewarding company, where my educational level & work experience fits best.

VI. Specialties

Strategic Planning & Management, Budgeting, Monitoring & Evaluation, Human Resource, Balanced Score Card (BSC), Business Process Re-engineering (BPR) & Sales.

VII. Certificate of Merits & Training Participation Awarded

1. Certificate awarded from Dire Dawa Administration Health Bureau for successfully facilitating HMIS supervisory level ToT organized by Dire Dawa Health Bureau/ CDC Project,
2. Certificate awarded from Federal Ministry of Health for attending In-Service Training Program Management Training.
3. Certificate awarded from Federal Ministry of Health for attending Human Resource for Health (HRH) Management in Service Training of Trainers.
4. Certificate of completion from Supply Chain Management (SCMS) & Pharmaceuticals Fund & Supply Agency (PFSA) for attending the training on Pharmaceutical Supply Chain Management Monitoring & Evaluation.
5. Certificate of completion for the ToT on community Mobilization organized by Dire Dawa HIV/AIDS Prevention & Control Office
6. Certificate awarded from the former Dire Dawa Administration Capacity Building Bureau for successfully completing Basic Computer Skill.
7. Certificate awarded from the Dire Dawa Administration for preparing Business Process Re- Engineering documents of Civil Service Commission.
8. Certificate awarded from the Dire Dawa Administration & from the former Capacity Building Bureau for successfully preparing the Civil Service Commission five year strategic plans.
9. Certificate awarded for successfully completing short term training on strategic Planning & management from Ethiopian Civil Service College.
10. Certificate awarded for successfully completing short term training on Balanced Score Card/BSC/ from Oromia Public Service College.
11. Certificate awarded from Babile Mineral Water, Juice & Soft Drinks Factory for successfully attending short term training on Managing Dealers for Supervisors & route Management.

VIII. Language Skill

- **Amharic (**Professional working proficiency)
- **Oromiffa (**Professional working proficiency)

- **English** (Professional working proficiency)

VIIII. <u>Other Skills</u>

- People Management.
- Coaching and Feedback
- Training and Development
- Team Building and motivation.
- Computer Skills: Window, MS word, MS Excel, MS Power Point.
- 3rd level driving license

VII. <u>Reference</u>

1. **Dr. Tsigereda Kifle**

   Dire Dawa Administration Health Bureau, **Bureau Head**

   Tel- (+251) 906 92 0094

   Email address; drtsigeredakifle2@gmail.com

2. **Mrs. Lemlem Bezabih**

   The former Dire Dawa Administration Health Bureau, **Bureau Head**

   Tel- (+251) 937 49 0286

   Email address; lemlembezabih@yahoo.com

3. **Dr. Muluken Argaw**

   The former Dire Dawa Administration Health Bureau, **Bureau Head**

   Tel- (+251) 912 05 8958

   Email address; mulukenargaw@yahoo.com

(Alemayehu Girma) Summary of background and work experience

Educational background	Work experiences	Position Held tasks & Responsibilities	Competencies
1. BA Degree in Management from Haramaya University from 2006 – 2008 2. Masters of Business Administration from Leadstar College of Management & Leadership from 2017 -2019	2. Plan, Monitoring & Evaluation Directorate Director at Dire Dawa Administration Health Bureau from December, 2012 to Present	A. Conduct managerial functions like planning, organizing, staffing, coaching and evaluating performance of staffs under my supervision B. Coordinate the regional health bureau short, medium and long term fiscal & financial/ budget planning activities, monitor its progress towards meeting targeted goals. C. Coordinate the M&E activities of the health sector at bureau level, D. Managing the health information system at regional health bureau E. Facilitate basic or refresher M & E training of RHB/PHCU program staffs F. Providing feed backs to health facilities related with data quality G. Collect activity reports from health facilities & regional health bureau departments, and prepare quarterly and annual program performance & activity reports, and make sure its timely submitted to administrative level stakeholders & FMoH, H. Prepare performance monitoring plan, organizing both program based & integrated supportive supervision, monitor progress of	• Strategic Planning & Management, • Monitoring & Evaluation • Data analysis • Report writing • People Management. • Training and Development • Analytical skill • Implementation research • Team Building and motivation. • Coaching and Feedback

Educational background	Work experiences	Position Held tasks & Responsibilities	Competencies
		program performance through quarterly, bi annual & annual health sector review meeting with I. Evaluate results using health service monitoring & evaluation techniques, J. Analyze data using indicators, provide information for decision makers K. Preparing capital projects related with health infrastructures from all health facilities within the administration, implement, monitor and evaluate projects L. Coordinate/carryout the appraisal of new NGO's project proposals who are submitting to work with RHB, coordinate/conduct midterm & terminal evaluation of those projects. M. Provide advisory support for regional health bureau head & process owners N. Conducting operational researches, I was participated in this published implementation research article conducted in collaboration with Haramaya University CBMP. Here is the publication link https://doi.org/10.1371/journal.pone.0285662	

Educational background	Work experiences	Position Held tasks & Responsibilities	Competencies
	From December 1, 2011- Dec, 2012 as a Sales & Marketing Manager at Babile Mineral Water, Juice & Soft Drinks Factory**.**	Managing & executing route to market strategies of soft drink products across all Eastern part of Ethiopia.	• Strategic thinking • People Management. • Coaching and Feedback • Training and Development • Team Building and motivation. • Negotiation • Selling skills
	From August 2010- November 30, 2011 as a company Sales Representative in EABSC Coca Cola**.**	Executing route to market strategies of Coca Cola products across all Eastern part of Hararghe.	• Good communication skills, • Selling skills
	As a Junior Research, training & Consultancy Expert from July 2010- Oct, 2011 at Dire Dawa Administration Management Institute	My responsibility was assisting senior researchers, providing training & consultancy service for public sector offices on management related issues & the like	• Human Resource, Balanced Score Card (BSC), Business Process Re-engineering (BPR)
	Human Resource management Study Senior Expert from July 2009- June, 2010 at Dire Dawa Administration Civil Service commission	My responsibility was conducting studies and preparing manuals, directives and the like which helps sectorial office to manage their human resources, providing advises up on its implementation and the like	• People Management. • Coaching and Feedback • Training and Development • Team Building and motivation.
	Job Positions Classification & employee Allowance & Benefits Study senior Expert.	My responsibility was analyzing, classifying and grading jobs, Studying and proposing employees' allowance & fringe benefits	• Role & responsibility designing skill

Educational background	Work experiences	Position Held tasks & Responsibilities	Competencies
	From Oct 2008- June, 2009 at Dire Dawa Provisional Administration Civil Service commission		• Data collection, • Analytical skill
	Job Position Classification & employee Allowance & Benefits Study Junior Expert from Nov 2005-October, 2008 at Dire Dawa Provisional Administration Civil Service commission	My responsibility was gathering data's useful for classifying and grading jobs, allowance & benefits related requests from sector offices, processing them & providing it for senior experts	• Data collection, • Analytical skill
	Advisory & Support Service Junior Expert from July 2005-October, 2005 at Dire Dawa Provisional Administration Civil Service Reform Program office	My responsibility was advising & providing support for public sector offices on their reform program implementation	• Human resource Management
	As a primary school teacher at Region East Hararghe, Gursun Woreda education office & Dire Dawa administration Education Bureau from July 1,1998- July 2005	Primary level teacher	• Teaching