

ADDIS ABABA UNIVERSITY

COLLEGE OF COMMERCE

DRIVING DIGITAL TRANSFORMATION THROUGH EFFECTIVE IT SERVICE MANAGEMENT:THE CASE OF ETHIO-TELECOM

By:Hilwa Yassin

Advisor:Hailay Beyene (P.H.D)

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DRIVING DIGITAL TRANSFORMATION THROUGH EFFECTIVE IT SERVICE MANAGEMENT

BY

HILWA YASSIN

APPROVED BY BOARD OF EXAMINERS

Dean, Graduate	**Signature & Date**
----------	**----------**
Advisor	**Signature & Date**
----------	**----------**
External Examiner	**Signature & Date**
----------	**----------**
Internal Examiner	**Signature & Date**
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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Hailay Beyene (Ph.D.). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher-learning institution to earn any degree.

Hilwa Yassin

Name	Signature
Addis Ababa University, Addis Ababa	June 2026

ENDORSEMENT

This thesis has been submitted to Addis Ababa University School of Commerce for examination with my approval as a university advisor.

Hailay Beyene (Ph.D.)

_____	_____
Advisor	Signature
Addis Ababa University	May 2026

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LIST OF ABBREVIATIONS

CMMI-Capability Maturity Model Integration

CSF-Critical Success Factor

DOI- Diffusion of Innovation theory

DT-Digital Transformation

DV-Dependent Variable

ET- Ethio Telecom

IV- Independent Variable

KPI-Key Performance Indicator

ITSM- Information Technology Service Management

ITIL- IT Infrastructure Library

Next Horizon 2028-The current 3-year strategic plan (2025–2028).

OLA-Operational Level Agreement

IM-Incident Management

RBV-Resource-Based View Theory

SLA-Service Level Agreement

SPSS-Statistical Package for the Social Sciences (The software you will use for data).

SVS-Service Value System

TOE-Technology-Organization-Environment Framework

ABSTRACT

The purpose of this study is to examine the capacity effective IT Service Management has on driving Digital transformation in the nation's foremost network provider Ethio-Telecom.The success of internal IT service procedures is just as important to digital transformation (DT) in telecommunications as cutting-edge technologies. However, rather than empirically assessing ITSM's efficacy in generating quantifiable DT outcomes, previous research in developing-country contexts has mostly concentrated on ITSM adoption.A mixed-method explanatory design was used. 104 employees at the company's Addis Ababa headquarters completed a structured questionnaire to provide quantitative data, while contextual aspects were interpreted using the Technology–Organization–Environment (TOE) lens through qualitative interviews and observations. ITSM practices account for a significant amount of the diversity in digital transformation outcomes, according to multiple regression results ($R2 = 0.661$, $p < 0.001$). The greatest impact is seen in Continuous Service Improvement ($\beta = 0.383$), followed by Change Management ($\beta = 0.228$), Incident Management ($\beta = 0.260$), and Service Delivery Metrics ($\beta = 0.201$).Qualitative results show that, even with organized ITSM processes, transformation speed is restricted by reliance on external vendors and a lack of knowledge transfer. By connecting ITSM efficacy to DT outcomes and providing context-specific insights for telecom companies in emerging nations, the study makes a valuable contribution.

Keywords: Digital Transformation, IT Service Management, Ethio-Telecom, Next Horizon Strategy

Chapter One: Introduction

1.1 Background of study

Digital Transformation (DT), a strategic and organizational essential that extends beyond technological adoption has become the defining feature of the fourth industrial revolution (Hess, Matt, Wiesbock & Benlian, 2016). As the major global service industry, the telecommunication sector is dependant on DT as its resilience and continuity is directly tied to managing complex platforms, real time service delivery as well as massive digital networks (OECD, 2020).Digital transformation furtherly integrates its capacity to aid an entity by making huge changes in the specification of information, computing, communication and connectivity technologies (Vial, 2019).

Ethio-Telecom provisioned as Ethiopia's first and major service provider driving the country's digitalization roadmap is presently undergoing a state of liberalization.The firm is executing the 'Next Horizon 2028' strategy which targets 5G expansion, cloud infrastructure and digital platforms (Ethio-Telecom,2025).At this proportion ,Ethio-telecom's operational maturity, service uptime and systematic reliability are directly dependant on the strength of its underlying IT practices (Sarwar et al., 2023).

To support the successful transformation organizations not only depend on advanced technologies but also on the ability to manage IT services in a structured**,** coordinated, strategical and efficient manner (Axelos Limited, 2019).Firms utilize IT Service Management (ITSM); frameworks such as ITIL 4 that promotes service oriented best practices to deliver, design and improve IT services with the goal of delivering value to the enterprise (Serrano et al., 2021).Within this standardized process like incident, change and response management; effective ITSM directly drive corporate operational maturity, decreases service disruptions and establishes the organizational agility required to scale digital initiatives (Iden & Eikebrokk, 2013; Marrone et al., 2014;Cater-Steel et al., 2016).

While Ethio-telecom implemented ITIL-based ITSM frameworks in prior years to handle growing service demands, a severe operational disconnection persists.Local based empirical assessments show that the company battles reactive service handling, structure constraints and

systematic friction when translating into backend execution (Berihun,2020; Tilahun,2017; Seife, 2015).These challenges suggest that the existence of structured ITSM frameworks does not guarantee their effectiveness in daily practice.

This reality highlights the critical gap as prior literature acknowledge that ITSM supports the general organizational performance;focusing on adoption and implementation with limited post implementation evidence to evaluate the ongoing effectiveness in supporting digital transformation within telecommunications organizations operating in developing economies as well as within the company context.By evaluating existing ITSM practices and their contribution to service reliability, operational efficiency, and organizational responsiveness, the study seeks to provide empirical evidence on how ITSM effectiveness can serve as a foundational enabler of digital transformation initiatives. This study aims to contribute both theoretically and practically by clarifying the role of ITSM effectiveness in driving digital transformation outcomes, while offering insights relevant to telecommunications organizations operating in similar contexts.

1.2 Statement of the problem

Ethio-telecom through its ambitious "Next Horizon: Digital and Beyond 2028 strategy" will encompass customer satisfaction, attain operational excellence, 5G expansion, rollout of digital initiatives, cloud infrastructure development and use of AI-Powered and data driven processes. This strategy outlines its goal around advancing its digital services to 100 million subscribers and hoping to reach a revenue volume of 21.3 trillion birr by 2028 which indicates the companies need for long term digital competitiveness (Ethio-telecom,2025). This focus validates the necessity of effective IT Service Management (ITSM) which is a foundational mechanism for increasing systems. This upcoming operation tolerates no service disruption, failure of system, or outrage in digital infrastructure.

Despite Ethio Telecom’s adoption of ITIL-based IT Service Management (ITSM) frameworks to support its “Next Horizon 2028” digital transformation strategy; the effectiveness of these ITSM practices in enabling digital transformation outcomes remains empirically unexamined. Evidence from the company’s own institutional performance review indicates an operations friction such as underperformed critical Quality of Service(QoS) of 98% dropping to 95.6% while the 4G

mobile speed stagnated at 6.9 Mbps against a target of 8.2 Mbps (Ethio-Telecom, 2025).These deficiencies are further aided by the complication of infrastructure downtime caused by power volatility across thousands of mobile stations requiring a continuous emergency generator deployment and manual infrastructure to decrease the service disruptions (Ethio-Telecom,2025).

This internal misalignment justified by the external assessment of World Bank (2025) confirms that Ethiopia is behind in broadband speed, service quality compared to equal peers, internal challenges including manual incident handling and standardized frameworks which strongly suggests the digitalization of services has outpaced the optimization of internal processes to back them up which serves as a validation that more work is needed to attain specifically the accommodation of all internal organization and capability.The increase of severe operational loss alongside with network outrages reports into an institutional failure and complaint cases (Ethio-Telecom, 2024; World Bank, 2025).

From an academic perspective, prior studies in Ethiopia and comparable contexts have primarily focused on ITSM framework adoption, implementation challenges, or conceptual model development, with limited attention given to empirically evaluating ITSM effectiveness after implementation. Moreover, existing literature seldom establishes a direct analytical relationship between ITSM effectiveness and measurable digital transformation outcomes, particularly within service-intensive industries such as telecommunications operating in developing economies. This lack of empirical evidence constrains both scholarly understanding and managerial decision-making regarding how ITSM practices contribute to operational efficiency, service reliability, and strategic digital objectives. (Berihun, 2020; Seife, 2015)

Consequently, without a systematic assessment of current ITSM effectiveness and its relationship to digital transformation outcomes, Ethio Telecom risks inefficiencies in service delivery, reduced organizational agility, and suboptimal realization of its national and strategic digital goals. Addressing this gap necessitates an empirical investigation of both statistical analysis (correlation and regression); TOE based qualitative analysis into how effectively ITSM processes support digital transformation outcomes within the telecommunications sector, thereby providing evidence-based insights to guide sustained digital transformation efforts.

1.3 Research Question

The following research question will answer the research.

1. What is the currently exercised ITSM framework by the company?
2. How effective are the implemented ITSM frameworks; benchmarking the best practice ITIL 4 practices (incident, change, service, and continual improvement processes)?
3. What is the relationship between ITSM variables (incident, change, service, and continual improvement processes and Digital Transformation outcomes?
4. To what quantifiable extent do the ITSM practices support Digital transformation outcomes using multiple regression analysis?
5. What improvements could be suggested to fuel the Digital transformation of the company?

1.4 Research Objectives

1.4.1 General Objective

This study aims to examine the effectiveness of IT Service Management (ITSM) practices in supporting Digital Transformation outcomes at Ethio-Telecom.

1.4.2 Specific Objectives

1. To identify the existing ITSM framework and practices currently implemented in Ethio-telecom using structured interviews, document review and observation.
2. To assess the effectiveness of Ethio-telecom's existing framework using selected ITIL 4 practices as benchmark process dimensions and ITIL maturity level.

3. To examine the relationship between ITSM effective practices (incident, change, service delivery metrics, and continual improvement processes) and Ethio-Telecom's digital transformation outcomes (operational efficiency, service reliability, and organizational agility) as defined in the Next Horizon 2028 strategy using correlation.

4. To evaluate the predictive effect of ITSM effective practices on digital transformation outcomes using multiple linear regression analysis.

5. To recommend improvements to strengthen ITSM for enhanced digital transformation.

1.5 Significance of the Study

This study is beneficial for many reasons.First,for the company Ethio-telecom, this will act as a health checkup of their internal IT process showing them where to attend to achieve their goals. Recommend results on how to drive Digital Transformation through their ITSM progress. It acts as an independent audit of where they were in 2025. It will also assess its framework and better utilize the recommended output for digital transformation. This will put them in check whether their existing internal capabilities (ITSM) could help achieve their ambitious Next Horizon strategy.

Second, for academic researchers it feels a gap by providing empirical data on post implementation in effectiveness in a digital-first era. It will also fill the gap linking ITSM and DT in an Ethiopian Telecom context. This study will serve as a valuable reference and secondary data source for students and scholars interested in IT Service Management and Digital Transformation within the telecommunications sector. By being archived in the university library and digital repositories, it provides a documented 'point-in-time' assessment of Ethio Telecom’s ITSM maturity. Future researchers can use these findings as a baseline to conduct longitudinal studies, comparing the effectiveness of IT processes as the company’s digital strategy evolves over the coming years."

Third, the telecom industry acts as a benchmark for other service providers in developing nations which are still transitioning from traditional telcos and lastly for policy makers in supporting additional internal technology adoption strategies.

1.6 The scope of the study

This study will specifically focus on IT Service Management(ITSM) with its core process of incident management ,service delivery metrics, change management and continual service improvement which are chosen because of their direct relationship on service reliability and uptime and the respective digital transformation dimensions which are summoned from the company's next horizon strategy.

1.Organizational Scope

It is a case study; research confined to Ethio-telecom concentrates on the company's IT related departments and digital service operations with no inclusion of marketing, human resources or any unrelated departments.

2. Population Scope

In terms of population, this research targets IT managers, service desk staff, system administrators, and other personnel management processes. It does not include customers or external stakeholders, as its primary objective is to assess internal ITSM effectiveness rather than customer perceptions.

3.Geographical Scope

The research is limited to Ethio Telecom, specifically targeting the Information Technology (IT) Network services, Digital initiatives and other chosen departments located at the Head Office of the company in Addis Ababa. These divisions are the primary owners of the ITSM processes and main body outline of strategies.

4.Methodological Scope

This study will adopt a case study of empirical research. This study will use a mixed-methods approach (qualitative TOE interviews with IT managers and quantitative surveys with IT staff/operations teams/required personnel). It relies on primary quantitative and qualitative data collected from Ethio Telecom's IT service management operations to examine real-world practices and performance outcomes as well as secondary data including strategy reports which are available according to the company access.

5.Time Scope

This study focuses on the current outlined digital transformation strategy of the company "Next Horizon 2028" which is being implemented and captures the ongoing ITSM practices which are utilized as well as with their measurable effectiveness.The temporal boundary spams within the research period capturing Ethio-telecom's active digitalization phase and critical operation cycles.

1.7 Definition of Terms

1. IT Service Management (ITSM): A set of specialized organizational capabilities for enabling value for customers in the form of services. In this research, it refers to the implementation and management of quality IT services that meet the needs of Ethio Telecom's business and customers (Axelos Limited, 2019).

2. Digital Transformation (DT): A process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies (Vial, 2019).Digital transformation specifically in this research; is viewed as an ongoing organizational change enabled by effective IT service operations rather than merely the adoption of new technologies.

3. Next Horizon: Digital & Beyond 2028 Strategy: The official three-year strategic roadmap of Ethio Telecom (2025–2028) designed to achieve digital-first operational excellence, leverage

AI-driven processes, and expand digital financial and infrastructure services to empower a digital Ethiopia. (Ethio-telecom, 2025)

4.ITIL Process Maturity:A measure of the capability of an organization's service management processes. It is evaluated based on the extent to which processes are defined, documented, managed, measured, and continuously improved, typically measured on a scale of 1 to 5 (CMMI Institute, 2018).

5.ITSM Effectiveness: The degree to which IT service management processes (such as Incident, Problem, and Change Management) achieve their intended results, specifically in terms of minimizing service disruptions, reducing resolution times, and supporting business continuity (ISO/IEC 20000-1:2018).

6.Key Performance Indicators are measurable values used to assess the performance and effectiveness of IT service management processes.

1.8 Organization of the Study

The thesis is compiled into five chapters. The very first chapter is used as the introduction which is accompanied by background of the study, problem definition, objectives, research questions, significance, scope, terminologies, and the general structure of the entire research process. This is followed by the second chapter which relates to the review of literature, theories, past research findings, and hypothesis focusing on the area of the title. Chapter three includes detailed information about the research method, sampling procedure, data sources, data collection, analysis tools, as well as validity and reliability of the research process. The fourth chapter outlines the findings of the values and results in accordance with the theoretical perspective of the research. The thesis takes its completion by chapter five discussing and recommending the results.

Chapter Two: Literature Review

2.1 Introduction

This section reviews relevant literature around Information Technology Service Management (ITSM) including practices for Change Management, Service Request Management and service continuity together with Service delivery metrics, and Continual Improvement. The Investigation continues Digital transformation; the effectiveness and linkage between the two variables with the consideration of past studies at Ethio-Telecom. According to Synder (2019), to identify existing gaps and to formulate research problems that this study intends to fill; a well formulated and structured literature should be used and using the global standards, theories and the organizational strategies this chapter establishes itself.

2.2 Theoretical Literature Review

2.2.1 Concept Definition of Digital Transformation

Digital transformation (DT) is conceptualized as a holistic organizational shift that leverages digital technologies to restructure business models and create enhanced value for stakeholders (Verhoef et al., 2021). According to Vial (2019), this process triggers significant changes to an entity's properties by combining information, computing, communication, and connectivity technologies to drive organizational resilience. Unlike simple digitization, which focuses on converting analog data into digital formats, or digitalization, which optimizes existing processes; true digital transformation represents a pervasive integration of digital solutions into every area of a business (Kraus et al., 2022;Saprykin, 2024). In the modern business landscape, DT is therefore not merely an isolated "IT project", but a fundamental realignment of organizational culture, customer experience, and business strategy required to remain competitive in a data-driven global economy.

The evolution of digital transformation reflects a long-term strategic journey rather than a one-time technological upgrade. Initially, organizations utilized digital tools primarily for the automation of routine tasks to reduce operational costs; however, this has evolved into an organization-wide change affecting leadership practices and core processes (Westerman et al.,

2014). This shift highlights a transition from isolated technological initiatives toward a state where digital technologies support complex process integration and data-driven innovation (Westerman et al., 2014). Consequently, successful transformation requires continuous adaptation to shifting market conditions, emphasizing that the journey toward digital maturity is an ongoing process of strategic renewal and cultural adaptation.

Although these studies offer a solid conceptual grasp of digital transformation, they are mainly theoretical and concentrate defining DT rather than assessing its operational results through empirical research.Additionally it also indicates the discussion above are constrained to developed nation whose organizational as well as infrastructural capabilities are very different to those emerging countries which results in a minimal context specific research is realistically implemented and sustained in a resource confined service intensive sector.

2.2.2 Digital Transformation in Telecommunication Sector

In the telecommunications sector specifically, Digital transformation is a major and critical case of sustainability of the company. This industry is very much dependent on the increment of up-to-date digital infrastructure, real-time service delivery, and continuous availability which integrates interaction(Westerman et al., 2014).These sector companies manage extensive operations, networks(5G), cloud, AI platforms, and systems that must perform without interruption. Considering all these priorities DT in this sector is not only bound by the introduction of new digital products and technologies but also includes the transformation of internal processes, operational capabilities and service delivery mechanisms that support quality and resilience (Vial,2019).

According to GSMA a report done in 2025, DT in this context is portrayed by the implementation of Cloud-Native architectures and API-driven service delivery which allow value creation component such as for Ethio-telecom fintech products like Tele birr and cloud based enterprise solutions which are outlined in the company's Next Horizon: digital and beyond 2028 strategy. Ultimately, Digital transformation in telecom is the transition from a network-centric mindset to a value-oriented one, where IT Service Management (ITIL 4) serves as the stable "Asset" required to support high-velocity digital actions and sustained market relevance (Axelos, 2019).

2.2.3 Scope of Digital Transformation in Telecom Industry

The scope of Digital Transformation (DT) for this study is defined according to different related research for a holistic framework; it is primarily identified into a five - dimensional scope.

1.Strategic and Business Model scope

In the telecommunications sector, digital transformation extends to a strategic and business model scope that emphasizes value creation beyond traditional connectivity services. Scholars argue that digital transformation requires organizations to fundamentally rethink their business models, revenue structures, and competitive positioning rather than merely improving operational efficiency(Reddy & Reinartz, 2017).

Telecom operators are increasingly shifting from traditional "Telco" models focused on voice and data services toward "TechCo" models that deliver integrated digital platforms and ecosystem-based services such as fintech, cloud computing, and digital content (Verhoef et al., 2021). This strategic shift enables revenue diversification and long-term sustainability in highly competitive and liberalized markets.

In this context, digital transformation represents a strategic reinvention process where organizations redesign how value is created, delivered, and captured through digital capabilities (Vial, 2019). For telecommunications organizations, the success of such strategic transformation depends not only on digital innovation but also on the organization's ability to support new business models through reliable and scalable internal IT services.

2.Technological and Infrastructure Scope

The technological and infrastructure scope of digital transformation in telecommunications focuses on the modernization and integration of advanced digital technologies that enable new services, automation, and data-driven operations(Gharib, 2019).

Digital transformation in this sector requires the deployment of technologies such as cloud computing, artificial intelligence, big data analytics, Internet of Things (IoT), and next-generation networks including 5G to support real-time service delivery and scalability

(McKinsey, 2019; Vial, 2019). Telecom operators must also migrate legacy systems to flexible, cloud-based architectures and establish high-capacity data centers to support growing digital workloads and platform-based services (Verhoef et al., 2021).

Recent studies emphasize that the adoption of intelligent and automated IT environments, including AI-enabled IT Service Management (ITSM), is increasingly critical for handling the operational complexity introduced by digital technologies (Abhireddy, 2025; Reinhard et al., 2025). However, additional studies highlight that technological advancement alone is insufficient to achieve digital transformation outcomes unless supported by effective internal IT service management processes that ensure service reliability, change control, and operational stability (Vial, 2019).

3.Organizational and cultural scope

Transformation in the telecom sector requires ‘Structural Agility'. This scope involves breaking regional and functional silos in favor of centralized agile support organizations (Tadesse, 2022). This demands a cultural shift where employees move from "Technology-focused" roles to "Service-oriented" roles, requiring a "future-ready" mindset to manage complex digital value streams (Ethio Telecom, 2025).

4.Operational and Internal Excellence Scope

According to scholars Mikalef & Parmiggiani (2022) Digital transformation initiatives often fail due to lack of internal operational process and no sufficient maturity to support rapid innovation as well as service delivery and so as to achieve excellence in operations ,automation of service workflow and continuous monitoring which supports agility and scalability leveraging intelligent systems is needed. This will further aid smarter decision making through real time data flow and integration (Verhoef et al.,2021). Contextually, this scope serves as the holding bridge between the digital strategy and value usage positioning effective ITSM as a foundational enabler in the telecommunication sector.

5.Customer Experience Scope

Customer Experience as the final frontier of digital transformation in the telecom sector. As **Vial (2019)** notes, digital transformation fundamentally alters the "value creation path" by putting the customer at the center of every digital interaction. This integrates the digital first journey a strategy which aims to provide seamless experiences where customers can navigate services independently to empowerment and personalization offering digital lifestyle to the outcome of operational excellency

2.2.4 Benefit of Digital Transformation in the scope of Telecom Companies

Digital transformation (DT) delivers a competitive edge to telecommunications organizations by moving beyond basic technology upgrades to a radical reconfiguration of operational and strategic value (Vial, 2019). For a transitioning firm like Ethio Telecom, the primary benefit is the realization of Operational Excellence and service reliability. By integrating automation, real-time analytics, and mature IT platforms, telecom operators can streamline complex internal workflows and minimize service disruptions (Verhoef et al., 2021). This internal stability acts as the essential "Asset" , ensuring that critical digital infrastructures which now underpin the entire national digital economy remain resilient under the pressure of market liberalization (Westerman et al., 2014).

Beyond efficiency, DT fosters Organizational Agility, allowing telecom providers to feel and grab market opportunities with unprecedented speed (Warner & Wäger, 2019). As traditional revenue from voice and data declines, this agility enables the "Action" of strategic renewal, where operators pivot toward high-growth digital platforms like Fintech (tele birr) and cloud solutions (Hess et al., 2016). This shift from a traditional "Telco" to a platform-centric "TechCo" allows for massive revenue diversification, with Ethio Telecom specifically targeting a 40% contribution from non-traditional digital services by 2028 (Ethio Telecom, 2025).

Finally, digital transformation strengthens organizational governance by aligning IT systems with broader strategic objectives. In the context of Sub-Saharan Africa, these benefits are particularly transformative, as they enable operators to expand service reach and support national digital

agendas despite resource constraints (GSMA Intelligence, 2025). Ultimately, prior research emphasizes that while DT offers a path to long-term sustainability and High-Velocity IT (HVIT), these rewards are contingent upon the maturity of internal service operations (Mikalef & Parmiggiani, 2022). This highlights the critical importance of investigating how IT Service Management (ITSM) effectiveness serves as the foundational driver for realizing these transformation outcomes.

2.2.5 Digital Transformation Dimensions

According to Hess et al. (2016), a comprehensive digital transformation is not a singular event but a multi-dimensional strategy that affects four critical areas of the enterprise: the use of technologies, changes in value creation, structural changes, and financial aspects. The first dimension, Use of Technologies, refers to an organization's attitude toward new technologies and its ability to exploit them to create a competitive advantage. The second, Changes in Value Creation, describes how digital initiatives influence the firm's core business model and revenue streams, such as Ethio Telecom's shift toward fintech via Tele birr. Structural Changes involve the modification of organizational setups, processes, and skills to provide a sufficient basis for new digital operations. Finally, the Financial Aspect acts as both a driver and a bounding force, determining the firm's ability to fund its transformation journey while under pressure from market liberalization (Hess et al., 2016).

2.2.6 Measuring Digital transformation

Measuring the success of a digital transformation strategy requires a transition from traditional technical metrics to an assessment of capability across specific organizational dimensions (Hess et al., 2016). According to Westerman et al. (2014), the "Operational Process" dimension is measured by the degree of process digitization, the integration of data-driven decision-making, and the increase in worker enablement through digital tools. Furthermore, the "Value Creation" dimension is quantified by the decrease of manual input and the shift in the firm's business model from a connectivity provider to a platform ecosystem (Verhoef et al., 2021).

By measuring these dimensions, an organization can move beyond surface-level technology adoption to evaluate its "Digital Mastery," which represents the combination of high digital capability and strong leadership vision (Westerman et al., 2014).

To operationalize the digital transformation within this research context DT outcomes are categorized into three dimensions according to Ethio-telecom(2025); Operational efficiency captures digital technologies,resource utilization and the increase of speed,Service reliability: IT systems, services, Consistency and Organizational Agility: response to new technology,environment needs and scalability of systems.These three dimensions together forms the base for measuring digital transformation(Ethio-Telecom,2025).

2.3 IT Service Management and ITIL framework

To successfully deliver the digital services described above, organizations require a structured approach to managing their technology. IT Service Management (ITSM) is defined as the implementation and management of quality IT services that meet the needs of the business. (Axelos , 2019) explains that modern ITSM is no longer just about managing servers or software; it is about "co-creating value" between the IT department and the business units. According to the Axelos (2019) through ITIL framework, ITSM emphasizes value co-creation through the effective management of service processes, people, and technology.

IT service management is practiced through the implementation of ITIL version framework.Through different evolution the traditional ITIL 3 focused on structured lifecycle within process boundaries (Ernawati et al., 2023).However studies such as Saraiva and Ribeiro (2025) point out the rigid and static boundaries which develop barrier to the day to day changing digital environment and now evolved to the Information Technology Infrastructure library (ITIL) 4.The industry-standard framework for achieving this is the Information Technology Infrastructure Library (ITIL 4). This provides the best widely used adopted framework.Contrary to previous versions the ITIL 4 introduced the Service Value System(SVS) which focuses on how all components of an organization work together to facilitate value creation (Agutter, 2020). The other component is the Service value chain which outlines activities to demand and facilitate

value including planning, improvement, engagement, design, transition, delivery and support(Axelos,2019).

This also defines the managerial practices replacing the traditional process-based approach, which are incident management, change enablement, service availability and continual improvement should be based on maximizing the business outcome.For Ethio Telecom, ITSM serves as the "operational engine" that ensures digital services such as mobile money or 5G are reliable, secure, and continuously improved. Without effective ITSM, the ambitious goals of a Digital Transformation strategy are likely to face technical bottlenecks and service failures.

This study focuses on four particular management practices;Incident Management, Change Management, Continuous Service Improvement (CSI), and Service Delivery Metrics out of the 34 management activities included in the ITIL 4 framework. These four procedures make up the fundamental operational loop needed to oversee Ethio-Telecom's digital transformation's stability, pace, optimization, and measurement. Complex technology disruptions (such 5G and cloud architectures) are brought about by digital transformation, which also necessitates strict operational continuity and market value realization. These practices are carefully chosen and justified under the Resource-Based View (RBV) as the crucial internal competences needed to convert raw IT investments into sustainable organizational success, as opposed to diluting the research scope over the entire framework.

The four practices which are considered to be the overall proxy of ITIL maturity.

1. Change enablement ensures that changes are made in a controlled way to reduce risks and prevent services from being interrupted.
2. Service Delivery Management ensures that its services meet agreed availability targets while prioritizing service reliability.
3. Incident management ensures restoring service at the minimal time.
4. Continual improvement ensures the alignment of the available services with the changing business needs of the organization (Axelos, 2019).

Previous ITIL research demonstrates that Incident Management, Change Management, Continuous Service Improvement, and Service Delivery Metrics address the most important operational factors influencing service performance and transformation success, which is why these techniques were chosen. Reactive operations, poor measurement and reporting, issues with incident classification, difficulty with handling customer feedback, and process-interface flaws are major obstacles to ITIL implementation in telecom and other industries, according to earlier research.The complexity of integrating ITIL into current systems and the makeup of the implementation team limited ITIL implementation in the Ethiopian Telecom context, according to a case study (Berihun,2020).It also confirmed that organizational structure and critical success factors have a significant impact on ITIL effectiveness. Instead of concentrating on more general ITIL ideas, these findings support strategies that directly improve service control, recovery, and improvement procedures.(Mourad & Johari, 2014)

The choice of incident management was made because research consistently demonstrates that irregular or sluggish incident handling lowers customer happiness and service quality, particularly when users eschew formal processes in favor of quicker informal settlement. Change management was chosen because previous studies have shown that uncontrolled changes and change-related mishaps are frequent reasons for service failure, making organized change control crucial for operational stability. Because ITIL literature highlights that improvement is essential to maintaining value, learning from occurrences, and minimizing the recurrence of service issues, continuous service improvement was included. Service Delivery Metrics were selected because metrics are required to assess incident resolution, change success, and service performance, and measurement and reporting are frequently noted as weak points in ITIL implementation.(Cook et al., 2021;Omeni, 2026;Training 2024)

When combined, these procedures offer an evidence-based foundation for determining if ITSM is operating efficiently following deployment. Because service continuity, responsiveness, and performance assessment are closely related to customer experience and the results of digital transformation, they are also suitable for the telecom industry.(Omeni, 2026)

2.3.1 Service Delivery Metrics

Service delivery metric is the combination of the main service sectors of service request management and service availability. These are the measures used to evaluate how well services are provided in terms of speed, quality, reliability and user satisfaction which further indicates SLA compilers' resolution contract and as well as user satisfaction. In ITSM, these metrics are essential to indicate the service function of the organization in accomplishing the overall business goals and expectations (Cronholm & Salomonson, 2014). This metric is essential in this study in measuring ITSM kPIs in improving service quality and digital transformation.

2.3.2 ITSM Effectiveness and KPI measurement

To measure "Effectiveness," researchers now use Maturity Models (Kurniawan et al., 2023) utilize a "Gap Analysis" approach based on ITIL 4 maturity to show that higher maturity in Change and Incident management directly reduces the "Technical Debt" that slows down Digital Transformation.

Measuring the effectiveness of Information Technology Service Management (ITSM) is essential for understanding how well IT services support organizational objectives and enable digital transformation. ITSM effectiveness refers to the extent to which IT service processes deliver reliable, high-quality services while meeting business and customer requirements. Rather than focusing solely on the existence of ITSM frameworks, recent studies emphasize the importance of evaluating how effectively these frameworks are implemented and operationalized within organizations (Iden & Roar Eikebrokk, 2017).

The literature identifies Key Performance Indicators (KPIs) as the primary mechanism for assessing ITSM effectiveness. Commonly used KPIs include incident resolution time, service availability, change success rate, customer satisfaction, and knowledge management utilization. These indicators provide measurable evidence of how ITSM processes contribute to operational stability and service quality (Marrone & Kolbe, 2017). Effective ITSM performance, reflected through improved KPIs, reduces service disruptions and operational risks, thereby creating a stable foundation for introducing and scaling digital initiatives.

Furthermore, measuring ITSM effectiveness supports managerial decision-making by enabling organizations to identify process weaknesses, resource gaps, and improvement opportunities. According to Cater-Steel, Toleman, and Tan (2016), organizations that systematically monitor ITSM performance are better positioned to align IT services with strategic goals and adapt to changing business environments. Despite this, many studies focus on ITSM adoption rather than effectiveness measurement, particularly in developing-country contexts. This limitation highlights the need for empirical research that evaluates ITSM effectiveness using recognized KPIs and examines how such effectiveness contributes to broader digital transformation objectives.

2.3.3 Defining ITSM Effectiveness and Capability

IT Service Management (ITSM) effectiveness is defined as the extent to which an organization's IT services are aligned with business needs and deliver the intended value to stakeholders (Verhoef et al., 2021).According to Yusuf (2025), effectiveness in a telecommunications environment specifically refers to the ability to maintain service reliability while increasing the velocity of digital deployments. This shift requires moving from a reactive "firefighting" stance to a proactive, capability-based model where IT functions as a strategic partner rather than a mere cost center (Ahmed et al., 2025).

2.3.4 Practice Success Factors (PSFs)

To objectively quantify effectiveness, the ITIL 4 Maturity Model introduces Practice Success Factors (PSFs) as the primary units of measurement. A PSF is defined as a "complex functional component of a practice that is required for the practice to fulfill its purpose" (Axelos, 2023). Scholarly research suggests that utilizing PSFs provides a more accurate assessment of maturity than traditional KPIs because they evaluate the four dimensions of service management: organizations and people, information and technology, partners and suppliers, and value streams and processes (Mohammed et al., 2024). By assessing these factors, an organization can determine its capability level on a scale from 0 (Absent) to 5 (Optimizing), providing a roadmap

for bridging the gap between current operations and the "TechCo" vision (Inavolu, 2025).Integrating the KPI and PSF however results in a coordinated effectiveness measure.

2.3.5 The Relationship between ITSM and Digital Transformation

Digital transformation and IT service management (ITSM) will be increasingly recognized in the literature as closely interrelated organizational capabilities rather than independent initiatives. While digital transformation focuses on leveraging digital technologies to fundamentally transform organizational processes, service delivery, and value creation, ITSM provides the structured processes, governance mechanisms, and operational controls necessary to ensure that digital technologies are deployed and managed reliably and efficiently (Vial, 2019).

Several scholars argue that the success of digital transformation initiatives depends not only on technological innovation but also on the organization's ability to manage IT services in a stable and coordinated manner. Poorly managed IT services can lead to service disruptions, slow response times, and system failures, which undermine the benefits of digital initiatives and reduce customer trust (Baiyere et al., 2020). In this context, ITSM acts as an enabling foundation that supports digital transformation by ensuring service reliability, operational continuity, and effective change management.

Frameworks such as ITIL 4 explicitly position ITSM as a contributor to digital transformation by emphasizing value co-creation, agility, and continual improvement. ITIL 4 shifts the focus of ITSM from process compliance to value delivery, aligning IT service management practices with broader organizational goals, including digital innovation and customer experience enhancement (Axelos, 2019). This alignment enables organizations to introduce new digital services more rapidly while maintaining service quality and operational stability.

Empirical studies further demonstrate that effective ITSM practices are associated with improved organizational agility, faster deployment of digital services, and enhanced customer satisfaction all of which are core dimensions of digital transformation (Gerow; et al., 2014; Iden &

Eikebrokk, 2017). Key ITSM performance indicators such as incident resolution time, change success rate, and service availability have been shown to influence an organization's capacity to scale digital platforms and sustain digitally enabled services over time.

In service-intensive industries such as telecommunications, the relationship between ITSM and digital transformation is particularly critical due to the complexity of digital infrastructures and the requirement for continuous service availability. As telecom operators expand digital platforms and customer-facing services, the effectiveness of ITSM processes becomes a determining factor in whether digital transformation initiatives can be executed successfully and sustained in the long term (Vial, 2019; GSMA, 2021).

Based on this perspective, the literature suggests that ITSM should not be viewed as a purely operational function but as a strategic enabler of digital transformation. However, despite this theoretical linkage, empirical evidence examining how the effectiveness of ITSM processes supports digital transformation outcomes remains limited, particularly in developing-country contexts including Ethiopia. This gap highlights the need for empirical studies that assess ITSM effectiveness and analyze its role in enabling organizational digital transformation initiatives.

2.3.6 Strategic Impact of ITSM Effectiveness on Digital Transformation

The relationship between ITSM effectiveness and digital transformation success is characterized by the "stability-agility paradox," where mature IT practices provide the necessary governance to support high-speed innovation (Itsm tools, 2025). Empirical studies in the telecom sector have demonstrated that high maturity in practices such as Incident Management and Change Enablement significantly reduces "digital friction" and operational risk during the rollout of complex services like fintech and 5G (Inavolu, 2025). Furthermore, a mature Service Desk serves as a cultural catalyst, bridging the gap between technical teams and customer expectations (Tang & Todo, 2013). Thus, for Ethio Telecom, ITSM effectiveness is the "operational engine" that transforms the strategic pillars of the Next Horizon 2028 roadmap into tangible digital value.

2.3.7 Multi-vendor ecosystem and ITSM outsourcing

This section is the justification of why measuring ITSM effectiveness is impossible without the control of the environment, such as vendor layers. In sub-Saharan countries such as Ethiopia the telecom infrastructure is split between the major suppliers Huawei and ZTE which is handling rural areas this leads to the balancing of the massive multi-vendor footprint (Mtsweni et al.,2021) This will of course increase the country's network upgrade, broadband deployments and national rollouts. They also bring out operational complexity to organizational fragmentation. Such as within the Ethio-Telecom National Network Operation Center managing an infrastructure footprint that spans multiple independent subsystem technologies from competing vendors creates distinct organizational and technical silos which leads to the evaluation process justification of the cross-sectional boundary standard.

2.4 Model and theories

2.4.1 Resource-Based View (RBV) of the Firm

The RBV serves as the primary macro lens for this research. The Resource-Based View (RBV) provides the theoretical justification for why ITSM maturity leads to competitive advantage. According to Barney (1991, 2021), a firm achieves superior performance by acquiring and controlling resources that are Valuable, Rare, Inimitable, and Non-substitutable (VRIN). In the modern "TechCo" era, IT Service Management is recognized as a strategic intangible resource that enables firms to deploy their digital assets more effectively than their competitors (Kero & Bogale, 2023; Yusuf, 2025). This research argues that a mature ITSM ecosystem at Ethio Telecom constitutes a VRIN resource because it creates a unique "organizational capability" for service reliability and agility that is difficult for new market entrants to replicate quickly (da Silva et al., 2025).For the organization as a large scale operator this means its internal IT service workflow, operational governance and infrastructure competencies should not be easily replicated. This theory will aid the shift of focus from the external market facing solution to internal service management assets.

2.4.2 Technological-Organizational -Environmental (TOE) Framework

The TOE Framework, originally proposed by Tornatzky and Fleischer (1990), serves as the supporting multi-dimensional lens for this study. Recent research into telecom digital maturity confirms that the adoption of complex frameworks like ITIL 4 is influenced by three distinct contexts: the Technological context (existing IT infrastructure and network capabilities), the Organizational context (the Next Horizon 2028 strategy, firm size, and internal culture), and the Environmental context (market liberalization and competition from Safaricom) (Inavolu, 2025; Mohammed et al., 2024). By utilizing TOE, this research moves beyond a purely technical evaluation of ITSM, acknowledging that the "effectiveness" of practices like Change Enablement and Incident Management is deeply rooted in Ethio Telecom's organizational readiness and the external competitive pressures of the Ethiopian market. TOE factors are explored qualitatively through managerial insights to aid in variations.

2.4.3 The ITIL 4 Maturity Model

The operational backbone of this study is the ITIL 4 Model, which provides a structured path for modernizing IT operations. Unlike earlier versions, the ITIL 4 model evaluates maturity through Practice Success Factors (PSFs) integrating KPI and the "Four Dimensions of Service Management," ensuring a holistic view of people, processes, technology, and partners (Axelos, 2024). The model defines five capability levels ranging from Level 1 (Initial) to Level 5 (Optimizing) which allow organizations to benchmark their current state against global best practices (Axelos, 2024; Novel Vista, 2025). By applying this model, this research provides a standardized "measuring stick" to quantify how effectively Ethio Telecom's ITSM practices support its transition into a technology-driven enterprise.

2.4.4 Integration of Theories

This research integrates RBV, TOE, and ITIL 4 frameworks to provide an overall understanding of ITSM effectiveness and its change in digital transformation. While RBV serves as the main theoretical foundation by explaining how internal capabilities aid in the significant increase of organizational agility. TOE complements the perspective by developing qualitative insights to

influence the variables. ITIL 4 provides the operational framework as a whole in defining measuring the itsm practices. In coordination of all three, a holistic outcome analyzes the relationship between ITSM and digital transformation.

2.4.5 Theoretical Justification

In order to assess Ethio-Telecom's digital transformation, this study purposefully uses a dual theoretical integration of the Technology-Organization-Environment (TOE) Framework and the Resource-Based View (RBV), specifically rejecting individual-level behavioral models like the Technology Acceptance Model (TAM). Although TAM is frequently used in information systems research, it functions at a psychological level of analysis, assessing the perceived utility and ease of use of a particular application by a single end-user. TAM is conceptually insufficient because digital transformation at a national telecommunications incumbent is a structural, systemic, and enterprise-wide evolution rather than an individual adoption phenomenon; it is completely blind to changes in the macroenvironment and internal organizational architecture.

The TOE framework, on the other hand, offers a strong, macro-level structural lens that takes into consideration the intricate interactions between internal organizational capabilities, technological infrastructure readiness, and extremely volatile environmental contexts, like aggressive competitive entry and national market liberalization. However, the TOE framework lacks the operational mechanism to describe how an organization internally creates a lasting competitive edge from its technology because it is essentially descriptive and context-driven.

The RBV is incorporated as an internal capabilities engine to close this gap. Based on the RBV, sustainable transformation is accomplished by continuously coordinating internal resources into valuable, rare, unique, and non-substitutable (VRIN) operational capabilities rather than by simply purchasing generic, non-exclusive software assets. Effective ITSM turns personnel skills

and unprocessed IT infrastructure into an integrated institutional competence by immediately integrating structured ITIL 4 procedures into day-to-day operations.

As a result, this theoretical synthesis is especially appropriate for Ethiopia Telecom's Next Horizon 2028 roadmap: the RBV describes the internal process-driven capability architecture needed to sustain the transformation, while the TOE framework defines the external and structural boundaries driving it.

2.5 Empirical Review

2.5.1 Assessment of Global Studies

Empirical research examining the structural and operational effects of IT Service Management (ITSM) reveals a paradigm shift on a worldwide scale. Data-driven "Value Transformation" and "Intelligent Service Management" have replaced simple software adoption in the telecoms industry (GSMA Intelligence, 2025). However, a thorough cross-analysis of this international literature finds serious methodological flaws, biases related to omitted variables, and contextual inconsistencies that limit its direct application to developing markets.

Critical Analysis of Industrial and Market Reports

Strong macro-level evidence connecting synchronized service management to improved operational capabilities is presented by commercial and industrial assessments.

According to an enterprise industry report by Infraon (2025), telecom companies that successfully combine comprehensive digital transformation strategies with internal ITSM frameworks see an average 40% increase in service delivery speeds and a 30% decrease in operating expenses. The results of GSMA Intelligence (2025), which show that the modern telecom environment is moving toward a "Value Transformation" model, are consistent with this operational acceleration. In order to handle the structural complexity of 5G infrastructure expansions and Internet of Things (IoT) ecosystems while customizing consumer-facing touchpoints, global mobile operators use AI-driven ITSM architectures (AITSM).

Despite providing robust commercial validation, these numbers are seriously problematic from an academic standpoint because of a total lack of scientific transparency. The data collection

methods, baseline variables, and statistical significance test parameters are not disclosed by either Infraon (2025) or GSMA Intelligence (2025).

There is a significant survival and elite bias in the sample populations included in these market indices. Nearly all of the investigated datasets are from Tier-1, hypercapitalized multinational companies in highly developed economic areas. As a result, the sample sizes are completely insufficient to accurately reflect the structural and socioeconomic realities of Sub-Saharan Africa. The severe resource limitations, significant power grid volatility, and particular institutional frictions that an incumbent utility like Ethio-Telecom faces when navigating abrupt market liberalization are entirely ignored by them.

Evaluation of Academic Frameworks and Structural Case Studies

To move beyond aggregate market data, recent academic studies have utilized theoretical models most notably the Technology-Organization-Environment (TOE) framework to isolate the precise operational mechanisms of ITIL-driven agility.

Inavolu (2025) mapped the direct operational obstacles preventing digital transformation in service management environments using the TOE framework. According to the analysis, the main structural barriers to agility are deep organizational misalignment and old system dependencies. On the other hand, a thorough redesign and modernization of the ITIL framework resulted in a 25% reduction in incident resolution times and a 15% reduction in overall operating expenses, according to a global structural analysis of telecom companies conducted by Flevy (2024). All of these results point to the long-term optimization of Change Success Rates and Customer Satisfaction (CSAT) scores outweighing the initial implementation friction, despite the substantial upfront capital expenditure needed to reach ITIL maturity.

Methodologically, Inavolu's (2025) only reliance on a single-site qualitative case study severely limits the research approach. The study lacks cross-sectional generalizability, cannot prove mathematical causality, and has no statistical prediction power because it only collected data through subjective, semi-structured interviews that were thematically coded. It is unable to confirm which TOE framework dimension has the most empirical influence on transformation results.

Although Flevy (2024) presents quantitative performance measurements, the study views the ITIL framework as a stand-alone, technical variable. By disregarding internal corporate governance and cultural preparedness as important mediating elements, this creates a serious omitted-variable bias.

Critique of the Human and Socio-Technical Dimension

A critical subset of contemporary global literature highlights the "Human Aspect" of digital transformation, arguing that structural frameworks fail without concurrent cultural shifts.

Organizations that actively involve frontline IT technical staff in the early stages of process redesign specifically, during the structural transition to ITIL 4 workflows realize a 33% higher success rate in long-term practice adoption, according to global enterprise research by Gartner (2024). QRP International (2025), which views digital transformation as a profound cultural and behavioral shift rather than a simple technological upgrade, strongly supports this socio-technical interdependence. According to their research, the company's internal IT service desk serves as the main "cultural catalyst" that successfully bridges the gap between frontend end-user experience and backend technical optimizations.

The fundamental weakness of the designs employed by QRP International (2025) and Gartner (2024) is their descriptive, basic dependence on binary correlation measures and perceptual data.Their methodology leverages self-reported survey indicators to quantify "adoption success" rather than tracking objective, hard technical KPIs (such as Mean Time to Repair [MTTR] or SLA breach frequency). They give no statistical modeling to explain how human capability measures interact with inflexible infrastructure limits under ambitious operational deadlines, such as those set by Ethio-Telecom’s Next Horizon 2028 agenda.

Methodological Counterpoint: The Saudi Vision 2030 Empirical Model

The most methodologically robust precedent in contemporary literature is a large-scale public sector study centered on Saudi Arabia’s Vision 2030 digital transformation roadmap. This

research successfully avoided purely descriptive reporting by executing a sequential explanatory mixed-methods design to analyze how ITSM maturity directly drives institutional performance.

The Saudi model's quantitative phase offered specific statistical explanations for intensive ITSM optimization.Multiple linear regression modeling confirmed that a 3.3% increase in technical system uptime and a 0.5-point increase in user satisfaction scores (measured on a standardized 5-point Likert scale) are directly predicted for every point increase on the 5-point ITSM process maturity scale.Statistical Correlation: System reliability coefficients ($r = 0.53$) and citizen satisfaction markers ($r = 0.70$) were significantly higher for institutional entities with optimized ITSM maturity.

This study design demonstrates a crucial contextual and structural boundary failure, despite the fact that its dual deployment of econometrics and qualitative theme triangulation makes it extremely appropriate. The study does not distinguish how certain sub-processes (e.g., Incident Management vs. Change Management) specifically affect particular operational characteristics because it assesses performance as an aggregated macro-maturity score.

With more than 85% of the empirical data coming from extremely well-funded government departments functioning in a hypercapitalized, cash-surplus economic environment, the sample configuration is significantly skewed. For forecasting performance in a consumer-facing, infrastructure-heavy telecommunications provider, this sample is completely insufficient. Under strict national regulatory oversight and abrupt market liberalization, a telecom operator needs ongoing backend stability to support millions of quick digital transactions (like telebirr).

2.5.2 Assessment of Local Studies

Alemeye (2015) conducted a single holistic exploratory case study to identify the barriers and critical success factors (CSFs) influencing the implementation of the ITIL-based ITSM framework in Ethio Telecom. The research confirmed common barriers such as lack of top management support, resource shortages, and resistance to change, while also identifying unique hurdles like the complexity of integrating ITIL with existing systems and issues with project team composition. While providing deep insights into implementation hurdles, the study failed to offer a holistic, company-wide assessment that connects these technical barriers to the broader objectives of modern digital transformation.

Meaza (2020) focused on the technical backbone of the company by developing a domain-centric digital maturity assessment model specifically for Ethio Telecom's network and security sectors. Through a mixed-methods design, the study revealed low maturity ratings in analytics technology, leadership, and innovation, suggesting that effective knowledge sharing is essential to move innovation to the next stage. However, the scope of this research was limited to these two technical divisions, leaving a gap for a unified framework that addresses digital maturity across all functional sectors of the entire organization

Berihun (2020) utilized Design Science Research (DSR) to design and develop a customized ITSM framework based on ITIL best practices to improve service quality and customer satisfaction at Ethio Telecom. The study identified that existing practices did not meet organizational needs and proposed a framework featuring 14 service components and a RACI matrix to clearly define roles and responsibilities. While this work provided a robust operational blueprint for ITIL V3 alignment, it did not integrate these processes with modern digital transformation pillars such as AI-powered operational excellence or the strategic goals found in the "Next Horizon 2028" roadmap.

Berhanu (2024) investigated the elements impacting digital transformation in Addis Ababa's Woreda administration offices using a mixed-methods methodology. According to the survey, there is still little adoption of digital transformation, which is mostly caused by things like poor IT infrastructure, a lack of digital expertise, and a lack of support from upper management. Although the study's focus is limited to local government e-government initiatives, it does not address the particular high-velocity service management challenges or the large-scale infrastructure requirements unique to a telecommunications leader like Ethio Telecom. Regression analysis was used to identify organizational culture and change management as critical components for improving digital efforts in the public sector.

Using the ITIL framework as a guide, **Haymanot (2024)** investigated the effectiveness of IT Service Management (ITSM) on operational efficiency within the Ethiopian e-commerce sector. The study used multiple regression analysis to show that certain ITSM metrics, like problem

resolution and request fulfillment rates, are statistically significant positive predictors of internal operational performance.It's interesting to note that the study found a negative correlation with customer satisfaction indicators in the regression model, suggesting a possible trade-off between optimizing customer experience and optimizing internal procedures. Although this study emphasizes the significance of responsive IT operations for business efficiency, it concentrates on the e-commerce sector and fails to close the gap between these operational efficiencies and the strategic "Next Horizon" dimensions necessary for a thorough digital transformation in the telecom industry.

2.6 Research Gap

The available literature on both digital transformation and ITSM are set on digital and economically mature environments leaving a significant gap in knowledge regarding the process in emerging economies.Facing challenges such as institutional instability, infrastructure limitations, and "policy friction" between leadership and regulatory bodies. Specifically, for a unique entity like Ethio Telecom, there is a lack of research that moves beyond simple connectivity toward becoming a regionally diversified digital powerhouse.

Previous local studies have examined specific "slivers" of the problem but failed to provide a comprehensive portrait. For instance:Alemeye (2015) identified implementation barriers but did not link them to the broader strategic goals of digital transformation.Meaza (2020) focused on maturity in specific technical sectors but lacked a unified framework that addresses digital maturity across all functional sectors.

Getamesay (2020) provided an operational blueprint for ITIL alignment but did not integrate these processes with modern pillars like AI-powered excellence or fintech ecosystems

2.7 Conceptual Framework and Hypothesis Formulation

2.7.1 Hypothesis Formulation

Hypothesis1(H1):Effective ITSM has a significant impact on Digital transformation

The Resource-Based View (RBV) and the Technology–Organization–Environment (TOE) paradigm provide theoretical support for the study's central hypothesis, which holds that successful IT Service Management (ITSM) has a major impact on digital transformation outcomes. According to the TOE perspective, businesses that operate in dynamic, technologically advanced environments like the telecom industry face growing complexity as a result of external pressures and quick technological advancements. To handle these difficulties, these businesses need structured organizational mechanisms (Tornatzky & Fleischer, 1990; Baker, 2011). In this regard, efficient ITSM offers the operational coordination, governance frameworks, and standardized procedures required to enable digital transformation projects (Serrano et al., 2021).Simultaneously, the RBV contends that the development of important, uncommon, and challenging-to-replicate internal competencies is essential to sustaining organizational performance (Barney, 1991). Effective implementation of ITSM techniques converts organizational competences and technological resources into integrated operational capabilities that improve operational efficiency, decrease service interruptions, and increase system reliability (Iden & Eikebrokk, 2013; Marrone et al., 2014).The effectiveness of ITSM becomes crucial in ensuring that internal operations can sustain digital transformation efforts in the context of Ethio Telecom, where large-scale digital initiatives like 5G expansion and digital platforms are being implemented. This justifies the anticipated positive relationship between ITSM effectiveness and digital transformation outcomes.

Hypothesis (H1a): Change management has a positive and significant direct effect on Digital transformation in Ethio-Telecom.

According to Basulo-Ribeiro et al. (2026), mixed method research utilized the change model to build a comprehensive DT trait. This studies is the ,major evidence that articulation of clear vison and mission alignment; Consistency and coordination; Involvement and upskilling and adaptability correlates directly to a successful digital transformation implemntation.Digital transformation is effectively integrated process at re configuration, requires a structured change environment and defined digital stage (Carujo et al., 2022b)

Hypothesis(H2b): Incident management has a positive and significant direct effect on Digital transformation in Ethio-Telecom.

Prior to incident management was a single telephone channel which created hectic information holes and resolution lag. According to the research done by Peralta et al. (2025) The available system was tested under varying conditions which scaled from 50 incidents to 500 incidents within this fluctuating high load the transformed digital architecture incident management sustained the average response time of just 2.3 second per incidents. The proper usage of incident management totally changes the digital transformation, replacing manual interpretations with AI, clear models as well as attaining organizational agility

Hypothesis(H3c): Continual Service Improvement has a positive and significant direct effect on Digital transformation in Ethio-Telecom.

As many organizations rollout frontier technologies as one time project leading to the common digital stagnation or the stuck stage, this leads to the deployment of digital transformation to fail in adaptation over time (Anggara et al., 2024).The resulting framework for a successful digital transformation is not static but a long term , continuous evaluation with effective tracking of quality, efficiency, speed and effectiveness (Anggara et al., 2024).

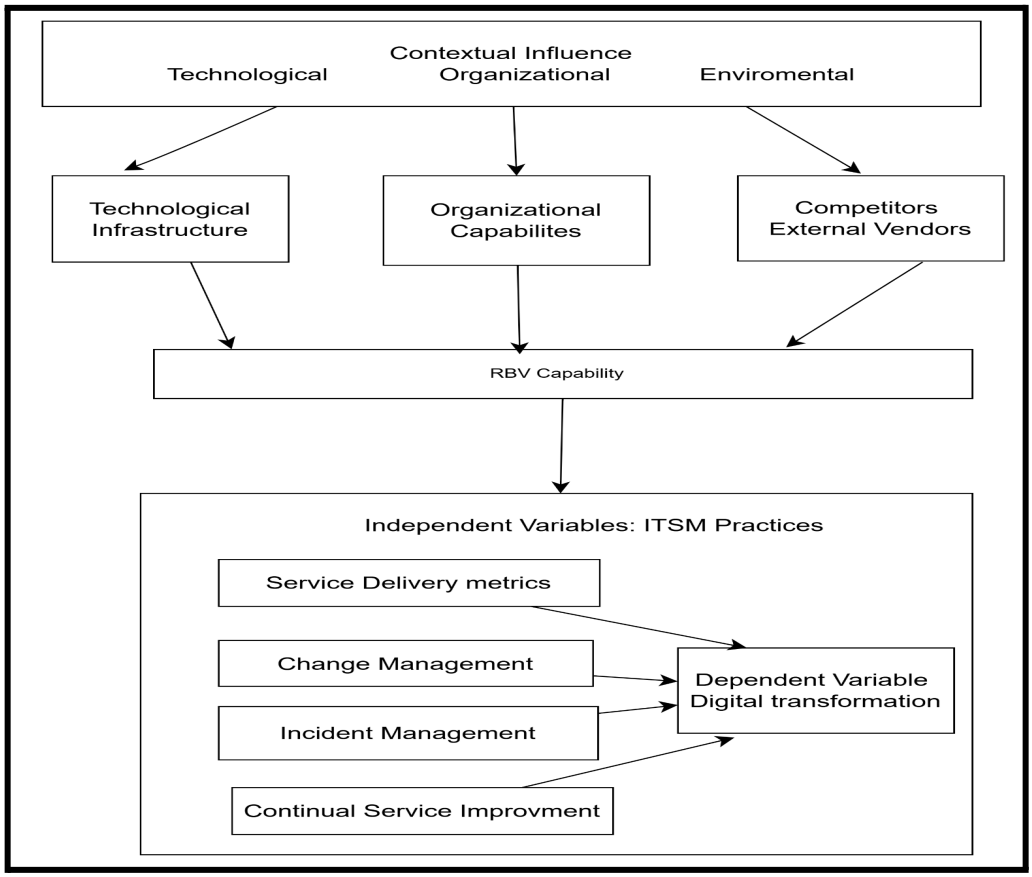
Hypothesis (H4d): Service delivery Management has a positive and significant direct effect on Digital transformation in Ethio-Telecom.

Past research indicates that ITSM and ITIL improve service delivery, end users' satisfaction, visibility and integration of business value (Kanapathy & Khan, 2012).A seminar study done by Marrone and Kolbe (2011) which surveyed around 419 IT specialist within 15 countries to measure the exact returns on the Itil adoption lead to the outcome of the increased operational efficiency of 79.4%;improved service quality of 73.4%; alignment of business with a 67.6%;customer satisfaction of 64.6% and infrastructure increase of 61.9%.inter.The compile of literature shows organizations gain from implementing service delivery management assessing the delivery metrics regularly.

2.7.2 Conceptual Framework

The conceptual framework for this study illustrates the relationship between ITSM Practices (Independent Variables) and Digital Transformation Success outcome (Dependent Variable).This relationship is analyzed through the lens of the TOE Framework as a contextual supporting enabler where the Effectiveness of the four chosen ITIL 4 practices is shaped by the Technological, Organizational, and Environmental contexts of Ethio Telecom and BRV which oversees the internal capability of the company. The context toe encompass the changed market, ITSM processes, ITIL practices, as well as skills governance and process management the main factor RBV including the ITSM resources and organizational skills in the additional use of ITIL 4 operations this all together explains why and answers how questions are issued. The measured effectiveness will be related to the DT outcome using regression and correlation which will feel the linkage gap to attain the purposeful recommendation.

Figure 1: Conceptual Framework



In order to maintain methodological rigor and prevent a common statistical contradiction, the integrated framework in Figure 1 is organized as a sequential explanatory mixed-methods design. The diagram effectively isolates the quantitative regression model testing the direct impact of the four fundamental ITIL 4 practices Change Management, Incident Management, Continual Service Improvement, and Service Delivery Metrics on the dependent variable, Digital Transformation, by enclosing them in a lower causal box. Since the Technology-Organization-Environment (TOE) dimensions Technological Infrastructure, Organizational Capabilities, and Competitors/External Vendors are only examined through qualitative interviews to contextually interpret real-world execution, the top half purposefully eliminates solid causal arrows from these dimensions.

Solid arrows would erroneously suggest that the regression algorithm is calculating these qualitative environmental influences as quantitative independent variables. Rather, this arrangement clearly illustrates true mixed-methods integration: the surrounding qualitative TOE

overlay offers the explanatory lens required to interpret variations, structural bottlenecks, and practical constraints within Ethio-Telecom's operational ecosystem, while the quantitative core measures the empirical impact of ITSM processes.

Chapter Three: Methodology

3.1 Introduction

This chapter encompasses the tools that are used to investigate the role of effective IT Service Management (ITSM) in driving Digital Transformation at the company Ethio-Telecom. This methodology section outlines the design, study area, sampling techniques, population, data collection, and analysis, as ethical considerations employed to achieve its objective while ensuring the validity and reliability of the study.

3.2 Description of the Study Area

This study will be conducted at Ethio Telecom, Ethiopia's national telecommunications operator, headquartered in Addis Ababa. Ethio Telecom plays a central role in the country's digital infrastructure and is currently implementing large-scale digital transformation initiatives aligned with its strategic roadmap. The organization operates complex IT and service delivery environments that require effective IT service management practices to ensure service reliability, operational continuity, and customer satisfaction.

The study focuses on IT and service management units within Ethio Telecom, including service desk, network operations, change management, and IT operations teams. These units were selected due to their direct involvement in ITSM processes that support digital service delivery.

3.3 Research Approach

This study utilizes a Sequential Explanatory **Mixed-Method Approach (MMR)** which combines both quantitative and qualitative methods. (Dawadi et al,2021). The quantitative aspect was conducted through survey questionnaire results which was then followed by qualitative aspects that support and explain as well as guide the research. This approach produces relationships, how those identified relationships function in the unique organization culture. The qualitative aspect includes interview questions with the relevant personnels. These questions are aligned with the frameworks.

For this study, a single-method strategy is inadequate since a purely qualitative design would lack empirical generalizability throughout the organization, while a strictly quantitative design would find statistical correlations but not explain why they occur. Because it measures the direct empirical impact of ITIL 4 practices on Digital Transformation using a quantitative survey phase (multiple linear regression) and immediately follows with a qualitative interview phase (TOE framework analysis), this hybrid approach is clearly supported. In order to understand how actual institutional limitations, cultural quirks, and external vendor dependencies actually impact or impede those statistical correlations within Ethiopia Telecom's operational ecology, this secondary phase offers the crucial interpretive perspective.

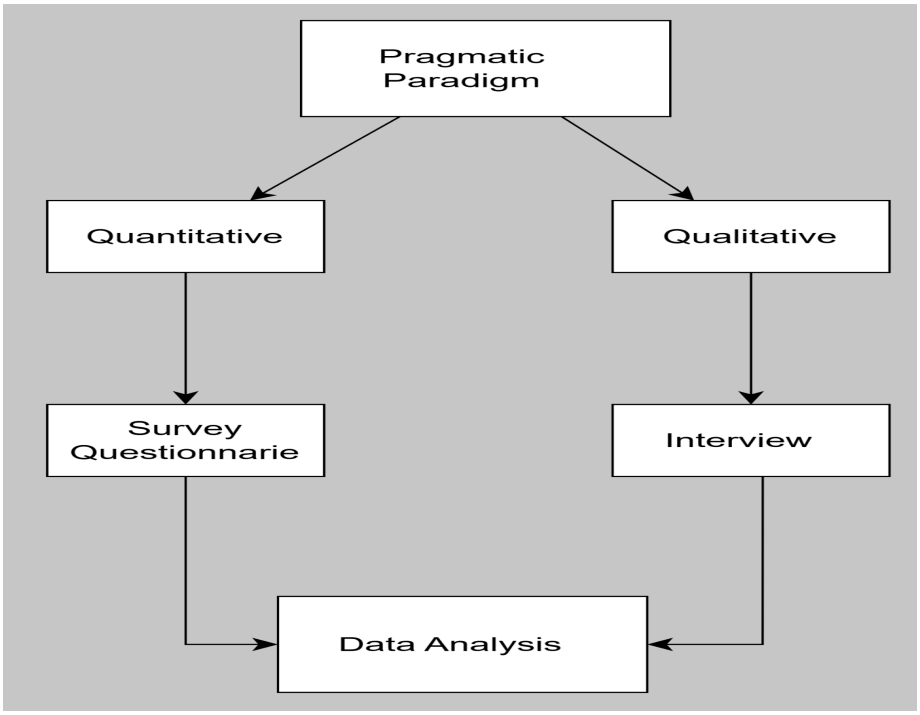
3.4 Research Design

This study adopts an **Explanatory research design**, as it seeks to examine the relationship between ITSM effectiveness and digital transformation outcomes. Explanatory research is suitable for identifying and explaining relationships between variables rather than merely describing phenomena.

This chosen design enables the study to assess how ITSM effectiveness indicators (such as incident resolution time, service availability, and change success rate) influence digital transformation dimensions, including service agility, operational efficiency, and digital service innovation.

This study additionally adopts the **Pragmatic research paradigm** that anchors quantitative statistical trends with qualitative interview insights. By running both concurrently, the qualitative findings serving contextualization, triangulation, and explain variances within the qualitative data (Arbale & Mutisya, 2024).This approach is necessary to evaluate the constraints of vendors, framework influencing the standardized ITIL process within a transitioning environment of Ethio-Telecom.

Figure 2: Research design



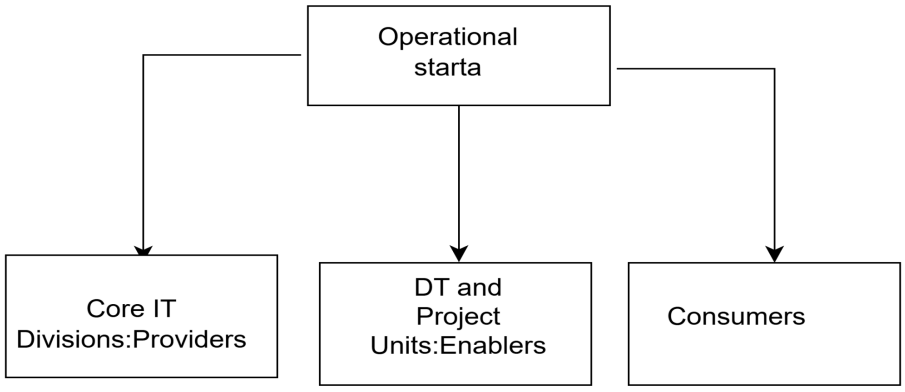
3.5 Study Population

3.5.1 Target Population

The target population is enclosed with the professionals employed in Ethio-telecom Headquarters (HQ) in Addis Ababa. This restriction is essential because this corporate HQ serves as a centralized core where macro-level initiatives, strategies, frameworks and other technical as well as technological infrastructure are formulated, designed, passed out for implementation, measured, managed and their outcome monitored and used. Although the case organization's entire Information Technology (IT) division employs more than 1,500 people, this study identifies a specific target demographic of **180** workers. Only professional IT workers, network administrators, service desk engineers, and core management staff who are directly involved in or affected by the operational loops of incident management, change management, continuous service improvement (CSI), and service delivery metrics as well as digital strategy are included

in this population. Since they don't directly deal with enterprise ITSM platform setups, broader organizational units within the division (such generic field techs, retail support, and administrative staff) were purposefully left out. Because the respondents have the precise institutional knowledge needed to assess the research constructs, defining this particular 180-person boundary provides excellent internal validity.

Figure 3: Operational strata



- **The Providers (IT)** operational section consists of the main IT division. This department includes the Information System (IS), Network operation centers (NOC), Infrastructure, Management, Centralized internal and external service desk, IT operations and development, IT sourcing and IT service department.

- **The Enablers (DT and Project units)** encompass employees whose job indication lists digital transformation, Change and Incident management, product development, process owners' digital initiatives and project management offices. This section is responsible for services such as tele birr and other eco systems.

- **The Consumers or end users (Business)** are the professionals within the organization which will use the available system to perform their system. This section relies on IT service reliability as well as service agility for them to perform what is

expected from them. The main end users for this are finance or mobile money department and management

3.6 Sample Size Determination

The targeted quantitative population includes all the above listed operational strata (See figure 2).This accompanied by disproportionate probability stratified sampling to ensure that bias is out of the question and guarantee an equitable represented distribution across the identified units (Hair, 2018).To insure an academically justified sample size from the accessible population of N=180 which is the total number of employees which are from the selected related specific units with a 95% confidence level and standard precision level of 0.05 Yamene's (1967) is used to determine the final sample size.

Yamene Formula $\mathbf{n=N/1+N(e)^2}$

Where n=The sample size
N=the finite population
e=level of significance or limit of error
1=constant value

Plugging in the number value into the formula

$=180/1+180(0.05)^2 = 180/1+180(0.0025) = 180/1+0.45=180/1.45=124.137 \sim 124$

As the calculation indicates a minimum of 124 respondents which is rounded up to ensure integrity across the strata.

3.7 Sampling Technique

3.7.1 Qualitative Sampling

Nonprobability purposive sampling is executed as the respondents are included based on criteria of years of employment, department and role within the corporate. This approach guarantees that the information to be obtained encompasses any strategical insights, workflows and operational shifts which will then achieve thematic saturation and the inclusion of TOE framework as well as proportional representation across Incident, Change, Service Desk, and Continual Improvement units, aligning with ITSM research standards (Berihun, 2021).

The qualitative sample size is encompassed by the saturation principles according to Saunders(2019) and the targeted 7 elite key informants.

- 1 from Itsm department
- 1 from Digital transformation project leads
- 1 from operations and service level manager
- 2 from It strategy unit
- 2 from management specialist

3.7.2 Quantitative Sampling Technique

Disproportionate Stratified Sampling will be used in the table below. This ensures that each functional area is proportionately represented, reducing sampling bias (Mohammed et al., 2024). Three strata are utilized to ensure that the departments included meet the research objectives.

In order to prevent bigger operational departments from statistically drowning out smaller, highly specialized strategic strata, this study purposefully uses a disproportionate stratified sample technique rather than a proportionate design. Compared to specialized departments like Change Enablement or Continual Service Improvement (CSI), frontline operations like Incident Management in Ethiopia Telecom's IT division employ a substantially greater number of people. A sample that is significantly skewed toward frontline employees would be produced by using a proportionate method, leaving crucial strategic behaviors either completely or significantly underrepresented. As a result, a disproportionate design is specifically justified since it ensures that a statistically significant number of responses are obtained from each crucial ITSM stratum,

offering the balanced empirical depth necessary to run a trustworthy multiple regression model without compromising the distinctive perspectives of smaller, specialized teams.

Table 1: Strata Division Table

no	Operational Stratum	Targeted Sub-departments	Sample Size=n	Methodological Justification
1	Core It-division	Network, Infrastructure, Service desk ,Itsm systems	54	Largest population as they are the main providers and execution of frameworks happen
2	DT units	Dt offices, process offices, product development, telebirr,initiatives,digital services	35	The subgroup used to attain the measurement of innovation impact as well as agility in the dependent variable.
3	End users	Finance (Tele birr), Corporate finance, Management	35	These are the main and foremost consumers of aid to measure efficiency and service reliability.
	Total		n=124	

3.8 Sources of data

The study utilized primary data collected directly from respondents through a structured questionnaire and semi-structured interviews. Primary data were necessary because the key variables under investigation of IT service management (ITSM) effectiveness and digital

transformation outcomes are not readily available in organizational reports or secondary databases. Aspects such as incident management efficiency, service delivery management, and continual improvement require perception-based measurement from employees involved in IT and related functions.

A cross-sectional research design was employed, involving the collection of data from respondents at a single point in time. This approach was appropriate as the study aims to assess the current state of ITSM practices and their relationship with digital transformation outcomes within the organization. The design allows for capturing existing conditions without requiring longitudinal tracking, which aligns with the time constraints of the study.

The study primarily relied on quantitative data obtained through questionnaires to measure ITSM effectiveness and digital transformation dimensions. In addition, qualitative data were collected through interviews with managerial staff to explore technological, organizational, and environmental factors influencing ITSM effectiveness. This mixed-method approach enhances the depth of analysis by combining statistical evaluation with contextual insights.

Given the scope and resource limitations of the study, the use of primary data collection methods was both practical and appropriate. All analyses and interpretations were based on the data collected directly from respondents, ensuring that the findings accurately reflect the organizational context under investigation Secondary data will include organizational reports, ITSM documentation, and strategic plans where accessible. Sourced from Ethio Telecom's annual performance reports, and the **Next Horizon 2028** strategy document. This allows for **Triangulation**, where primary findings are validated against actual organizational records (**Dscout, 2022**).

3.9 Procedures for Data Collection

- **Phase 1 (Preparation)**: Secured an ethical clearance letter from the university and a formal access letter from Ethio Telecom.
- **Phase 2 (Quantitative)**: The data collection was conducted over a 3-month-period from March-May ,2026.

A pilot test study was conducted with 15 employees combined from the stratified department to assess the clarity and completion time as well as accessibility.

(Qualitative Interviews): The participants for the interview where first meet in person and exchange contact information sent the interview questions and scheduled interview.

After: Perform Member Checking by sending transcripts back to participants to confirm accuracy, this is a critical step for qualitative trustworthiness (Creswell, 2018).

- **Phase 3** Completeness of the questionnaire was checked and around 16% were returned without filling in the questions. Data was then entered to IBM SPSS.

3.10 Research Instruments

3.10.1 Questionnaires

The questionnaire is the primary tool for measuring the independent variables (ITSM Practice Maturity) and the dependent variable (Digital Transformation Success). **Structured Quantitative questionnaires** to measure ITSM effectiveness and digital transformation indicators. The questionnaire will use a 5-point Likert Scale (1 = Strongly Disagree to 5 = Strongly Agree), which is empirically mapped to the ITIL 4 Maturity Levels (McCarthy, 2018)

Demographic Profile: Collects data on respondents' department, job roles, years of experience and ITSM interaction departments within Ethio Telecom to ensure a representative sample.

Sources of Items: The questionnaire items were not fabricated ;instead, they were methodically taken from official industry standards and verified academic frameworks, then modified to match the particular institutional context of Ethiopia Telecom's Next Horizon 2028 strategic roadmap.

- **ITSM Maturity Scale (Independent Variables)**: AXELOS's (2024) official ITIL framework, Practice Success Factors (PSFs) and Key Performance Indicators (KPIs) were directly operationalized into the items measuring the four fundamental ITSM blocks: Incident Management, Service Request Management (SDM), Change Enablement, and the Service Delivery.

  Adaptation: Localized terminology was used in the generic framework.

- **Digital Transformation Success Scale (Dependent Variable)**: The tripartite matrix put forth by Hess et al. (2016), which assesses transformation along three dimensions Operational Efficiency, Organizational Agility, and Service Reliability was the source of the items used to measure the success of digital transformation.

  Adaptation: Ethio-Telecom's Next Horizon 2028 framework's specific performance indicators were used to contextualize these theoretical items, with a particular emphasis on internal digital adoption rates, process automation efficiency, and reducing systemic legacy downtime (Mohammed et al., 2024).

Expert evaluation was used to confirm face validity and content. Two ITIL-certified practitioners at the company and two academic specialists in business information systems assessed the questionnaire. Clarity, technical precision, and conformity to the study constructs were the main areas of criticism. This examination led to the removal of double-barreled items and the improvement of unclear wording.

Fifteen IT professionals who were representative of the target market participated in a pilot study. The final sample does not include these individuals. The pilot data was subjected to reliability analysis using Cronbach's Alpha; all constructs exceeded the acceptable threshold of 0.70, demonstrating strong internal consistency and the instrument's eligibility for the main study.All things considered, the questionnaire design guaranteed appropriate reliability for quantitative analysis, contextual relevance, and conformity with theoretical conceptions.

3.7.2 Semi-structured Interview Guide

Semi-structured Qualitative interviews to gain deeper insights into ITSM implementation and strategic alignment with digital transformation framing TOE.
Following the quantitative survey, a semi-structured interview guide is used to collect in-depth qualitative data from 7 purposely selected IT managers and Digital Transformation leads.

Instrument Design: The guide consists of open-ended questions focused on the "Why" and "How" behind the survey results. It specifically probes into the "Stability-Agility Paradox" and the organizational barriers (TOE Context) that numerical data may not capture (Inavolu, 2025).

The semi-structured nature allows the researcher to ask "probing questions" based on participant responses, which is essential for uncovering deep-seated cultural and structural challenges within large incumbents like Ethio Telecom (Creswell, 2018).

3.11 Data Analysis Techniques

Descriptive statistical analysis and inferential statistical analysis techniques were used in analyzing the collected data using the SPSS software version 28. Descriptive statistical techniques involved the calculation of statistics such as measures of central tendencies (such as mean) and measures of dispersion (such as standard deviation), which helped explain the respondents' perceptions about each construct. A big standard deviation compared to mean showed that the respondents' perceptions were not consistent but divergent.

Pearson correlation analysis was used to determine the bivariate relationships among the constructs (the variables) using Pearson's correlation, which assumes linear relationships hence applicable when data is normally distributed. Statistically significant relationships were established, providing preliminary evidence for the hypotheses.

Multiple regression analysis was used to evaluate the extent of predictability of the four independent variables (dimensions of ITIL 4 service management practices) on digital transformation outcomes. Regression analysis gives coefficients representing each predictor's contribution while controlling other independent variables.

Key outcomes obtained from regression analysis included:

Coefficient of determination (R^2): proportion of the variance of digital transformation outcomes attributable to the service management practices.

Regression coefficient (beta): the magnitude and direction of the relationship between each of the dimensions of ITIL 4 practices and digital transformation outcomes.

p-value: measure of the statistical significance of the relationship.

Model specification – the empirical model applied in this study was specified as:

$DT = \beta_0 + \beta_1 (IM) + \beta_2 (CM) + \beta_3 (SDM) + \beta_4(CSI)$

Where:

IM – Incident Management

CM – Change Management

SDM – Service delivery metric

CSI – Continual Service Improvement

DT – Digital Transformation Outcomes

β_0 = constant term

β_1, β_2, β_3... = regression coefficients

Using linear regression lies in its ability to test both the magnitude and statistical significance of each IT service management dimension's effect on digital transformation outcomes. This aligned directly with the study's objective of identifying which service management factors most strongly influenced digital transformation effectiveness at Ethio-Telecom. To ensure methodological rigor, regression diagnostics including tests for multicollinearity (VIF and

Tolerance), and normality checks (skewness and kurtosis) were conducted. These procedures enhanced the validity of the model and the reliability of the results, thereby strengthening the study's contribution to both academic literature and practical management decision-making.

Qualitative data obtained from semi-structured interviews will be analyzed using **Thematic Analysis** of field data. Because qualitative data is typically voluminous, a "Data Reduction" process is followed (**Creswell, 2018**).

3.12 Validity Test

To achieve **content validity** for the research instrument, the expertise of scholars and practitioners specializing in IT Service Management (ITSM), Business Information Systems (BIS), and enterprise digital architecture was sought to verify that the questionnaire items covered the core ITIL 4 process dimensions in a comprehensive manner. Face validity was subsequently established by conducting a pilot study among a select group of telecom professionals and technical staff at Ethio-Telecom, whose operational feedback proved invaluable for refining the phrasing and contextual wording of the statements to ensure clear comprehension. Based on these pilot insights, strategic adjustments were made to the questionnaire layout to guarantee it measures the operational realities of incident, change, request, and continual improvement tracks in a highly credible way. Establishing these validation parameters is essential for ensuring the structural credibility of the methodology, thereby assuring examiners that the data collection tools are fully capable of uncovering how service management frameworks actively drive digital transformation outcomes.

The degree to which the measurement items accurately reflect the theoretical constructs being studied is known as **construct validity**(Bagozzi et al., 1991) . By modifying measurement items from well-known literature on IT service management (ITSM) and digital transformation and matching them to the conceptual definitions of each variable such as incident management, change management, continuous service improvement, and service delivery metrics construct validity was guaranteed in this study.

The degree of correlation between several items assessing the same construct is known as **convergent validity** (Carlson & Herdman, 2010) . Convergent validity was supported by the internal consistency of the measurement scales, as demonstrated by Cronbach's Alpha values exceeding the acceptable threshold of 0.70, even though sophisticated statistical techniques like Confirmatory Factor Analysis (CFA) were not used because of the study's methodological scope. This implies that the same underlying concept is consistently measured by the items inside each construct.

The degree to which constructs are unique and not strongly associated with one another is known as discriminant validity (T Hajjar, 2019) . In order to ensure discriminant validity in this study, the questionnaire was carefully designed with items that were clearly divided and particularly suited to test various aspects of digital transformation and ITSM practices. Furthermore, the possibility of overlap across constructs was decreased by maintaining the conceptual separation between variables based on theoretical underpinnings.

Therefore, the study ensures validity through theoretical underpinnings, instrument design, and reliability testing that are acceptable for the research design and scope of the investigation, even though sophisticated statistical validation procedures were not used.

3.13 Reability

Table 2: Reliability Test

Factors	No of items	Cronbach's alpha
Incident Management (IM)	5	.798
Change Management (CM)	5	.713

Service Delivery Metrics (SDM)	6	.735
Continual service improvement (CSI)	3	.755
Digital transformation (DT)	9	.816
Overall	28	.908

The findings show that each measurement scale offers strong internal consistency and reliability for the multiple regression model. As seen from Table 2, the individual Cronbach's alpha values for the independent variables range from 0.713 to 0.798, while the dependent variable, Digital Transformation (DT) Outcomes, exhibits an alpha value of 0.816. Crucially, the overall instrument comprising all 28 items yields an outstanding aggregate reliability score of 0.908. Because all calculated alpha coefficients comfortably exceed the universally accepted academic threshold of **0.70,** there is no evidence of random measurement error or structural unreliability across the scales. The result implies that the questionnaire items have sufficient internal cohesion, thus eliminating the possibility of erratic or unstable feedback confounding the empirical findings.

3.14 Ethical Considerations

The conduct of this research is governed by the ethical principles of **autonomy, beneficence, and justice**, ensuring the protection of all participants and the integrity of the data (**Creswell, 2018**). Given that this study takes place within a large public enterprise undergoing significant strategic change, specific measures are taken to balance the need for transparent data with the requirement for corporate and individual confidentiality (**Ahmed et al., 2025**).

All of the below bulleted points were carried out.

- **Informed Consent and Voluntarism:** Participation in both quantitative survey and qualitative interviews was strictly voluntary.

- **Anonymity and Confidentiality:** To encourage honest feedback regarding Ethio Telecom's internal processes, all survey responses were collected anonymously, with no personally identifiable information email recorded.
- **Data Security and Integrity:** In accordance with modern IT ethical standards, all raw data were stored in password-protected digital environments and will be permanently deleted upon the successful defense of the thesis (**Stahl et al., 2016**).
- **Non-Malevolence** ensures that no findings are reported in a way that could cause reputational harm to Ethio Telecom or lead to disciplinary action against employees who report low maturity in their departments.

Chapter Four: Data Presentation and Analysis

4.1 Introduction

This chapter forwards the findings for both the data analysis as well as the interpretation collected from the Ethio-Telecom Headquarter located at Piasa Churchill and Bole Denbel. This chapter is aligned with the required objectives identifying the ITSM currently in use and how these practices furtherly aid Digital transformation outcome. This chapter begins with data screening, and the respondent profile continues with descriptive statistics ,correlation analysis,gap analysis and regression analysis alongside with the explanation of open-ended responses , on site responses and interviews to back up the qualitative results with the TOE framework as a base.

4.2 Response Rate

Table 3: Response Rate

Questionnaires	Number	Response rate (%)
Returned	20	16.12%
Unreturned	104	83.87%
Total sample size	124	100%

Source: Own Questionnaire,2026

A robust response rate of 83.87% was obtained by retrieving and analyzing 104 valid questionnaires from the 124 sampled IT people determined by the Yamane formula. Operational workloads and rotating shifts typical of an intensive telecom environment accounted for the remaining 16.13% of non-response. Two factors make this final sample of n = 104 extremely sufficient: first, it significantly surpasses the typical 70% level needed in organizational research

to remove non-response bias, and second, it satisfies the mathematical presumptions required for Multiple Linear Regression.

4.3 Demographic Profile of the Respondents (n=104)

Table 4 : Demographic profile of respondents (n=104)

Demographic Information		Frequency	Percent
Department	IT Department	46	44.2
	Digital Services	18	17.3
	Management	24	23.1
	Network services	11	10.6
	Other	5	4.8
	Total	**104**	**100.0**
Years of Experience	Less than 1 year	10	9.6
	1–3 years	22	21.2
	3–6 years	42	40.4
	More than 6 years	30	28.8
	Total	**104**	**100.0**
Job Role	IT Operations specialist	34	32.7
	Network Operations	22	21.2
	Service Desk operator	14	13.5
	Management	18	17.3
	Application development	10	9.6
	other	6	5.8

	Total	**104**	**100.0**
nteraction with ITSM	Daily	61	58.7
	Weekly	27	26.0
	Monthly	12	11.5
	Rarely	4	3.8
	Total	**104**	**100.0**

Source: Survey Result, SPSS (2026)

The demographic section of the entries provides essential grounds for evaluating the questionnaire responses. As it can be seen from the above summarized data(Table 4), the allotment of respondents lay across different operational sectors ensuring the collected data represents a highly informed and relevant sampling of the workforce.

According to the 104 participants the largest department contribution belongs to the IT department with 46 employees at 44.2% of the total participants and .The management follows closely with 24 respondents (23.1%) and then Digital services with 18 respondents at 17.3%.Network services lay around at 11 respondents at 10.6%.The 5 employees leftover are from other unclassified areas.This ensures that core technology staffs are well included in the distribution as to encompass the huge department heavily capturing the core division of ITSM.

The greater number of respondents (40.4%) fall between the 3-6 years of experience followed by a 6 years range of experience with 30 respondents (28.8%) then preceded by 22 respondents with 1-3 years of experience at (21.2%) of the total respondent sample and 10 employees (9.6%) with one year and less experience.Therefore with major respondent acquiring the decent amount of work experience this enables them to furtherly carryout the ITSM processes questions.

From the above demographic factor job role; the supremacy of IT Operations Specialist can be inferred with 34 respondents (32.7%) followed by Network Operations with 22 respondents (17.3%) and 18(17.3%) respondents taking on the management roles.The service desk operations as well as applications development hold about 14(13.5) and 10 (9.6%) respectively.Other job roles employ 6 respondents at 5.8%.This percentage obtained ensured that respondents hold core

system handling knowledge experience.While the management are end users who will rate the system they operate on.

Finally looking to the percentage of the ITSM interaction of the participants ; almost the aggregate resulted in a 58.7% daily interaction with the practice while the 26.0% utilize them weekly and a least of 11.5% interact monthly.Over the respondents only 4 (3.8%) of the total rarely contact with ITSM.This establishes a concrete evidence of 84.7% engagement which is valuable to draw credible analyzing patterns for attaining Digital transformation.

4.4 Descriptive Statistics of Individual Constructs

The respondents' responses are displayed in this section below as a table. The response's mean and standard deviation are shown in the tables. The mean value displays the average level of agreement regarding specific practices of IT Service management and its contribution to driving Digital Transformation. On the other hand, the standard deviation illustrates the degree to which responses vary among participants for each construct. A five-point Likert scale was used to measure each characteristic, ranging from "1" (strongly disagree) to "5" (strongly agree).
According to Pallant (2010), the mean score that ranges from 1.00-1.80 is strongly disagree, from 1.81-2.80 is disagree, from 2.81-3.40 is deemed to be neutral/moderate, from 3.41-4.20 is agreed and from 4.21-5.00 is going to be considered as strongly agreed.

4.4.1 Incident Management

Table 5: Descriptive Statistics –Incident Management

Incident Management (IM)			
Statements	N	Mean	Std. Deviation
The incident handling procedures in the organization are clearly defined and documented.	104	3.54	1.859

It incidents are resolved within the timeframes specified according to Service Level Agreement (SLA).	104	3.62	1.840
There is a clear process of learning as well as training of tools to resolve incidents efficiently.	104	3.96	1.740
The incident resolution process prioritises fixing issues that cause the most damage to Ethio-telecom's revenue and reputation.	104	4.27	1.553
The incident escalation routes work effectively and efficiently.	104	2.35	1.772
IM Average	104	3.5462	1.30577
Valid N (listwise)	104		

Source: Survey Result, SPSS (2026)

As it can be inferred from the above Table 5 the analysis result of incident management has a mean value of 3.5462 which indicates that the practice is deemed to be barely adequate; the standard deviation of 1.30 shows a significant variations among different operational units which concluded a general solutions to developing service management that are customized programs.
In particular, Incident Management obtained the highest rating in relation to order of prioritization severe damage that endanger the revenue and reputation (M=4.27 , SD=1.55),demonstrating Ethio-Telecom's sincere commitment to preserving its core organization assets during significant disruptions.A specific emphasis on tool based training and learning protocols supports this strong operational focus with Mean of 3.96 and SD= 1.740.

Yet still, the effectiveness and efficiency of incident escalation routes were found to be at the lowest (M=2.35,SD=1.772) and a conceptual contrast demonstrates that baseline procedural documentation (M=3.54,SD=1.859) and actual escalation performance varies

tremendously.Essentially this condition means that regardless the company's effective front-end tools it lacks seamless and integrated pathways expected to address complicated cross functional technical problem,which could lead to competence gap.

The elevated standard deviation (1.553-1.859) across all the statements demonstrate , Incident Management maturity is a considerably heterogenous with a noticeable standard deviation in handling procedures(SD=1.859) highlights a clear boundary between technical divisions that rely on fragmented, manual communication channels as well as optimized workflows.

4.4.2 Change Management (CM)

Table 6: Descriptive Statistics – Change Management

Change Management (CM)			
Statements	N	Mean	Std. Deviation
Potential risks and business impacts are thoroughly assessed before any IT change is approved.	104	3.63	1.855
Affected partners are communicated about any change of plans in advance to minimize any disruption.	104	3.77	1.758
The change implementation at Ethio-Telecom results in unplanned service outages or "rollbacks".	104	3.69	1.801
The company utilizes post-implementation reviews conducted to identify lessons learned and prevent future technical failures.	104	2.33	1.776

Changes undergo testing and validation post production before going for use.	104	3.93	1.685
CM Average	104	3.4692	1.21216
Valid N (listwise)	104		

Source: Survey Result, SPSS (2026)

The Change Management analysis presents an alarming pattern as seen from Table 6.The overall mean of 3.4692 which is just above neutral suggests that this practice is not enough;The high Standard deviation of 1.212 shows significant variation among operational teams thus indicates ineffectiveness of general solutions indicating specific tailored programs which are required.

The evaluation of Change Management specifically in relation to post production testing and validation before the system is applied into daily use (M=3.93,SD=1.685); indicates that the technical unit have made a considerable investment in basic deployment loops.This is supported by the communication loop when affected partners are engaged and communicated before any change or disruption arises(M=3.77,SD=1.758).However the lowest mean was found concerning the utilization of post implementation reviews to implement lessons learned and utilizing it to prevent future disruptions(M=2.33,SD=1.776) and additional contrast shows the presence of gap between frontline validation(3.93,SD=1.685) and long term knowledge retention.This phenomena means that technical units test any modification on the spot while the organization fails to archive or learn from the deployment errors which results in recurrent mistakes such as rollbacks or service outrages(M=3.69,SD=1.801).The standard deviation range values of all the statements(1.685-1.855) while change management execution is heterogenous the company lacks consistency in how the practice is applied.Structured change management is needed for risk assessment in addition to operational efficiency.The organization has a change management but with an uneven standards creating a gap between control and speed.

4.4.3 Service Delivery Metrics

Table 7: Descriptive Statistics – Service Delivery Metrics

Statements	N	Mean	Std. Deviation
The IT team delivers what is required quickly enough as one gets back to their daily activities.(Responsiveness,Service desk)	104	2.02	1.666
The company's service downtime is minimal. (Availability)	104	2.15	1.705
The service continuity plan is effective when a major disaster happens. (Continuity)	104	2.85	2.004
The overall system is up and running when employees and end users need it.(Continuity)	104	2.64	1.874
The digital tools and catalogs provided make it easy to request resources.(Accessibility)	104	3.47	1.946
End users get timely updates on their status.(Accessibility)	104	3.60	1.903
SDM Average	104	2.7885	1.21640
Valid N (listwise)	104		

Source: Survey Result, SPSS (2026)

The analysis of Service delivery from table 7 indicates a composite mean value below neutral(2.7885) which implies that this practice is insufficient and defective.The standard deviation of SD=1.21640 shows a significant variation among the workflows.

In specific detail the highest mean (M=3.60,SD=1.903) shows that end users comparatively get timely updates supported by the clear availability of digital tools and catalogs which are accessible and easy to request organizational resources (M=3.47,SD=1.946).The lowest level of Service delivery metric (M=2.02,SD=1.666) was found regarding IT team delivering what is expected so end users could go on with their activities this acknowledges the hole between the

digital interfaces and back end execution speed.While the organization provides easy to use digital tools ie Digital catalogs,automated system updates the actual service delivery stalls significantly which is also indicated in the service downtime (M=2.15,SD=1.875) with regular platform unavailability when employees need it most (M=2.64,1.84 and with low service continuity effectiveness (2.85,SD=2.004).

The composite standard deviation of (1.666-2.004) perceives high variability indicating inconsistency within the organization ,uneven implementation of ITSM practices and disparity in Service availability, accessibility, continuity and responsiveness.

4.4.4 Continual Service Improvement (CSI)

Table 8: Descriptive Statistics –Continual Service Improvement

Continual Service Improvement CSI			
Statement	N	Mean	Std. Deviation
The company learns from past incidents and changes.	104	3.35	1.858
The company's management actually cares about getting better in supporting and funding continual improvement activities.	104	4.28	1.369
The organization looks at its audit data and feedback to decide what needs to be issued.	104	4.41	1.391
CSI Average	104	4.0128	1.27453
Valid N (listwise)	104		

Source: Survey Result, SPSS (2026)

The analysis of the average Continual Service Improvement (Table 8) presents an average mean of well above neutral 4.0128 which indicates this ITSM practice is considered adequate and

valued and the Standard deviation (1.27453) shows variations across operations.This practice was evaluated most highly in the means of established data and feedback usage to decide what needs to be issued with a mean of 4.41 and standard deviation of 1.391 this is furtherly supported by a clear perception that the company really validates its concern around the establishment of continual service activities (M=4.28,SD=1.391).However the lowest mean and SD(3.35,SD=1.858) which indicates a gap in administrative compliance. The management has actively set funds and execution on formal audits on paper alas leading to technical errors despite administrative tracking.

4.4.5 Digital Transformation

Table 9: Descriptive Statistics – Digital Transformation

Digital Transformation (DT)			
Statements	N	Mean	Std. Deviation
The system outages are infrequent and short that end users barely notice it.	104	2.78	1.951
Digital transformation has improved the company's resource utilization such as time, budget and infrastructure.	104	3.60	1.687
The IT systems reduce manual and repetitive work.	104	3.48	1.833
Business processes in the organization are significantly faster and with fewer errors due to digital technology.	104	3.65	1.853
The IT system supports flexible scaling of services and resources.	104	4.24	1.397
Service availability has increased due to digital initiatives.	104	3.41	1.259

The company adapts quickly to new requirements be it strategic or business.	104	3.89	1.545
The organization implements digital initiatives rapidly when the time calls.	104	4.30	1.447
Service performance is consistent across time.	104	2.88	1.470
DT	104	3.5823	1.02965
Valid N (listwise)	104		

Source: Survey Result, SPSS (2026)

The analysis of Digital Transformation outcomes presents an average mean of 3.583(above neutral) and a standard deviation of 1.02965 implying variations among strategic dimensions.DT outcomes with the highest mean (M=4.30,SD=1.447) indicates that Ethio-Telecom has developed a capacity for employing digital initiatives when the time calls this achievement is supported by the clear flexible scaling and resources (M=4.24,SD=1.397) with strong adaptation requirements (M=3.89,SD=1.545).The lowest level (M=2.78,SD=1.951) shows system outrages with the end users taking notice.The overall analysis indicates that while the company exceeds in large scale digital initiatives as well as scaling resource framework on paper; it is failing in the daily service consistency and service performance (M=2.88,SD=1.470).

4.5 Gap analysis

A gap analysis was ensured to compare the current IT Service management(ITSM) practices with the expected best standards of the ITIL 4. ITIL 4 integrates high levels of process standardization,service reliability ,continuous improvement and also value driven service capacity (Gillingham, 2026).In this research, these expectations are used as a benchmark in order to evaluate the effectiveness of the current ITSM practices based on the mean score analysis. As there is no universal ITIL means score for all the practices, this research compares its mean score against the likert scale interpretation(Schnuerch et al., 2022). To provide the theoretically the grounded analysis , the empirical mean scores derived from the 5 point likert scales are mapped by directly to the five formal capability maturity model as a tool used to interpret effectiveness.The official ITIL maturity model uses a structured 1 to 5 scale following the establishment of benchmarking approaches in prior researches (McCharthy,2021).

Table 10: Mean value of independent variables

Dimension	Mean Value	Equivalent ITIL 4 Maturity Level
Incident Management	3.5462	Level 4
Change Management	3.4692	Level 4
Continual Service Improvement	4.0128	Level 4
Service Delivery Metrics	2.7885	Level 3

Source: Survey Result, SPSS (2026)

According to ITIL likert scale measurement values from one to five. a A range of 4.21to 5.00 being the very high and 1.00 to 1.80 low while 2.61- 3.40 is moderate.As the table 10 above indicates the mean of Incident management 3.5462, Change management (M=3.4692) and Continual Service Improvement(4.0128) operate relatively at a high level of effectiveness with a respectively well managed level of maturity. This also indicates a strong performance along the organization.

The least accomplished Service delivery metric(2.7885) operates at a defined level while the process is documented and understood ; lack of integration,automation and performance are visible with a moderate effectiveness.

The overall analysis shows that the organization demonstrates a sectional alignment with ITIL 4 practices in processes which are structured and monitoring capabilities but gaps can be derived in service delivery and execution which indicate a moderate to highly effective while full ITIL best practices are to be yet attained.

4.6 Inferential Analysis

This section allows the researcher to go further into the analysis and allows generalization of findings about the 104 individuals. Inferential statistics guarantee that findings are not only based on speculation but on a grounded statistic.

4.6.1 Correlation Analysis

Pallant (2010) states that correlation analysis is used to characterize the direction and intensity of a link between two variables. The dependent and independent variables' relationship has been examined in this analysis using the Bivariate Pearson Correlation Coefficient (r). In this study, correlation analysis establishes the strengths of the relationships between Digital transformation and Incident management, Change management, Service delivery metrics and Continual Service Improvement.

Additionally, the test uses a (r) value that ranges from -1.00 to 1.00 to show the strength of a relationship between variables: 0 shows no relationship, -1.00 indicates a negative correlation, and 1.00 represents a perfect positive correlation (Pallant, 2010). The following criteria are applied to the remaining results: weak association for values between 0.1 and 0.29, moderate for values between 0.3 and 0.49, and strong for values greater than 0.5 (Pallant, 2010). A correlation study was done to look at the relationship between each of the four independent variables of ITSM practices and Digital Transformation. The results are shown individually below.

Table 11: Correlational Analysis

Correlations						
		IM	CM	SDM	CSI	DT
IM	Pearson Correlation	1				
	Sig. (2-tailed)					
	N					
CM	Pearson Correlation	.484**	1			
	Sig. (2-tailed)					
	N					
SDM	Pearson Correlation	.253**	.319**			
	Sig. (2-tailed)					
	N					
CSI	Pearson Correlation	.535**	.455**	.357**	1	
	Sig. (2-tailed)					
	N					
DT	Pearson Correlation	.626**	.592**	.476**	.698**	1

	Sig. (2-tailed)					
	N	104	104	104	104	104
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: Survey Result, SPSS (2026)

The analysis of all the ITSM practices have positive and statistically significant relationship; Table 11 shows this relationship with Digital Transformation (DT) outcomes at 1% significance level ($p < 0.01$).The correlation coefficient (r) indicates the variations in how closely these 4 practices align with the outcomes.The strongest relationship is with Continual Service improvement(CSI) with ($r=0.698$, $p < 0.01$) followed by Incident management ($r=0.626$, $p < 0.01$) and change management (0.592, $p < 0.01$) indicating that structured problem amendment and aligning it with safe deployment controls for overall modernization sucess.A moderate relationship with Service delivery metric is seen ($r = 0.476$, $p < 0.01$) while this practice contributes to digital transformation outcomes it is influenced by other additional factors.Practically in Ethio-telecom this findings suggest that the successful optimization of the continual service improvement initiatives,incident management usage for tracking major incident business process (IM) and the enforcement of testing guidelines (CM).Despite this daily micro process like request fulfillment (consistency) and downtime drags stalling the momentum of the transformation.

The internal matrix among the 4 ITIL practices are interdependent specifically between Incident management (IM) and Continual Service management (CSI) with ($r=0.535$, $p < 0.01$).

4.7 Assumptions of Testing in Regressions Analysis

To ensure that the statistical estimators are impartial, trustworthy, and valid, it is theoretically necessary to test the basic assumptions of linearity, multicollinearity, and normality before doing the Multiple Linear Regression study. In this study; linearity guarantees that the model appropriately depicts the direct, additive effect of ITSM practices on the success of digital transformation, avoiding a significant underestimation of process efficiency. Because integrated

ITIL practices (Incident, Change, Request, and Service Metrics) naturally overlap, testing for multicollinearity is essential. Removing high correlation maintains the model's stability, preventing artificially inflated standard errors and accurately isolating the distinct statistical significance (p-values) of each individual practice.Lastly, since all downstream parametric inferential statistics more especially, the F-test for overall model significance and the t-tests for individual hypothesis acceptance are theoretically based on a symmetrical error distribution, the residuals' normality is essential. By confirming these three presumptions, it is ensured that the resulting predictive values and beta coefficients represent actual operational relationships within Ethio-Telecom rather than statistical artifacts or biased measurement mistakes.

4.7.1 Normality Test

The normality test determines whether or not the data follows a normal distribution curve. To put it another way, both the independent and dependent variables' data are roughly normally distributed. First, the data's normality of distribution is tested using skewness and kurtosis.
According to Hair (2019), the skewness and kurtosis tests imply that the data for the study's variables is normal when their values fall between +2 and -2.
Using a histogram and a normal p-plot is the second method of determining whether the data is normal is known.

- **Skewness and kurtosis**

Table 12: Skewness and kurtosis

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
IM	104	-.765	.237	-.589	.469
CM	104	-.486	.237	-.838	.469
SDM	104	.356	.237	-.746	.469
CSI	104	-1.268	.237	.586	.469

DT	104	-1.018	.237	.250	.469
Valid N (listwise)	104				

Source: Survey Result, SPSS (2026)

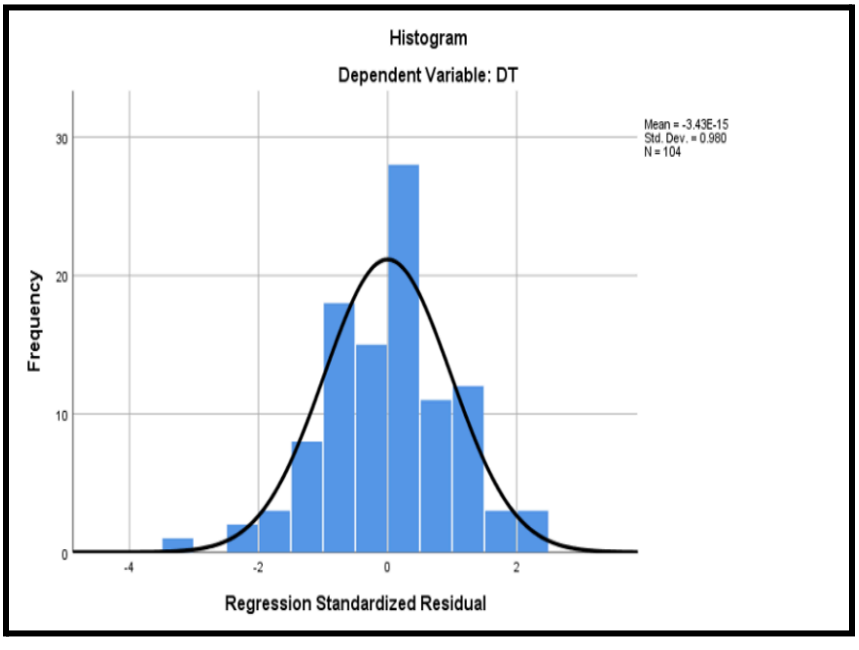
To test in case the variables are normally distributed is by assessing the values of skewness and kurtosis.Table 12 above shows the values of kurtosis range from - 0.838 to 0.586 and skewness range from - 1.268 to 0.356. As both values fall within the interval of -2 and 2 falling in the normal distribution. The negative skewness value for Incident management (IM),Change Management, Continual Service Improvement(CSI) and the dependant variable Digital Transformation (DT) outcomes demonstrates that respondents perception cluster toward the higher end of the scale while SDM shows the only the positive skewness (0.356).

The shape is moderately flat and well dispersed according to the kurtosis value.A particular negative value of - 0.838 shows that there is wide different spread.Therefore the above value satisfies the assumptions to deploy parametric estimation techniques such as correlation and multiple linear regression without risking standard errors.

- **Standardized Histogram**

When a bell-shaped histogram indicates that the residuals are regularly distributed, the data is normally distributed (Field, 2017).

Figure 4: Histogram



Source: Survey Result, SPSS (2026)

The graph of standardized residual gives more know-how on the assumption of normality for the model. In this case, residuals are normally distributed since the bars of histogram more or less around zero which forms a bell shape and the black line which is seen in the histogram aids in the approximation of data. A slight positive skewness is observed while the deviation is not substantial.The visual aligns with the above the skewness and kurtosis statistics.

4.7.2 Multi Collinearity

Multicollinearity is the existence of high correlation among the dependent and independent variables. In other words, multicollinearity exists when there is strong correlation between two or more predictors and it is a problem with multiple linear regressions. There should not be multi-co linearity or no perfect correlation between independent variables. This implies that is “overlap” or sharing of predictive power (Kothari, 2018).

The high correlation between explanatory factors can be found using multi-collinearity tests. The table below used tolerance values and VIF to determine whether the data was multi-collinear. A tolerance of less than 0.1 is frequently used as a cut-off point to identify the presence of multicollinearity, indicating that multicollinearity is an issue. The VIF is simply the tolerance's reciprocal value. Therefore, collinearity problems are indicated by VIF values more than 10.

Table 13: Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	IM	.641	1.561
	CM	.691	1.448
	SDM	.841	1.188

	CSI	.631	1.585
a. Dependent Variable: DT			

Source: Survey Result, SPSS (2026)

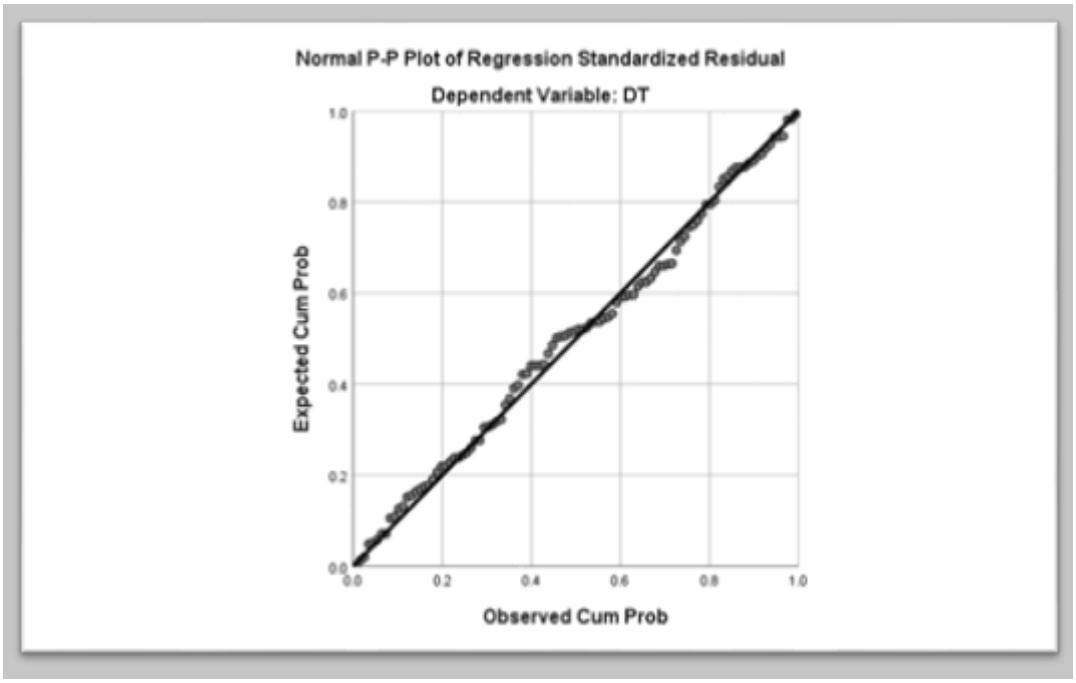
As seen from table 13 above the tolerance value from 0.631 to 0.841 and VIF ranging from 1.188 to 1.585 all fail into the acceptable threshold.This findings confirm the absence of multicollinearity among the independent variable contributing to the regression estimates stability and reliability.

4.7.3 Linearity Test

- **Normal p-p plots**

A normal distribution of residuals is indicated when the residuals' scatters fall directly on the normal distribution line (Field, 2017).

Figure 5: Standardized residual



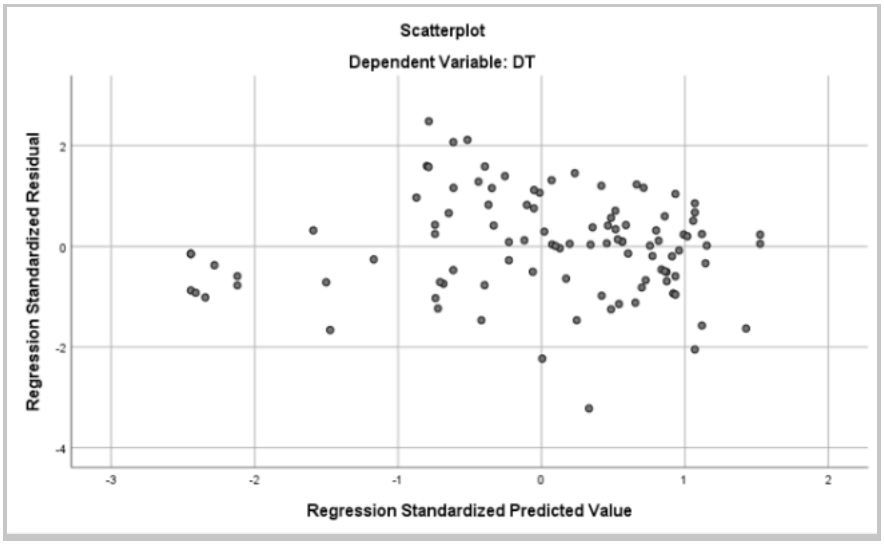
Source: Survey Result, SPSS (2026)

The Normal P-P Plot graph regression normalized residual above demonstrates that the data was roughly distributed normally and that the line was close to the diagonal line and followed its direction. This suggested that there is no significant divergence, according to the standard p-plot result.

- **Scatter plot**

The results of the linearity test suggest that there should be a linear relationship between the two variables. Accordingly, a scatter plot of scores needs to be a straight line rather than a curve (Field, 2017). The study's scatter plots demonstrate that the factors have a nearly linear relationship. Since there is no indication of non-linearity in the charts, the linearity assumption is met. Visual inspection was done on the scatter plots of the standardized residuals against the regression model's fitted values. This indicates that independent factors and digital transformation have a linear connection.

Figure 6: Scatterplot



Source: Survey Result, SPSS (2026)

The scatter plot of regression standardized residual and standardized predicted value shows that there was a random spread of the residual with no visible pattern of nonlinearity, funneled shape, and clustering. Therefore, linearity exists between the independent variable and the dependent variable, and the variance in the error term is constant, hence reducing bias in the standard error

and hypothesis testing. Overall, this can be considered that the assumptions of Normality, Multicollinearity and linearity which are essential for regression analysis have been attained. Models can be used to analyze the effect ITSM has to drive Digital Transformation.

4.7.4 Autocorrelation

Dublin-Watson statistic evaluates the independence of each variables, the errors between the real data and regression line prediction.This statistics is measured between the range of 0 to 4.A score of 2.0 measures a perfectly independent data with zero correlation.Values approaching 0 demonstrate a positive correlation and respectively values approaching 4 indicate a negative correlation.Any value falling between 1.5 and 2.5 is acceptable confirming independence (Durbin & Watson, 1950).

Table 14: Dublin-Watson

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.813[a]	.661	.647	.61180	1.644
a. Predictors: (Constant), CSI, SDM, CM, IM					
b. Dependent Variable: DT					

Source: Survey Result, SPSS (2026)

As shown above in Table 14 a multiple correlation (R) of 0.813 reads that a strong relationship between the predictors and the dependant.The R square of 0.661/66.1 % of the observed variance in the dependent variable digital transformation is explained by the four ITSM dimensions while the rest is examined by the external systematic variables. The model yielded a 1.644 value which is an acceptable threshold of 1.5 to 2.5 this validates the standard errors and significance parameters which are derived from the regression model.

4.8 Multiple Regression Analysis

According to Hair, et al. (2019), Multiple Regression Analysis, is a statistical technique used to examine the effect of several independent (predictor) variables on a single dependent (criterion) variable. In this study also multiple regressions were conducted to examine the effect of the independent variables: incident management, change management , service delivery metrics and continual service improvement with the dependent variable, Digital transformation.

Table 15: Model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.813[a]	.661	.647	.61180
a. Predictors: (Constant), CSI, SDM, CM, IM				

Source: Survey Result, SPSS (2026)

To determine the direction positive or negative as well as correlation strength between the predictors and dependents the R value is used which must be between -1 and 1 indicating a perfect negative and perfect positive respectively (Kinnear & Gray,2010).The above table 15 shows the R value of 0.813 indicates the strong positive relationship between the variables.R square (coefficient of determination) aids to the explanation of the dependant variable by the independent variable value ranging from 0 to 1with value meaning closer to 0(no explanatory power) and closer to 1 (high explanatory power).The above analysis shows R square of 0.661 which indicates a moderate explanation with other factors not included.

Adjusted R square is 0.647 indicates that the number of predictors is approximately 64.7% of the dependent variable variance.With $F(4,99)=48.184$ and $p < 0.01$ the regression model is statistically significant that the independent variables highly impact the organization's digital transformation.

Table 16: Anova Results

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	72.141	4	18.035	48.184	.000[b]
	Residual	37.056	99	.374		
	Total	109.197	103			
a. Dependent Variable: DT						
b. Predictors: (Constant), CSI, SDM, CM, IM						

Source: Survey Result, SPSS (2026)

The above findings show that the Anova results in Table 16 demonstrates a significant joint.The total variance in digital transformation is divided into Regression Sum of Squares of 72.141 and a Residual Sum of Squares of 37.056.The 4 degrees of freedom for the regression model and 99 degrees of freedom for residuals computed a F-stastics of 48.184 and $p < 0.05$ which is highly significant.This results in the independent variables (IM,CM,CSI and SDM) have zero possibility of a joint ; establishing a validated regression framework.

Table 17: Regression Coefficient

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.467	.233		2.005	.048
	IM	.205	.058	.260	3.557	.001
	CM	.193	.060	.228	3.232	.002

	SDM	.170	.054	.201	3.145	.002
	CSI	.310	.060	.383	5.201	.000
a. Dependent Variable: DT						

Source: Survey Result, SPSS (2026)

According to the above findings (Table 17) each independent variable offers a positive and statistically significant predictive contribution to the multiple regression model.The standardized coefficients β vary from 0.201 to 0.383, and all four ITIL 4 practices possess p-values well below the standard 5% threshold ($p < 0.05$) ; indicating no evidence of irrelevant or statistically redundant predictors within the structural framework.

The result implies that the independent variables have sufficient individual predictive power, thus eliminating the possibility of dropping any process dimension from the digital roadmap. Specifically, Continual Service Improvement (CSI) emerged as the most dominant contributor to the model (beta = 0.383, t = 5.201, $p < 0.001$), followed in order of predictive weight by Incident Management (IM) (beta = 0.260, t = 3.557, p = 0.001), Change Management (CM) (beta = 0.228, t = 3.232, p = 0.002), and Service Delivery and Request Management (SDM) (beta = 0.201, t = 3.145, p = 0.002).

From the above regression analysis the equation below is formulated;

$$\mathbf{DT = \beta_0 + \beta_1 (IM) + \beta_2 (CSI) + \beta_3 (CM) + \beta_4 (SDM)}$$

$$\mathbf{DT = 0.467 + 0.205(IM) + 0.193(CM) + 0.170(SDM) + 0.310(CSI)}$$

Where; DT - Digital Transformation

IM- Incident management

CM-Change management

CSI-Continual Service Improvement

4.9 Qualitative and observational Findings(TOE)

To supplement the empirical parameters derived from the statistical modeling, qualitative interviews and direct system observations were conducted over a multi-day period. This mixed-methods approach isolates the specific human, environmental, and operational realities that explain the numeric trends, standard deviations, and variations across Ethio-Telecom's divisions.

4.9.1 Infrastructure Paradigms and the Operational Paradox (Tech)

According to the qualitative data there is a distinct tension between localized operational efficiency and physical capacity.The interviewees regarded the availability of infrastructure capability as well as organizational leadership.This was confidently affirmed by the companies massive foundational base and 130 years of experience.The personnels proudly noted that more than 50% of the Ethiopian population holds the Ethio-telecom sim card this indicates a very huge success; more to come in backend server system, digital initiative, cloud infrastructure addressing every domestic household.

Nonetheless, direct on-site observation over a two period reveals a critical paradox: The physical resource wealth has not yet fully optimized into daily operational workflows.The actual day to day coordination from time to time suffers from several execution inefficiencies.This confirms that while physical assets are required for transformation which are more or less securely in place the organization still faces the problem in translating those new technological scale into a streamlined and efficient service execution.

4.9.2 System Customization and Vendor Dependency (Envi)

Ethio-Telecom has undergone a major revolution shift according to the interview responses showing that the company previously implemented ITIL v3 frameworks before converting to organization specific customized IT service management.The current entourage functions as a structural hybrid with the combination of modern ITIL 4 service guidelines with localized software system which is engineered by major chinese vendor.

This customized platform provides a significant functional coverage it also introduces a consequential external constraints and environmental dependencies.According the qualitative feedback it indicates that the external tech providers withhold their primary business substance by employing their own person directly within Ethio-Telecom's offices to analyze, diagnose and as well as resolve any issues and system failures.Due to this foreign teams managing the underlying source ; localized knowledge remained bounded.

Local employees do not ask for a detailed instruction on the inner technicality of these customized systems as any answer will not be provided.On-site observations supported by the loss of cultivated genuine technical expertise to skill up.The mandatory compliance phase which outline with the organization's continual service improvement training has yielded an enforcement result rather a knowledge upgrade.

4.9.3 The Automation Misconception and Metric Integrity (Orgn)

The thematic information derived from the qualitative interviews drive a conceptual misalignment regarding the nature of Digital transformation (DT). With the answers given to the overall digitalization of the company , the majority of the response was a solid "Yes" .As the issue why the need for the research was in accordance with the accomplishment of digital transformation.This reveals the mistake of basic process automation or any made easy platform availability as an highly achieved digital transformation.This also means that a software system that is available to perform a task is not fully in the scope of digital transformation without the prevalence of the deeper realities of process agility, data-driven optimization and system control.

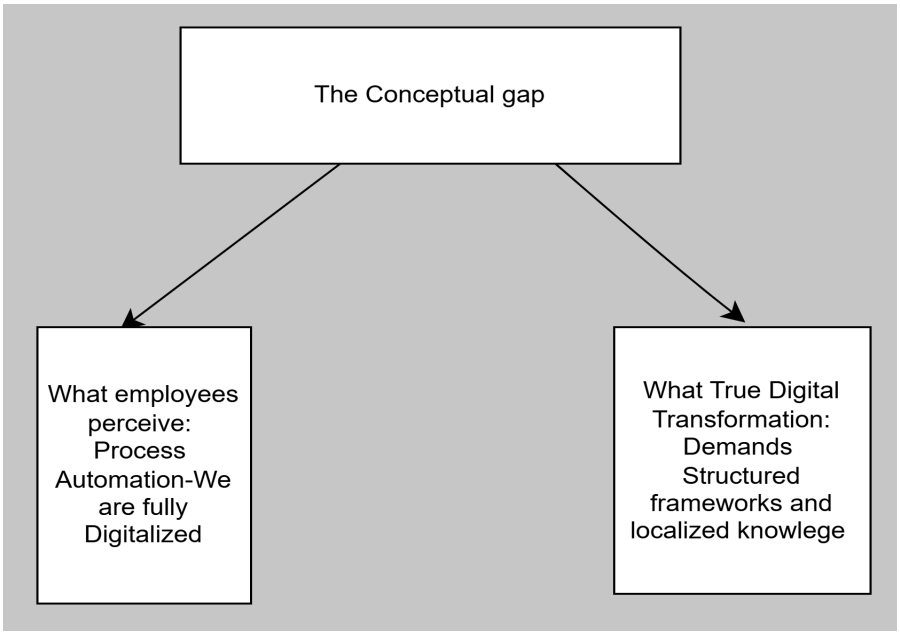
Anomalies observed during onsite monitoring:

System Acknowledgement: the organization system functions well automatically logging any incidents to their respective resolver department.This system is purely well developed technology which solves a very great deal of issues.

The System Constraint: The available software is bound by a strict protocol which prevents employees from moving on without solving the incoming incidents marking them as solved.

Employee Negligence: As the system keeps the unresolved issue open; the technical staff are exposed to human nature negligence frequently closing out an issue which is prematurely solved while clearing their queue. This questions the manipulation of data integrity ,unresolved operational friction and furtherly explains why high standard deviation occurs around statistical points.

Figure 7:Observational Conceptual gap



4.9.4 Environmental Competitiveness and Market Pressures (Envi)

The qualitative responses confirmed that internal operational strategies are affected by the external market shift.This means that the organization which was once historically operating within a protected long standing monopoly the entry of major international companies as Safariocom.Finally, qualitative responses confirm that internal operational strategies are being heavily reshaped by external market shifts.The competitive market has discarded the static inertia forcing the firm to tighten service delivery speed in a much structural modernization to maintain its dominant market share.

4.10 Discussion and Findings

4.10.1 Hypothesis testing

Table 18: Hypothesis testing summary matrix

Hypothesis	Variables	Beta	T-value	Decision
H1	CSI	0.383	4.122	Supported
H2	IM	0.260	3.411	Supported
H3	CM	0.228	3.194	Supported
H4	SDM	0.201	3.102	Supported

➔ **H1: ITSM effectiveness significantly impacts digital transformation.**

Even though a composite ITSM variable was not directly correlated with the dependent variable the relationship explained through the dimension of incident management, change management, service delivery metrics and continual service improvement the correlation results of this individual practices indicate positive relationship with digital transformation outcome.

Additionally,The multiple linear regression analysis was performed to examine the predictive analysis on the ITSM practices (IM,CM,CSI and SDM) on digital transformation outcomes.This resulted in a regression model statistically significant ($p < 0.005$), indicating that those measured practices collectively predict digital transformation.The model explains that a proportion of variance in digital transformation outcomes (R square =0.6661) demonstrates that a strong explanatory significance.This shows that ITSM effectiveness is a key determinant in driving the digital transformation.

H1a: Continual Service Improvement significantly impacts Digital transformation.

The findings strongly supports H1.With the statistical result beta 0.383 ,$p < 0.001$ indicates the most prominent and powerful predictor of digital transformation within the organization.This positive coefficient shows that with every one-unit increase in standardized CSI Practice Digital transformation progresses by 0.833 units.This high performance reflected the reality that the

external liberalization has influenced the institutional foundation,this proves that the organization actively applies its effectiveness and maturity level (4.0128,Level 4).

H2b:Incident management significantly impacts Digital Transformation

The analysis of beta (0.260) and p (0.001) fully supports the hypothesis that incident management exerts a strong,positive and significant effect on digital transformation.Additionally even though the mean and maturity(3.5462 , level 4) proves the structural system registers the qualitative observation indicate a criticality like the premature closing of resolution to clear queues during the big volume periods.

H3c:Change Management significantly impacts digital outcomes

The analysis of beta 0.228 and p = 0.002 shows that the hypothesis is fully supported. This is a significant positive relationship.The results indicate that structured implementations are positively associated however external dependencies affect its full optimization.This justification shows that this hypothesis is supported.

H4d:Service Delivery Metric significantly impacts digital outcomes.

The findings indicate that these practices influence digital transformation however inconsistencies in the system availability performance and continuity that the relationship is not fully realized.This factor has beta 0.201 and represents the most operational gap (Mean:2.7885,Level 3).This confirms that the organization has deployed powerful physical infrastructure backends but the everyday front end handlings are unoptimized because employees mistake basic automation for true digital transformation.

4.10.2 Discussion of findings

This section perceives a structured synthesis of the empirical evidence gathered through the quantitative analysis (N=104) and qualitative and on site field methods within Ethio-telecom IT infrastructure and operational divisions.

The findings of this research insights a major predictive power of Continual service improvement with beta 0.383 indicating that technology attainment does not achieve full digital transformation; this criteria should align with the operational workflows and business value aligning with the resource based value (RBV) positioning as a competitive advantage.

The market change as an external factor changed the CSI to an integrated mature practice (Mean=4.0128).The predictive strong weight of this practice shows that Ethio-telecom has the ability addressing its single most important engine this keeps platforms such as telebirr, 5G network.Despite this the reality of the organization's digital transformation derived from the qualitative inferences and observation of technicians lead to a disconnection of the process maturity and effectiveness within Incident management. This practice impacts digital transformation with beta 0.260,p=0.001.

Although Ethio-telecom has achieved a level 4 ITIL maturity with moderate to high effectiveness details such that employees negligence and service interruption compromises its real efficiency.The network infrastructure experiences a hidden volatility when technical staff prioritize metric optimization above root cause resolution shows that high maturity as well as said effectiveness can conceal real serious operational driven organizational culture encouraging staff to pass the automated systems which results in conventional systems.

The environmental vendor dependencies limit the change management (beta=0.228, p= 0.002) with mean (3.4692) this causes an internal friction as the ITIL 4 dictates a level 5 maturity and high level effectiveness(Axelos ,2020).Ethio-telecom's key chinese vendor still owns its essential architectural essence which pools it from reaching this peak structurally.

Internal teams find it difficult to carry out deep infrastructure modifications or upgrades on their own when necessary to accommodate a new digital platform.This teams instead have to work with vendor embedded staff to overcome complicated coordination loops.This huge operational barrier decreases change deployment cycles showing how those vendor integration limits an organization's flexibility and hinders the localized knowledge transfer required to maintain a fully independent digital transformation.

The notable gap in service delivery metric(beta 0.201, p=0.002);Mean=2.7885 is the operational exposure found.The ultimate point between front end transactional execution and backend technological capacity in modern digital business framework is service delivery(Evans et al.,2022).Ethio-Telecom has a strong physical backends such as cloud systems and the increasing 4G/5G nodes but the front end transactional nodes that handle daily company and user service are highly fragmented and inefficient with the hard evidence of low mean score.

A clear cognitive bias is seen in the workforce directly which contributes to the operational failure: while employees confidently believe that a fully digitalized organization just because it has been moved to an automated software platform or usage of digital interference.The persistent cases of manual request backlogs,processing bottlenecks and inadequate cross functional transparency are caused due to this is misinterpretation.The low beta comparison with other dimensions indicate that this practice SDM will continue to perform poorly and hinder the larger objectives of the "Next Horizon:Digital and Beyond" corporate strategy until these service delivery ends are achieved.

Overall the statistical modeling and qualitative results successfully address the objectives issued in the thesis.This study mapped the exact predictive parameters of the 4 dimensions on digital transformation establishing their effectiveness backed by maturity profiles and continued with vendor dependency,workforce negligence and service delivery issues that should be resolved for the company.

Chapter Five: Findings, Conclusion and Recommendations

The study's findings, conclusions, and suggestions are summarized in this chapter. The results of the regression, correlation, and descriptive analyses are summarized in the first section. This chapter's conclusion is covered in the second section, and its recommendations and strategy implications for organizational productivity are shown in the third section.

5.1 Findings Summary

This section of the research summarizes and explains the empirical assessment at Ethio-Telecom as the respondents were quoted about the role IT service management ITIL practices have in driving digital transformation outcomes using a five-point likert scale.The questionnaire provides the determination of those practices and application.

According to the demographic features of the total answered 104 respondents the majority about 44.2% operate within the IT department while the 40.4% posses a 3-6 years of work experience and job roles;It operation specialist accounting for 32.7%.The bulk of the respondents of 58.7% interact with ITSM on a daily basis.

Specific Objective 1: **To identify the existing ITSM framework.**

The qualitative findings indicate that Ethio-telecom has a hybrid ITSM approach framework.While it uses ITIL approach as a foundational structure this is integrated with a company specific customized system which is influenced by outcrier developed technologies.This shows that the company adapts framework that specifically outlines with its context specific implementation.

Specific Objective 2: Assessing the current employed ITSM effectiveness using ITIL 4 as a benchmark aided with ITSM maturity.

The mean value derived from the descriptive analysis confirms that incident management, change management and continual service improvement operate in a moderate to strong level of effectiveness with a respectively quantitatively managed level 4 maturity.In addition to this practices Service delivery metrics operates at a defined level of moderate effectiveness.Derived from the gap analysis; additionally indicates that there is a partial alignment to the ITIL 4 practices in structural processes and controlling while gaps are there in the service delivery consistency,integration of the process as well as service availability.This concludes to the moderate effectiveness of the practices with no optimization.

Specific Objective 3:Demonstrating the relationship of each Independent variable to digital transformation.

The correlation analysis shows that Incident management,Change management,Service delivery metrics and Continual service improvement have a significant positive relationship with the criterion variable digital transformation outcomes.This practices enhance operational efficiency , organizational agility and also reliability of the service.

Specific Objective 4:The prediction of how those predictor variables impact digital transformation.

The regression analysis model shows a significant trait with a substantial variance in the dependent variable (DT) which is defined by the ITSM dimensions.This analysis furtherly grouped the range of the strongest contributor Continual service improvement, incident management,change management and service delivery metrics respectively.

Even though the quantitative results lean towards a high level of effectiveness and maturity additional qualitative responses give insights by indicating challenges to execution, external dependencies and knowledge utilization.This leads to the observation that while Ethio-telecom suggest a strong capability and structure this only at the end of the day don't lead to consistent digital transformation.This furthers to a conclusion and recommendations

5.2 Conclusion

The impact of ITSM in promoting Digital transformation was investigated in this study.The results demonstrate that the company has developed an ITSM framework that is moderately to high effective and offers a solid structural basis for digital transformation.Nevertheless,due to a number of gaps that exist across important service management dimensions, this efficiency is not consistently converted into operational success.

From a structural point of view the regression results shows that ITSM is a major predictor of the outcomes related to digital transformation with significance of (R square 0.661,$p<0.001$).This demonstrates that internal ITSM setup is a major driver of digital transformation performance rather than being beneficial.The most significant predictor among the categories was Continuous service improvement,underscoring the need of adaptable and improvement focussed policies in maintaining digital efforts.

The effectiveness of incident management, change management and Continual Service Improvement at the operational level is moderate to high reflecting incorporated monitoring methods,SLA adherence and structured process.Nevertheless,inconsistent implementation undermines these advantages.Weak in escalation channels in incident management restrict the organization's capacity to successfully manage complicated disruptions.The continuation of outages throughout implementation exposes deficiencies in execution reliability which is further exacerbated by reliance on external vendors for crucial system upgrades even while the change management exhibits effective risk assessment and communication standards.

The major area of concern is service delivery and continuity arising problems like system availability,responsiveness as well as continuity planning show a huge gap between backend system capability and front end service experience even with the availability of digital tools and communication networks.the comparatively poor performance of Service delivery metrics reflects this by showing that service reliability continues to be major obstacle to reaching the full benefits of digital transformation.

The effectiveness of Continual service improvement is hampered by weak organizational learning processes and limited data driven decision making against its statistical strength and managerial support. Ethio-Telecom's organizational capacity to maintain long term digital adaptability is limited in the absence of strong analytical integration and feedback usage.

From digital transformation point of view,Ethio-Telecom has made measurable strides in resource utilization and operational efficiency, agility by implementing digital technology.Although ongoing problems with service reliability for example service reliability,system failures and inconsistent performance largely offset these improvements.This results in limitation in user confidence and the sustainability of digital transformation achievements by creating a paradox where technological advancement coexists with operational instability.

Comprehensively,the research finds that although Ethio-Telecom shows moderate to high ITSM effectiveness with partial alignment with ITIL 4 best practices ; the organization is unable full optimization due to execution and dependability as well as continual planning and data driven improvement gaps and in order to guarantee that not only the practices support continuity but enable sustainable digital transformation.

5.3 Recommendation

The efficiency of incident escalation is one of the major areas that has to be improved even if the procedures are clear and in line with service level agreements.The organization's capacity to handle complicated interruptions is constrained by inefficiencies in escalation.Redesigning structured escalation procedures with precisely defined roles, accountability systems and reaction schedules is advised in order to address this.Additionally,faster reaction times and fewer operational bottlenecks can be achieved by using escalation pathing depending on incident severity and business effect.Enhancing escalation governance would guarantee prompt resolution of important problems and improve service reliability.

Improving the consistency of change management implementation is another top priority.The continuation of outrages during system modification suggest execution level weakness despite the existence of good standards in risk assessment, communication and post implementation evaluations.Ethio-telecom should apply standardized pre-change validation procedures such as automated checklist and simulation based testing.It is also crucial to address reliance on external vendors.Contractual obligation for documentation and co-development collaboration , technical workshops and knowledge transfer initiatives can all help in achieving this.Improving internal technical competence will increase system change dependability and lessen reliance on external knowledge.

The study's most important deficiency is in service delivery.Even with the availability of digital tools and communication; total service performance is impacted by issues with responsiveness,system availability and continuity.ethio-telecom should make further investments in proactive continuity measures such as failover systems,recovery testing.Additionally user responsiveness will be enhanced and delays will be decreased by optimizing front-end service procedures through automation and self -service platforms.Increasing the consistency of service delivery would drive digital transformation.

The results further emphasize the necessity of using data- driven strategies to improve continual service improvement.Although there is a clear execution support for improvement project,long term flexibility is constrained by the lack of organized analytical procedures.In order to facilitate

evidence based decision making that the organization set up centralized performance monitoring and analytical systems.Organizational learning will be improved and ongoing ITSM practice optimization will be ensured by post incident reviews and performance dashboards.

All these considered suggestions highlight the necessity of better data-driven decision -making , increased technical competence and improved process consistency.ethio-telecom can enhance its ITSM efficiency and guarantee that digital transformation will be dependable and provide long term organizational value by filling in the gaps.

5.5 Direction for Future Research

While this study indeed tried to map different operational paths for ethio-telecom, many inquiries remain open for the future academics to explore.

- Future studies should explore other sectors in developing nations to compare the internal capability of the broader modernization goal.
- The long term market should be evaluated as the presence of competitors continuously alters its effect on the company.
- The developed AI integration as well as machine learning diagnostics should be evaluated in the operational environment as it is integrated in everyday processes.

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Appendix

SURVEY INSTRUMENT

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS DEPARTMENT OF MANAGEMENT

Dear respondent,

I am conducting research entitled "Driving Digital Transformation through IT Service Management in the case of Ethio-Telecom" as part of the partial fulfillment of the requirements for the Degree of Master of Science in Business Information system at Addis Ababa University.

The evaluation survey will take approximately 20 minutes to complete, and the results of the survey will be used for academic research only. Hence, all your responses will be kept in strict confidentiality and would not affect anyone in any case.
If you face any unclear points or need support, please do not hesitate to contact me through the address below.

The evaluation survey is conducted by employing a five-point Likert scale technique. The scales are; strongly agree, agree, neutral or neither agree nor disagree, disagree and strongly disagree.
Thank you in advance for your active participation and generous contribution.

Section A: General Questions

1. **Department**

☐ IT Department ☐ Digital Services

☐ Management ☐ Other: _____

☐ Network services

2. **Years of Experience** ☐ Less than 1 year ☐ 1–3 years

☐ 3–6 years ☐ More than 6 years

3. **Job Role** ☐ IT Operations specialist

☐ Network Operations

☐ Service Desk operator ☐ Application development

☐ Management ☐ Other: _____

4.**Interaction with ITSM**

☐ Daily

☐ Weekly

☐ Monthly

☐ Rarely

Section B: ITSM

No	Incident Management(IM)	1	2	3	4	5
1.	The incident handling procedures in the organization are clearly defined and documented.					
2.	t incidents are resolved within the timeframes specified according to Service Level Agreement SLA).					
3.	There is a clear process of learning as well as raining of tools to resolve incidents efficiently.					
4.	The incident escalation routes work effectively nd efficiently.					
5.	The incident resolution process prioritises fixing ssues that cause the most damage to Ethio-telecom's revenue and reputation.					
	Change Management (CM)					
6.	Potential risks and business impacts are horoughly assessed before any IT change is pproved.					

7.	Affected partners are communicated about any change of plans in advance to minimize any disruption.					
8.	The change of implementation at Ethio-Telecom results in unplanned service outages or "rollbacks".					
9.	Changes undergo testing and validation of postproduction before going for use.					
10.	The company utilizes post-implementation reviews conducted to identify lessons learned and prevent future technical failures.					
Service Delivery Metrics(SDM)						
11.	The IT team delivers what is required quickly enough as one gets back to their daily activities.					
12.	The company's service downtime is minimal.					
11.	The digital tools and catalogs provided make it easy to request resources.					

2	End users get timely updates on their status.					
3.	The service continuity plan is effective when a major disaster happens.					
4.	The overall system is up and running when employees and end users need it.					
Continual Service improvement (CSI)						
3.	The company learns from past incidents and changes.					
4.	The company's management actually cares about getting better in supporting and funding continual improvement activities.					
5.	The organization looks at its audit data and feedback to decide what needs to be issued.					

No	Digital transformation	1	2	3	4	5
16.	Business processes in the organization are significantly faster and with fewer errors due to digital technology.					
17.	Digital transformation has improved the company's resource utilization such as time, budget and infrastructure.					
18.	The IT systems reduce manual and repetitive work.					
19.	The system outages are infrequent and short so that end users barely notice it.					
20.	Service performance is consistent across time.					
21.	Service availability has increased due to digital initiatives.					
22.	The company adapts quickly to new requirements be it strategic or business.					
23.	The organization implements digital initiatives rapidly when the time calls.					
24.	The IT system supports flexible scaling of services and resources.					

Section D: Open-Ended Question

Please add any additional comments on ITSM practices or digital transformation in your department?

Contact information

Name:Hilwa Yassin

Phone no:+251942389509

Email: hilway.amin@gmail.com

Telegram:@hilwa420

Appendix

INTERVIEW QUESTIONS

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1. What ITSM framework is utilized currently in the organization?
2. The organization has sufficient IT infrastructure to do its work. (Tech)
3. The organization supports its digital initiatives and changes. (Orgn)
4. The entry of new competitors such as Safaricom has increased the pressure on the organization to improve IT service delivery and speed. (Envi)
5. External dependencies vendors and regulation constrain the IT project of the organization. (Envi)

Appendix

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