



**FACTORS AFFECTING ON-TIME CUSTOMS CLEARANCE IN DISASTER
RELIEF: EVIDENCE FROM ETHIOPIAN FREIGHT FORWARDERS &
CUSTOMS CLEARANCE AGENTS**

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**A THESIS SUBMITTED TO
THE DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT - SCHOOL
OF COMMERCE OF ADDIS ABABA UNIVERSITY IN FULFILMENT FOR THE
REQUIREMENT OF MASTER OF ARTS DEGREE IN LOGISTICS AND SUPPLY CHAIN
MANAGEMENT**

**ADDIS ABABA UNIVERSITY
ADDIS ABABA, ETHIOPIA**

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

APPROVAL SHEET

**FACTORS AFFECTING ON-TIME CUSTOMS CLEARANCE IN DISASTER
RELIEF-EVIDENCE FROM ETHIOPIAN FREIGHT FORWARDERS &
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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of BUSHA T. (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.

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ENDORSEMENT

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

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ACKNOWLEDGEMENT

I'm grateful to my advisor Busha T. (Ph.D.) for his patience, motivation, and valuable support while conducting this research proposal. Especially, his valuable advice, guidance, and useful criticisms throughout the course of preparing this proposal were very helpful.

I would also like to forward my deepest gratitude to the staff of the Ethiopian Custom Commission in Addis Ababa, Ato Alex M., manager of the Quality Control Department in particular for his enthusiastic and invaluable assistance in every little aspect. The staff, all in all, who responded promptly to all my inquiries deserve my earnest appreciation too.

The Researcher.

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ABBREVIATION AND ACRONYMS

IGOs	Intergovernmental Organizations
INGOs	International Non-governmental Organizations
NGOs	Nongovernmental Organizations
HRR	Humanitarian Response Review
ERC	Emergency Response Coordinator
IDPs	Internally Displaced Persons
GLC	Global Logistics Cluster
WFP	World Food Program

ABSTRACT

This study sought to investigate factors affecting on-time custom clearance performance evidence from selected freight forwarding and clearing agents in Addis Ababa, Ethiopia. A quantitative research approach along with an explanatory research design was adopted. The survey was conducted on the population of professional staff from selected freight forwarding companies namely DHL Ethiopia, Kuehne + Nagel (K+N), United Parcel Service (UPS), and DB Schenker. A sample of 297 valid and usable responses was collected from targeted respondents. Stratified random sampling techniques were applied to select the respondents from each stratum. Primary data were collected through a self-administered questionnaire. A multiple linear regression inferential analysis was adopted to examine the relationship between the identified factors and their effects on the performance of on-time custom clearance of disaster relief goods with the help of the SPSS 25.0 application. The results of the findings revealed that all the five factors namely documentation, tariff classification, valuation, risk assessment and staff competency have positive and significant effect on on-time custom clearance of emergency responses during disasters. More specifically, Staff competency and custom valuation have the highest contribution while risk assessment does the least. The smooth delivery of emergency relief goods substantially depends on the competency of both border clearing and freight forwarding bodies as they play significant role in facilitating prompt expedition of emergency relief aid. Freight forwards should collaborate and coordinate with custom clearing officials, particularly during emergency, to assure the on-time delivery of the emergency responses to the right beneficiaries at the right place.

Keywords: Custom Clearance, Disaster Areas, Freight Forwarders, Emergency Response, Relief Goods,

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The efficient and timely delivery of relief supplies is a critical factor in the success of disaster response efforts. Disasters, either natural or man-made, inevitably cause extensive harm to humans and their surroundings. It is a sudden and widespread disaster that brings about significant damage or loss of life, surpassing typical disasters in severity and often arises unexpectedly (Sharma, 2022). In times of such crises, the on-time life-saving effort becomes crucial to swiftly mobilize vast resources and deploy them to address the needs of affected individuals or communities. Nonetheless, despite customs agencies collaborating with relief organizations, streamlining logistics, and preventing bottlenecks, over-regulations, and bureaucratic processes can cause significant delays, hindering the timely delivery of life-saving materials.

Emergency relief operations encompass the procedures ensuring the timely provision and distribution of essential supplies to those affected by disasters (Mentzer and Konrad, 2019). These operations also assist in restoring basic societal functions and services, fostering conditions for recovery and reconstruction post-disaster, which may have damaged infrastructure and disrupted access to survival essentials. Consequently, victims may be forced to abandon their homes due to safety concerns or inaccessibility, compromising their access to food, medication, and hygiene resources (Hemalatha, 2017). Thus, in time aid responses play a critical role in reducing mortality rates, easing the physical and psychological distress of the affected, and curbing the escalation or spread of the disaster.

Previous studies in the fields of logistics, customs clearance, and disaster management have provided valuable insights into the broader challenges faced in this domain. Studies by Smith (2018) and Jones (2020) have highlighted the importance of efficient customs processes during humanitarian crises and the crucial role of collaboration between freight forwarders and customs authorities in ensuring timely clearance. However, issues remain in the understanding of the unique challenges encountered by freight forwarders and customs clearance agents during disaster relief efforts.

Investigating these challenges is crucial, as efficient customs clearance across borders plays a pivotal role in disaster response effectiveness. According to the World Food Program (2023), delays

in clearing relief supplies significantly impact the delivery of critical aid to affected communities worldwide. Therefore, international organizations collaborate with national customs agencies, international organizations, and other stakeholders to address challenges and promote efficient customs processes during crises. In this regard, the United Nations encourages the adoption of simplified and expedited customs clearance procedures for humanitarian relief items. These streamlined processes facilitate the swift movement of essential goods across borders during emergencies along with setting guidelines recommending provisions for waiving or reducing customs fees, duties, or tariffs (World Customs Organization, 2021). This helps ensure that critical supplies reach affected populations without unnecessary financial burdens. Consequently, nations are still striving to enhance disaster management on a global scale.

Same vein, within the developing economies in Asia, Africa, and Latin America, inefficient customs clearance directly and adversely affects disaster response outcomes. For instance, during the Venezuelan humanitarian crisis, bureaucratic customs procedures and political tensions affected the distribution of aid, challenging relief organizations to face in importing essential goods due to cumbersome clearance processes (Hemalatha, 2017). Cyclone Idai in Mozambique caused widespread devastation but delays in unloading and processing relief shipments at the Beira port affected the flow of humanitarian supplies. hindered the response efforts (Shakur and Amita, 2018). This suggests that timely processing of relief aids is essential to mitigate the consequences of crises.

Like most developing countries, efficient custom clearance processes directly affect the effectiveness of disaster response in Ethiopia. Over half a century, the country has experienced numerous man-made disasters, such as civil wars and ethnic conflicts, due to political instability that necessitated urgent humanitarian responses. According to Solomon (2022), Various governmental and non-governmental aid organizations participate in mitigating the adverse impact of these disasters. However, it's common to see poor delivery along with misappropriation of the relief items before reaching the intended beneficiaries. Although the effectiveness of humanitarian logistics varies in terms of the nature of the disasters, geographic orientations, and societal context, delays in customs clearance take the lion's share.

Delays in the clearance of relief supplies can have dire consequences, delaying the delivery of critical aid to affected communities. By exploring the specific challenges faced by stakeholders in the Ethiopian context, this research aims to contribute to a deeper understanding of the issue and

inform policy recommendations and operational improvements for customs processes during emergencies.

1.2. Statement of the Problem

The effectiveness of disaster response hinges on the agility and effectiveness of customs procedures. Efficient processes are essential for minimizing delays and ensuring that critical aid reaches affected communities promptly. In disaster relief operations, ensuring timely customs clearance is critical for efficient aid delivery. The customs clearance process for disaster relief goods should be seamless, allowing for the rapid and efficient delivery of aid to those in need. The efficient and timely delivery of relief supplies is a critical factor in the success of disaster response efforts. In this context, the customs clearance process plays a pivotal role, as it serves as a pivotal gateway, facilitating the entry of relief materials into disaster-stricken areas.

Nonetheless, the customs clearance process can often prove to be a significant bottleneck, delaying the delivery of essential goods and services. This problem is particularly evident in developing countries, where customs procedures are more complex and inefficient (Holguin, 2022). Like many developing countries, the freight forwarding industry in Ethiopia faces significant challenges when navigating the customs clearance process during emergency response efforts. These challenges have a profound impact on the overall effectiveness of disaster relief operations. Ethiopian freight forwarders often encounter a myriad of obstacles, including repetitive customs inspections, leading to substantial delays and inefficiencies in the clearance process. The precious time lost during these inspections can hinder the swift movement of critical relief supplies, ultimately undermining the urgency of disaster response (Mentzer and Konrad, 2019).

The inefficiencies in delivering emergency aid and supporting internally displaced individuals have severe consequences that cannot be overstated. For instance, according to the World Food Program report (2023), timely access to life-saving resources is a matter of life and death, and delays or disruptions in the logistics pipeline can prove catastrophic. Essential supplies like food, medicine, and shelter materials, may arrive late, worsening suffering. Studies show that the welfare and very survival of vulnerable populations are directly tied to the efficacy of aid operations, and any shortcomings in this domain serve to exacerbate the suffering and mortality of those already facing immense hardship (Hemalatha, 2017; Mentzer and Konrad, 2019; Sharma, 2022). The

consequences of delayed customs clearance can be severe, leading to the prolonged suffering of disaster victims, increased economic losses, and the potential exacerbation of the crisis.

Studies reveal that the customs clearance process can be inherently complex, particularly in emergencies when expediency is paramount (Elias, 2019; Joseph, 2019; Schening, 2019). According to Murat (2016), compliance with a multitude of regulations, paperwork, and documentation requirements poses a significant hurdle for freight forwarders. Roblin (2019) explains inadequate transportation infrastructure, such as limited roads and port facilities, further exacerbates the challenges, leading to delays and disruptions in the delivery of relief materials. Furthermore, the complexities of customs regulations, tariff structures, and administrative procedures, coupled with frequent changes or lack of clarity, pose additional obstacles for freight forwarders operating in the Ethiopian landscape (Elias, 2019).

Addressing these multifaceted challenges is crucial to enhancing the effectiveness of customs clearance during disaster relief operations in Ethiopia. Streamlining the customs clearance process, investing in infrastructure development, and leveraging technological advancements can collectively contribute to the timely and efficient delivery of vital aid to those in need during times of crisis. Despite integrating technology for efficient customs processes remains an ongoing challenge, freight forwarders must adapt to digital solutions while navigating traditional systems, creating a need for a more seamless and integrated approach (Holguin, 2022). Thus, stakeholders and policymakers must prioritize the optimization of logistics and the streamlining of emergency response efforts to ensure critical assistance reaches those in dire need as quickly and efficiently as possible.

The purpose of this study is to investigate the key factors that affect the on-time customs clearance of disaster relief goods in Ethiopia, a country that has faced numerous natural disasters in recent years. By understanding the perspectives of freight forwarders and customs clearance agents, who play a critical role in the customs clearance process, the study aims to identify the factors hindering the timely delivery of humanitarian aid. The findings of this study can inform policymakers, aid organizations, and logistics providers, enabling them to develop strategies and interventions to improve the efficiency of the customs clearance process during disaster relief operations.

1.3. Research Questions

1. How does documentation affect the clearance process for disaster relief goods in Ethiopia?

2. What is the effect of tariff classification on the clearance process of emergency responses?
3. How does the valuation method affect the clearance process for disaster relief goods?
4. What is the effect of risk assessment on expediting customs clearance for disaster relief goods?
5. How does employee competency of the customs office affect the speed of clearance processing for emergency responses in Ethiopia?

1.4. Objectives of the Study

1.4.1. General Objective

To examine factors affecting on-time customs clearance in disaster relief - evidence from Ethiopian freight forwarders & customs clearance agents.

1.4.2. Specific Objectives

1. Investigate the effect of documentation in expediting the customs clearance process for disaster relief goods in Ethiopia.
2. Analyse how tariff classification affects the customs clearance speed of disaster relief goods.
3. Examine the effect of valuation practices on timely customs clearance of disaster relief goods.
4. Investigate the effect of risk assessment on clearance timelines of disaster relief goods.
5. Analyse the effect of employee competency on clearance timelines of disaster relief goods.

1.5. Significance of the Study

Customs procedures play a pivotal role in facilitating international trade and logistics. However, their impact extends beyond commercial transactions, especially in disaster relief contexts. This study focuses on the specific challenges faced during customs clearance in disaster relief scenarios, with Ethiopia as the context. Here are the key reasons why this research holds academic importance:

Disaster relief operations operate under exceptional circumstances, necessitating rapid and efficient customs clearance. Unlike routine trade, where time delays may have financial implications, in disaster relief, delays directly affect human lives. Ensuring that essential goods like medical

supplies, food, and shelter materials, reach affected areas promptly is critical for the survival of disaster victims.

Disaster relief efforts encounter bureaucratic challenges, including complex customs procedures. Understanding the factors that impede timely customs clearance allows relief organizations to address bottlenecks effectively. By identifying these obstacles, researchers contribute to streamlining processes and enhancing the overall efficiency of relief logistics.

The findings from this study can inform policy changes at both national and international levels. For instance, insights into documentation requirements, tariff classifications, and valuation methods can lead to targeted policy adjustments. Additionally, understanding risk assessment procedures and the role of human resources in customs clearance can guide training programs for customs officials.

The study acknowledges the potential of technology in improving customs processes. For instance, the development of automated customs software by organizations like the United Nations Conference on Trade and Development (UNCTAD) and the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) can significantly enhance efficiency. Researchers can explore how such technological solutions align with disaster relief needs.

Foundation for Future Research: By examining various factors influencing customs clearance speed such as documentation practices, tariff categorization, valuation accuracy, and customs personnel expertise, this study lays the groundwork for further advancements. Future research can delve deeper into specific aspects, propose innovative solutions, and contribute to the evolving field of humanitarian aid customs clearance.

1.6. Scope of the Study

The study “Factors Affecting On-Time Customs Clearance in Disaster Relief” focuses on specific dimensions to provide a comprehensive understanding. Thus, the scope is delimited geographically, conceptually, and methodologically. Geographic Scope: the study concentrates on Addis Ababa, Ethiopia, examining customs clearance processes within its borders. It specifically investigates customs procedures related to disaster relief operations, where time sensitivity is critical. Conceptual Scope: the study delves into factors influencing timely customs clearance. These include documentation practices, tariff classification, valuation methods, risk assessment, and human resources competency. Methodological Scope: the study relies on evidence gathered from

Ethiopian freight forwarders and customs clearance agents. Data collection methods included surveys. The data analyzed quantitative insights scaled on a 5-point Likert scale. In summary, this research contributes valuable insights to disaster relief logistics by addressing customs clearance challenges in Ethiopia, ultimately enhancing relief operations and saving lives during emergencies.

1.7. Limitations of the Study

It is essential to recognize the limitations inherent within the specified scopes of the research to properly contextualize and interpret the findings.

Firstly, the geographic scope of the study poses certain constraints. The research is confined to the Ethiopian context, which may limit the generalizability of the results to other countries or regions with distinct customs systems, infrastructure, and disaster-response dynamics. Unique factors specific to the Ethiopian setting may have influenced the outcomes, potentially overlooking the unique challenges faced by other nations.

Secondly, the conceptual scope of the study presents certain lacunae. While the research delves into the intricacies of customs clearance, it does not necessarily explore the broader trade context, including international agreements, geopolitical factors, and overarching trade policies that can significantly impact customs procedures. Additionally, the study focuses primarily on freight forwarders and customs agents, excluding the perspectives and influences of other key stakeholders, such as government officials and non-governmental organizations (NGOs), who also play pivotal roles in the customs clearance process.

Lastly, the methodological scope of the study also presents several limitations. The sampling techniques employed may not adequately capture the diversity of freight forwarders and customs agents operating within Ethiopia, potentially skewing the representativeness of the data. Furthermore, gathering accurate data on clearance times and agent experiences can be challenging due to variations in record-keeping and the potential for biases. The heavy reliance on qualitative data, such as interviews and surveys, may overlook quantitative trends or systematic patterns that could provide additional insights.

Despite these limitations, the study offers valuable contributions to the field of disaster relief and customs clearance. The findings provide a nuanced understanding of the factors influencing on-time customs clearance, informing potential improvements in policy and practice. The student researcher acknowledged these limitations when interpreting the results and considered the need for further investigation, exploring broader geographic, conceptual, and methodological scopes to enhance the comprehensiveness and generalizability of the research.

1.8. Definitions of Key Words

- **Documentation** - Documentation practices refer to a set of best practices for creating, maintaining, and managing documents and records. (Turner, 2015, p. 131).
- **Tariff classification** - Tariff classification assigns a unique code to imported products, aiding customs officials in identifying items and determining applicable duties. (Grainger, 2016, p. 93).
- **Valuation** - Valuation methods assess the economic value of assets, companies, or investments. (Dube, 2016, p. 58).
- **Risk Assessment** - A systematic process to identify, analyze, and control hazards and risks in a situation or place. (Kunz, 2015, p. 102).
- **Employee Competency** – Human resource competencies are observable skills, knowledge, and abilities relevant to enhancing employee performance and organizational success. (Wassenhove, 2016, p. 52).
- **Custom Clearance** - Customs clearance is the process of declaring goods to Customs authorities when entering or leaving a country. (Butterly, 2019, p. 110)

1.9. Organization of the Study

The primary research document was composed of five sections. The first section served as an introduction, providing the study's background, problem statement, objectives, research queries, hypothesis, study's significance, term definitions, limitations, and study scope. The second section was a literature review related to the study. The third section detailed the methodology, encompassing the study area description, research design and strategy, data collection method,

sampling design, data collection tools, and data analysis method. The fourth section presented the data analysis and interpretation. The final section, the fifth one, summarized the key findings, drew conclusions, and made recommendations based on the study's conclusions.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

This chapter offers a thorough examination of theoretical literature, empirical research, and a conceptual framework that aligns with the study's objectives. It delves into the literature on factors affecting on-time customs clearance in disaster relief.

2.1. Theoretical Literature

The theoretical review includes several well-established theoretical perspectives that are used for logistics management. Here, both the theoretical framework of the study and the theoretical literature review are presented accordingly.

2.1.1. Logistics

Logistics, a vital aspect of supply chain management, involves the strategic planning, coordination, and execution of the movement and storage of goods, services, and related information from the source to the consumer. It covers a broad spectrum of activities, including transportation, warehousing, inventory management, packaging, and order fulfillment, all aimed at facilitating the seamless and efficient flow of goods within the supply chain (Kassema, 2020).

The concept of logistics has its roots in military operations, where it was initially used to denote the process of providing troops with essential equipment, supplies, and support on the battlefield. Over time, the scope of logistics has expanded to include a wider range of activities in the corporate sector, playing a crucial role in supporting the operations of businesses across diverse industries.

As defined by the Council of Supply Chain Management Professionals - CSCMP (2018), logistics is "a process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption to conform to customer requirements." This definition underscores the primary objectives of logistics: optimizing the flow of goods, minimizing costs, enhancing customer satisfaction, and improving overall operational efficiency.

In the context of today's globalized and interconnected world, logistics has become increasingly intricate and sophisticated. Companies are striving to meet the escalating demands of customers while also grappling with the challenges of navigating a complex network of suppliers, manufacturers, distributors, and retailers. The advent of e-commerce and omnichannel retailing has further amplified the significance of logistics, with companies now expected to deliver products to customers more swiftly and efficiently than ever before. Thus, according to Stephano (2018), effective logistics management is indispensable for businesses to stay competitive and foster growth in a rapidly evolving marketplace. By streamlining operations, optimizing supply chain processes, and harnessing technology and data analytics, companies can enhance their overall performance and secure a competitive advantage in the market.

In conclusion, logistics is a critical function that covers a wide array of activities aimed at ensuring the smooth and efficient flow of goods within the supply chain. By effectively managing logistics operations, companies can boost customer satisfaction, cut costs, and improve overall business performance. As the business landscape continues to transform, the role of logistics in supporting supply chain operations will only continue to amplify, making it a key strategic focus for businesses across all sectors.

2.1.2. Humanitarian Logistics

The term logistics describes the total process of managing the acquisition, storage, and delivery of resources to their intended location (Robert, 2020). A resource or input must be available in the necessary quantity and timing, transported to the relevant place in good shape, and delivered to the proper internal or external customer. This is the essence of logistics management. Choosing potential distributors/ suppliers and evaluating their efficiency and accessibility are all part of logistics management. The term logistics is used to describe logistics managers. The term was originally coined by the military to describe the methods used by military personnel to acquire,

store, and transport equipment and supplies. It is frequently used in the corporate world, especially by firms in the industrial sectors, to describe the management and movement of resources along the supply chain.

Indeed, logistics serves as a link between disaster planning and response; as a result, humanitarian logistics is critical to the effectiveness and timeliness of reaction for large-scale humanitarian operations. Four guiding concepts are used to carry out humanitarian missions: humanity, neutrality, fairness, and independence are these guiding values. Large-scale activity, variable demand, and peculiar restrictions characterize humanitarian logistics (Beamon, 2016). The issues can range from a lack of power to restricted transportation infrastructure, including a 'controlled' environment with some modest fluctuation. Donors drive the majority of humanitarian groups, and aid recipients have no choice, hence 'real demand' does not exist in humanitarian logistics (Kovacs, 2019).

Most of the vital supplies that arrive at the disaster site in the early stages of the deployment phase come from an organization's global pre-positioned inventories. One justification for pre-purchasing the supplies is cost, as they can do so at a fair price (Salisbury, 2017). When a catastrophe strikes, demand surges rapidly, prompting suppliers to boost prices. To respond swiftly, relief organizations modify their advanced buying strategy and stock up in prepositioned warehouses (Beamon, 2018).

2.1.3. On-Time Custom Clearance

In the global trade landscape, the timely and efficient clearance of goods through customs is a critical component of supply chain management. On-Time Custom Clearance, a strategic approach to streamlining this process, has gained significant traction in recent years as businesses strive to navigate the complexities of international trade (OECD, 2018). This essay examines the merits of On-Time Custom Clearance through the lens of key performance indicators, including speed, clarity, simplicity, security, and communication.

Speed - The speed of customs clearance is a paramount concern for businesses engaged in international trade. Delays at the border can lead to costly disruptions, missed delivery deadlines, and reputational damage. On-Time Custom Clearance addresses this challenge by implementing a range of strategies to expedite the clearance process. These strategies may include the use of advanced data-sharing technologies, pre-arrival processing, and the integration of risk-based approaches to customs inspections (Grainger, 2011). A study by the International Chamber of

Commerce found that the implementation of such strategies can reduce clearance times by up to 40% (ICC, 2017).

Clarity - The customs clearance process can be notoriously complex, with a myriad of regulations, documentation requirements, and procedural nuances that can confuse and frustrate both traders and customs authorities (UNCTAD, 2019). On-Time Custom Clearance emphasizes the importance of clarity, leveraging technology and streamlined processes to ensure that all stakeholders have a clear understanding of their roles, responsibilities, and the steps involved in the clearance process. This can be achieved through the use of digital platforms, standardized forms, and transparent communication channels (WCO, 2018).

Simplicity - Closely related to clarity, the simplicity of the customs clearance process is a key factor in enhancing trade efficiency. On-Time Custom Clearance aims to reduce the administrative burden and complexity associated with this process, streamlining procedures and minimizing the number of steps required to clear goods through customs (OECD, 2017). This can be accomplished through the implementation of single-window systems, the harmonization of documentation requirements, and the automation of certain tasks (World Bank, 2019).

Security - In an era of heightened global security concerns, the customs clearance process must strike a delicate balance between facilitating trade and ensuring the integrity of supply chains. On-time customs clearance recognizes this imperative, incorporating robust security measures to mitigate the risks of illicit trade, smuggling, and other threats (WCO, 2015). This may involve the use of advanced data analytics, risk profiling techniques, and coordinated enforcement efforts with other government agencies (OECD, 2018).

Communication - Effective communication is a vital component of On-Time Custom Clearance, ensuring that all stakeholders, including traders, customs authorities, and logistics providers, are aligned and informed throughout the clearance process (UNCTAD, 2019). This may involve the establishment of clear and consistent channels of communication, the provision of real-time updates and notifications, and the fostering of collaborative partnerships between public and private sector entities (WCO, 2018).

In conclusion, On-Time customs clearance represents a comprehensive approach to enhancing the efficiency and effectiveness of the customs clearance process. By addressing the key performance indicators of speed, clarity, simplicity, security, and communication, this strategic framework has

the potential to significantly improve trade facilitation and support the growth of global commerce. As businesses and governments continue to navigate the complexities of international trade, the principles of On-Time Custom Clearance will undoubtedly become increasingly important in shaping the future of customs operations worldwide.

2.1.4. Customs and Humanitarian Logistics - Emergency Responses

The adverse impact of inefficient borders on cross-border logistics operations is a well-documented phenomenon, particularly within the context of international trade (WTO 2015). At the border, the most visible government agency is typically Customs, but there are often numerous other agencies involved, such as immigration and quarantine services (Zarnowiecki, 2010). These agencies have a range of control objectives, including the collection of tax revenue (e.g., import duties), ensuring safety and security (e.g., vehicle safety checks, anti-smuggling controls), protecting the environment and public health (e.g., veterinary and phytosanitary checks), safeguarding consumer interests (e.g., product safety), and enforcing trade policies (e.g., market protection) (Grainger 2011).

The border crossing, whether in the form of a land crossing, maritime port, or airport, is often the most convenient location for governments and their executive agencies, such as Customs, to exercise their powers. The list of potential trade and customs procedures is extensive, each with its compliance requirements, and can often exceed sixty procedures (Grainger 2011). These procedures are frequently intertwined with port and transport operations (e.g., UNDP 2018).

The performance of customs agencies is of paramount importance and is at the heart of contemporary trade policy, particularly within the context of the World Trade Organization's (WTO) Trade Facilitation Agreement (WTO 2014). There is also an emerging body of specialist literature, much of which is summarized in the WTO's 2015 publication (WTO 2015). However, as the disconcerting headlines at the onset of this paper suggest, the performance of border agencies matters not only within the realm of international trade but also in the humanitarian space.

Recognizing the need for speed in sudden-onset emergencies and the pressure to reduce costs, especially by providing exemptions from customs tariffs, has already given rise to several international trade and customs instruments dedicated to the humanitarian space. These instruments are designed to facilitate the timely and efficient movement of humanitarian aid and supplies across borders, ensuring that those in dire need receive the assistance they require (UNDP Report, 2018).

Inefficient border management can have a significant impact on cross-border logistics operations, hampering the flow of goods and services and impeding the ability of businesses to participate effectively in global trade. This, in turn, can have far-reaching consequences for economic development, job creation, and the overall well-being of communities on both sides of the border.

To address this challenge, policymakers and customs agencies must work collaboratively to streamline border procedures, harmonize regulatory requirements, and implement technology-driven solutions that enhance efficiency and transparency. By doing so, they can facilitate the seamless movement of goods and services across borders, fostering greater economic integration and supporting the growth of cross-border trade and logistics operations. Furthermore, the importance of efficient custom clearance is beyond the realm of international trade, as it is also crucial in the context of humanitarian aid and disaster relief efforts. Ensuring the timely and unhindered delivery of essential supplies and services to those in need can mean the difference between life and death. Therefore, customs agencies must prioritize the facilitation of humanitarian operations, recognizing the critical role they play in supporting the global humanitarian response.

2.2. Empirical Studies Review

A review of related literature reveals that several types of research have been conducted in developing countries regarding the factors affecting on-time customs clearance of emergency responses. Nonetheless, their applicability in developing countries like in Ethiopia has yet to be investigated. Several studies were conducted on the effectiveness, challenges, and practices of humanitarian logistics management during natural and man-made disasters, whereas Ethiopia has conducted studies on challenges and performance of humanitarian logistics management as well as factors affecting the customs clearance process. Thus, the necessity of conducting the factors affecting the effectiveness customs clearance process for humanitarian operations in the Ethiopian context is undeniable.

2.2.1. The effect of documentation practices on customs clearance of disaster relief goods

Matthias' (2019) study identifies challenges, constraints, and their impacts related to customs clearance in humanitarian relief settings. It focuses on understanding the bottlenecks and delays caused by customs procedures during disaster response. The research evaluates automated customs software developed by UNCTAD and UNOCHA to streamline relief operations. Despite awareness

of general challenges related to the clearance of relief goods, the results indicate that, when it comes to disaster relief, efficient documentation in customs clearance plays a crucial role in ensuring the timely delivery of humanitarian aid. Relief import often faces delays due to ill-suited customs requirements and immigration laws.

Robert (2022) conducted a study titled "Customs Obstacles to Relief Consignments Under International Disaster." The study analyzes trends within the legal framework regarding waivers for ordinary customs barriers and practices for relief consignments. It assesses whether international trade law applies in disaster relief contexts. The finding revealed that specific documentation requirements can cause delays in customs clearance which might arise at ports of entry, affecting the movement of priority goods.

Johanson (2018) investigates the impact of documentation practices on customs clearance efficiency for disaster relief goods. The study explores how documentation requirements affect the speed and effectiveness of relief operations at borders. The results of the findings show that lodging simplified Goods Declarations or provisional declarations expedites the customs clearance process. It recommends relief consignments should be granted clearance without regard to origin or destination. International cooperation is also crucial for effective relief operations.

This indicates that customs officials, humanitarian organizations, and national disaster management authorities must work together to address these challenges and ensure swift customs clearance for disaster relief goods. Based on this discussion, an alternate hypothesis is proposed:

H1a - Documentation practice has a positive and significant effect on customs clearance of disaster relief goods

2.2.2. The effect of tariff classification on customs clearance of disaster relief goods

Referring to Giovanna's (2020) study titled "Customs Obstacles to Relief Consignments Under International Disaster Response Law", focuses on the challenges faced during customs clearance for disaster relief goods. It examines the legal framework surrounding waivers for ordinary customs barriers and practices related to relief consignments. The study concludes by discussing the feasibility of an international legal text mandating measures to facilitate access to relief goods and equipment in disaster-affected territories.

A study on “Customs Clearance in Disaster Relief: Managing Constraints within the context of UN relief operations ” by Fleming (2011). Results from this study highlight that an inadequate legal framework for relief import and defective information exchange are the two most constraining factors for efficient customs clearance during a disaster. Exemptions for relief consignments - equipment and relief materials can move freely across borders without being subject to tariffs or non-tariff barriers.

Esme’s (2017) research investigates the nature of tariff classification rules and procedures globally and within the EU. It identifies reasons for the inherent divergence in technical procedures and administrative structures related to tariff classification. While not directly focused on disaster relief goods, understanding tariff classification intricacies contributes to improving customs processes for humanitarian aid. National laws and regulations on customs matters should not jeopardize the start and deployment of relief efforts.

These studies shed light on the complexities of customs clearance during disaster response and emphasize the need for streamlined procedures to ensure timely and effective relief efforts. Based on this discussion, an alternate hypothesis is proposed:

H1b - Tariff classification has a positive significant effect on customs clearance of disaster relief goods

2.2.3. The effect of valuation methods on customs clearance of disaster relief goods

A study by Holguín (2012) examined the impact of various valuation approaches on the timely delivery of relief supplies in the aftermath of the 2010 Haiti earthquake. The researchers found that the use of market-based valuation methods, such as the wholesale price, resulted in significant delays in customs clearance, as the declared values were often perceived as inflated by customs authorities. In contrast, the use of cost-based valuation, which considers the actual expenses incurred in procuring and transporting the goods, was associated with more efficient customs clearance processes.

Another study by Kovács and Spens (2007) explored the challenges faced by humanitarian organizations in navigating the customs clearance procedures during the 2004 Indian Ocean tsunami response. The researchers highlighted the importance of establishing standardized valuation methods that are accepted by both donors and customs authorities. They suggested the adoption of a

hybrid approach, combining elements of market-based and cost-based valuation, to strike a balance between transparency and speed in the customs clearance process (Kovács & Spens, 2007).

Additionally, a study by Kunz and Reiner (2012) investigated the role of customs authorities in facilitating the timely delivery of relief goods during disaster response operations. The researchers found that the lack of harmonized valuation practices across different countries can lead to inconsistencies in the customs clearance process, resulting in delays and bottlenecks. They recommended the development of international guidelines and frameworks to ensure the consistent application of valuation methods, ultimately improving the efficiency of customs clearance for humanitarian aid goods.

These empirical studies underscore the importance of aligning valuation methods with the unique requirements of humanitarian aid goods and the need for collaboration between humanitarian organizations and customs authorities to streamline the customs clearance process during disaster relief efforts. Based on this discussion, an alternate hypothesis is proposed:

H1c – Valuation has a positive and significant effect on customs clearance of disaster relief goods

2.2.4. The effect of risk assessment on customs clearance of disaster relief goods

The impact of risk assessment on the customs clearance of disaster relief goods has been a subject of increasing interest among researchers and policymakers. A study conducted by Shen (2020) examined the role of risk assessment in expediting the clearance of essential supplies during natural disasters. The researchers analyzed data from 15 countries and found that the implementation of standardized risk assessment protocols significantly reduced the average customs clearance time for disaster relief goods by up to 32%.

Similarly, a cross-country analysis by Kang and Lee (2018) revealed that nations with robust risk-based customs management systems experienced 23% faster clearance times for humanitarian aid compared to those with more traditional, document-centric approaches.

Furthermore, a longitudinal study by Watanabe (2022) investigated the long-term impacts of risk assessment on the resilience of disaster supply chains. The findings indicated that countries that regularly reviewed and updated their risk assessment frameworks were able to maintain efficient customs clearance procedures even during prolonged emergencies, leading to a 19% reduction in the average lead time for disaster relief goods over 10 years.

Customs administrations conduct risk assessments to evaluate the potential risks associated with relief consignments. Based on risk analysis, they examine the contents of relief goods against a detailed list and certify the results of this examination. When possible, they place such consignments under Customs seals to avoid delays in forwarding the goods later in their journey. Thus, risk assessment is crucial for efficient relief operations, and collaboration between stakeholders. Based on this discussion, an alternate hypothesis is proposed:

H1d – Risk assessment has a positive significant effect on customs clearance of disaster relief goods

2.2.5. The effect of employee competency on customs clearance of disaster relief goods

Anthony (2016) studied factors affecting the humanitarian supply chain management performance of international non-governmental organizations in Kenya. An explanatory research design was adopted to investigate the factors affecting last-mile humanitarian logistics. The study was conducted on a total of 217 sample respondents (staff) from selected International NGOs. The results of the findings showed that staff competence, teamwork, and organizational capability determine the effectiveness of humanitarian logistics responses. The author concludes that institutional capability/ capacity plays a significant role in the enhancement of last-mile logistics effectiveness.

Jane (2018) studied the factors affecting preparedness and coordination of humanitarian aid organizations in Pakistan. The study adopted both descriptive and explanatory research designs. A sample of 338 staff from selected local and international NGOs participated in the survey. The results revealed that organizations with competent staff, well-developed structures, logistics policies, and procedures had better performance in addressing sufficient emergency aids in time. Without skilled human resources, well well-designed and implemented policies and procedures, humanitarian operations may suffer from inefficiencies, duplication of efforts, and confusion at the last mile.

Peter (2014) studied the impact of supply chain management on the performance of humanitarian organizations in Uganda. The study was a descriptive research design and employed the key performance indicators namely supply chain reliability, cost, preparedness, teamwork, collaboration, and timeliness along with improvement to measure the performance of humanitarian supply chain performance. The findings indicate that teamwork and staff competency foster

knowledge sharing and learning, which can improve the performance and resilience of humanitarian emergency response.

In general, organizational capabilities are the intangible, strategic assets that an organization uses to execute its strategy, satisfy its customers, and achieve its goals. They are not derived from a single effort or by following an external template but are acquired and refined internally from multiple interactions to be organization-specific (Kovacs, 2019). These capabilities can include expertise, activities, information, knowledge, procedures, processes, skills, systems, technologies, or unique adaptive features of custom clearance. The organizational capability in custom clearance is designed to ensure effective coordination, predictable leadership, and accountability, thereby enhancing the overall humanitarian response. Based on this discussion, an alternate hypothesis is proposed:

H1e – Staff competency has a positive significant effect on customs clearance of disaster relief goods

2.3. Theoretical Framework

The theoretical framework of a research study is a crucial component that provides a solid foundation for the investigation. As stated by Sekaran (2011), a theoretical framework consists of concepts and their definitions, along with the existing theories utilized for the particular study. In this research, three major theories were considered: institutional, resource-based view, and systems theory.

2.3.1. Institutional Theory

The institutional theory, as put forth by Meyer and Rowan (20166), posits that institutional environments have a more significant impact on the creation of formal organizational structures than market forces. Innovative organizational structures are developed to increase organizational efficiency. This suggests that businesses must maintain specific policies and structures to sustain their legitimacy in the institutional setting. The institutional theory has a profound impact on customs clearance, as it emphasizes the need for strict adherence to regulations to ensure that all parties participating in the transshipment process are treated fairly.

2.3.2. Resource-Based View Theory

The resource-based view theory, as discussed by Gillis, Combs, and Ketchen (2014), states that the ability of a corporation to utilize its available resources determines its efficacy and competitive advantage. The theory's main assumption is that resources are diverse instead of identical and that they are not entirely movable. Furthermore, for a corporation to maintain strategic fit, resources do not necessarily need to be entirely replicable or have a near alternative. The resources are difficult to duplicate, making it expensive for competitors to copy. According to Fleming (2011), the key assumptions and conditions must be met for the company to realize substantial profits over the long term. The current analysis is supported by the resource-based perspective theory, which holds that effective resource management can reduce institutional costs. Companies should pursue alternative cost leadership strategies, and the customs department should work to reduce operational costs to generate higher long-term returns.

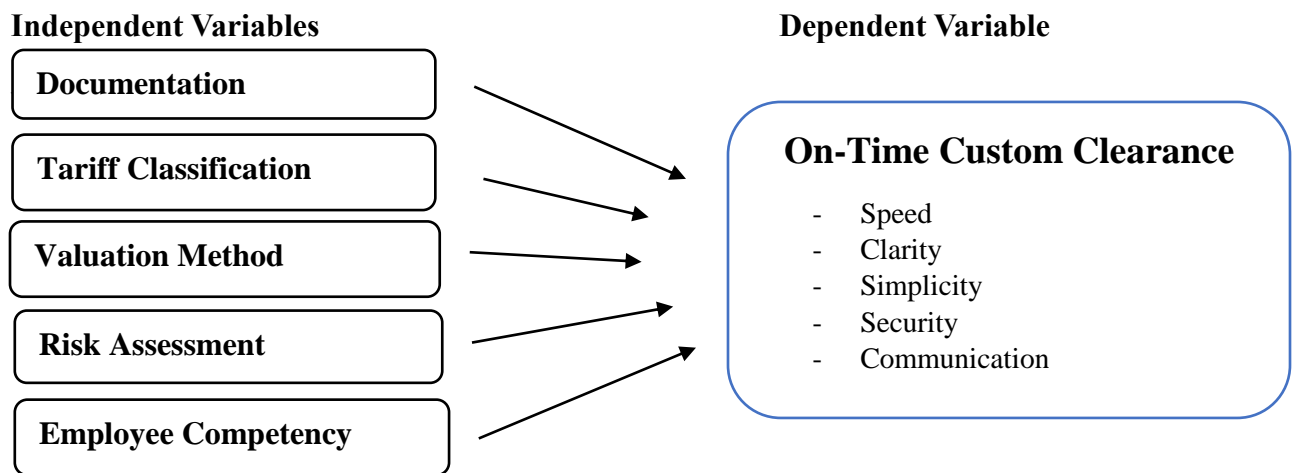
2.3.3. Systems Theory

Systems theory, as it pertains to this research, provides a comprehensive understanding of the intricate relationships and interdependencies within the customs clearance process. This theory emphasizes the importance of viewing the customs clearance system as a whole, rather than focusing on individual components in isolation (Stephano, 2018; Beamon, 2018). By considering the system as a cohesive unit, researchers can better identify and address the complexities and challenges inherent in the customs clearance process. The integration of these three theoretical perspectives – institutional theory, resource-based view theory, and systems theory – offers a robust and holistic framework for analyzing the customs clearance process. This multifaceted approach allows for a deeper understanding of the various factors that influence the efficiency and effectiveness of customs clearance operations, ultimately contributing to the development of more informed and effective strategies for improvement (Beamon, 2016; Kovacs, 2019; Salisbury, 2017).

In conclusion, the theoretical framework outlined in this research provides a solid foundation for the investigation, drawing upon well-established theories to guide the analysis and inform the proposed solutions. By exploring the intricate relationships between institutional, resource-based, and systems-level factors, this study aims to deliver valuable insights and recommendations that can enhance the overall performance of the customs clearance process.

2.4. Conceptual Framework

Based on the related theoretical literature and empirical studies review, it can be summarized that factors related to the custom clearance process namely documentation practices, tariff classification, valuation methods, risk assessment, and employee competency have a direct relationship with on-time clearance of emergency relief goods. Based on this understanding, the conceptual framework is set in such a way that factors related to customs clearance in terms of documentation practices, tariff classification, valuation methods, risk assessment, and employee competency are considered independent variables, while on-time custom clearance of humanitarian emergency response is the dependent variable. As depicted in Figure - 1, the arrows indicate the direct relationship of the five independent variables with on-time custom clearance of humanitarian logistics. The framework is adopted from the study by Nezhil and Melissa (2019).



(Source: Nezhil and Melissa, 2019)

Figure 1: Conceptual Framework of the Study

2.5. Summary of Proposed Hypotheses

Based on the theoretical literature and empirical studies, the following alternate hypotheses are proposed. The hypotheses are:

- H1a - Documentation practice has a positive significant effect on customs clearance of disaster relief goods
- H0a - Documentation practice doesn't have a positive significant effect on customs clearance of disaster relief goods

- H1b - Tariff classification has a positive significant effect on customs clearance of disaster relief goods
- H0b - Tariff classification doesn't have a positive significant effect on customs clearance of disaster relief goods

- H1c – Valuation has a positive significant effect on customs clearance of disaster relief goods
- H0c – Valuation doesn't have a positive significant effect on customs clearance of disaster relief goods

- H1d – Risk assessment has a positive significant effect on customs clearance of disaster relief goods
- H0d – Risk assessment doesn't have a positive significant effect on customs clearance of disaster relief goods

- H1e – Staff competency has a positive significant effect on customs clearance of disaster relief goods
- H0e – Staff competency doesn't have a positive significant effect on customs clearance of disaster relief goods

CHAPTER THREE

METHODOLOGY OF THE STUDY

The methodological process followed to come up with a certain problem's solution is known as research methodology. This study, thus, aimed to investigate factors affecting on-time custom clearance of emergency responses by taking selected freight forwarders and clearing agents in Addis Ababa, Ethiopia as a case. To address the objectives, appropriate research design and methods were

applied. The methodology used in this study outlines the steps that were taken to gather and then interpret and report the findings. The methods used in this survey are described as follows.

3.1. Research Design

This study sought to investigate factors affecting on-time custom clearance of emergency responses in the case of selected freight forwarders and clearing agents in Addis Ababa. In light of this, the current research adopted an explanatory research design to test the proposed hypotheses (listed in chapter two) to examine whether the factors namely documentation practice, tariff classification, valuation, risk assessment, and staff competency have significant relationships with on-time custom clearance of emergency response. That means causal analysis is concerned with the study of how one or more variables affect changes in another variable (De Vaus, 2016). For this study, thus, the application of explanatory research design was found more appropriate as it tried to explain the on-time custom clearing process of emergency relief goods by the aforementioned factors.

3.2. Research Approach

A research approach is a strategy of inquiry that provides a specific direction for procedure in a research design. Saunders (2016) classifies scientific research approaches into three namely quantitative, qualitative, and mixed research. Among them, for this study, a quantitative research approach was adopted to address the research question raised and test hypotheses posited. The objective of quantitative research is to develop and employ mathematical models, theories, and hypotheses of natural phenomena (Creswell, 2018). Thus, in this regard, the use of a quantitative approach to evaluate/measure the perception of freight forwarders and custom clearing agents regarding the factors affecting the on-time custom clearing process was found appropriate. For the fact that quantitative research is the systematic and scientific investigation of quantitative phenomena along with their relationships.

3.3. Target Population

A population can be defined as the complete set of subjects that can be studied: people, objects, and organizations from which a sample may be obtained (Shao, 2019). This study's target population comprises the relevant employees from these logistics companies who play essential roles in ensuring the timely customs clearance of emergency relief goods in Addis Ababa, Ethiopia. Specifically, globally prominent freight forwarding and clearing organizations that closely work with UN Agencies for emergency responses in the country were targeted purposively. These

companies are namely DHL Ethiopia, Kuehne + Nagel (K+N), United Parcel Service (UPS) and DB Schenker. Employees working directly in the customs clearance division, freight forwarding teams, and logistics operations related to emergency relief goods. This includes customs officers, logistics coordinators, and other relevant staff. According to their respective Human Resource Database (2024), there are a total of 1,314 active permanent employees who have been working for the aforementioned four companies in Addis Ababa.

3.4. Sample Size

Sampling is the process of selecting several study units from a defined study population (Saunders, 2010). Determining sample size is a very important issue because samples that are too large are uneconomical while too small samples may lead to inaccurate results. Here in this study, sampling is required as the targeted population accounts for a total of 1,314 professionals from 4 freight forwarding and clearing agencies in Addis Ababa. More specifically, DHL comprised 461 employees while Kuehne + Nagel (K+N), United Parcel Service (UPS), and DB Schenker contributed 258, 366, and 229 employees respectively. Since the size is substantially larger in number to conduct a census, taking a representative sample of respondents is more economical. Thus, a proportionate sample size was computed by using Yamane’s proportionate sample size determination formula. The formula is:

$$n = \frac{N}{1+Ne^2} = \frac{(1,314)}{1+(1,314*0.05^2)} = 307 \text{ respondents.}$$

Thus, the study considered a sample of 307 respondents to participate in this survey. Their proportional distribution based on their respective organization is presented in Table 1.

Table 1. Distribution of Sample Respondents

Forwarders	Population (a)	Proportion (b=a/1,314)	Sample (c=b*307)
DHL Ethiopia	461	35.1%	108
Kuehne + Nagel (K+N)	258	19.6%	60
United Parcel Service (UPS)	366	27.9%	86

DB Schenker	229	17.4%	54
Total	1,314		307

(Source: Respective HR Database (2024) and Own Computation)

3.5. Sampling Technique

There are three sampling strategies in use to select the targeted respondents from the sample frame namely probability, non-probability, and mixed sampling method (Creswell, 2010). Probability sampling applies a random (equal chance) selection, while non-probability is subjective and relies on the researcher’s decision or reasoning. A stratified random sampling was applied to select 278 sample respondents from a total of 1,314 staff of the aforementioned forwarding agencies. Proportional sample respondents from each stratum were selected to ensure the representativeness of the sample. To do so, the list of the sample staff from the targeted organizations was made readily available first. Then, the sample respondents were selected from each stratum proportionately by applying stratified (probability) sampling techniques. This makes probability sampling practical and makes it more appropriate to generalize the findings to the larger population.

3.6. Type of Data and Data Source

According to Catherine (2017), data may be collected as primary, secondary, or both. Primary data are originated by the researcher for the specific purpose of addressing the problem at hand. On the other hand, secondary data contains relevant data that has been collected for a different purpose, but from which the conclusion is valuable for the purpose (Saunders, 2010). In this study, only the primary source of data from the targeted respondents was collected and used for analysis as there was no secondary data available that matched the objectives of the study.

3.7. Data Collection Instrument

The standardized questionnaire was used for the collection of primary data from targeted respondents. The questionnaire is one of the primary data-gathering survey instruments where respondents write answers to questions posed by the researcher on a question form. It helps to ask many respondents identical questions. The reason for selecting a questionnaire in this research is because it has the merit of giving adequate time for informants to respond and is also economical and allows to easily approach respondents (Wilkinson and Birmingham, 2013).

A structured questionnaire was prepared to collect the primary data. A structured questionnaire is a questionnaire in which there are definite, concrete, and pre-determined questions (Kombo, 2011). The questions were presented with the same wording and in the same order to all respondents. Resort is taken to this sort of standardization to ensure that all respondents replied to the same set of questions. Thus, a structured questionnaire was adopted from a previous similar study by Nezhir and Melissa (2019) to collect it to address the objectives of this study.

The questionnaire has two parts. Part One refers to the personal information of the targeted respondents. Part Two includes a total of 33 statements, of which 28 items are intended for measuring five factors affecting on-time custom clearance in terms of documentation practice, tariff classification, valuation, risk assessment, and staff competency. While 5 statements are assigned for on-time customs clearance. A 5-point Likert-scale-based questionnaire was used as a major instrument of data collection. The questionnaire is used to convert the qualitative data to quantitative data by using a Likert scale ranging from 1- for "Strongly disagreed" to 5- for "strongly agreed". Likert scale is one of the known measuring scales for categorical data (Saunders, 2010).

3.8. Data Collection Procedure

The next steps after developing the instrument were to distribute the questionnaires and collect the data back following the sampling method and technique mentioned in the previous section. For this, the locations of the chosen freight forwarding companies within the same neighborhoods were grouped to facilitate access and save time. The approval of the management from the selected companies was sought for surveying their premises after identifying their location. The respondents' consent was also requested again. The questionnaires were given to the respondents during their tea break or any other suitable time without disrupting their operations if they agreed. Alternatively, the respondents were also reached through their email and telegram accounts and were constantly reminded to check and reply promptly.

3.9. Data Analysis Method

Data in this study were analyzed using both descriptive and inferential statistics. Descriptive statistics is used to interpret data in general and for testing hypotheses and investigating research objectives inferential method is used using the Statistical Package for Social Science (SPSS) version 25. Descriptive statistics was applied to interpret the demographic variables of the respondents, mean, and standard deviations of each study variable; whereas inferential statistics was

used for testing hypothesis, correlation, and multi-regression analysis. Tables and graphs were used to present analysis results pictorially.

Model Specification – for this study, a regression model is proposed based on the identified independent (factors affecting custom clearance) and dependent (custom clearance) variables. It is intended to examine their relationship using the multiple linear regression method. Multiple linear regression was applied to define the relationship and to evaluate the most dominant factors affecting the effectiveness of custom clearance for emergency responses. The model is specified as:

- **Independent variables** – Factors affecting custom clearance in terms of documentation practice, tariff classification, valuation, risk assessment, and staff competency.
- **Dependent Variable** – Effectiveness of On-Time Custom Clearance.

To investigate the relationship between the five independent variables with a dependent variable, a multi-regression analysis model specification is designed as follows:

$$OTCC = \beta_0 + \beta_1DOC + \beta_2TAR + \beta_3VAL + \beta_4RSK + \beta_5CPT + e$$

Where:

OTCC - On-Time Custom Clearance

DOC - Documentation Practice,

TAR - Tariff Classification,

VAL - Valuation,

RSK - Risk Assessment

CPT - Staff Competency

β_0 - Constant; $\beta_{1,2,3,4,5}$ - Coefficients of Predictors

3.10. Validity Test

In the initial phase of the research initiative, a set of 30 questionnaires were distributed to specifically identified participants eligible to partake in the preliminary investigation. The study focused on personnel affiliated with Atlas Logistics Solution PLC in Addis Ababa who were distinct from the primary study's scope. Out of the distributed questionnaires, a total of 25 completed responses were obtained, with 5 questionnaires deemed ineligible for analysis due to incomplete data. Consequently, a total of 25 valid and sufficiently comprehensive responses were subjected to rigorous evaluation for the assessment of both reliability and validity.

To assess the validity of the questionnaire designed to collect primary data on factors affecting on-time custom clearance of emergency responses, a sample validity test was conducted. The primary objective of this test was to determine whether the questionnaire truly measures what it is intended to measure and whether it successfully captures the relevant variables related to on-time custom clearance in response to emergency relief goods.

The scale validity test involved administering the questionnaire to a small group of experts in the field of last-mile humanitarian delivery, who were asked to provide feedback on the clarity, relevance, and comprehensiveness of the questionnaire. Additionally, the assigned thesis advisor along with experts in the field was also asked to assess the appropriateness of the questions in capturing the key factors affecting the on-time custom clearing process within freight forwarding organizations. The results of this sample validity test were crucial in refining the questionnaire and ensuring its effectiveness in collecting accurate and reliable data for the intended research study. By conducting this test, the quality and validity of the data collection tools are assured, ultimately strengthening the overall findings and conclusions.

3.11. Reliability Test

In the assessment of research tools, one of the primary criteria is reliability, the extent to which an instrument yields the same results each time it is employed under identical conditions with the same subjects (John, 2013). Essentially, reliability is synonymous with consistency. In this study, Cronbach's alpha is utilized to evaluate the internal consistency of variables in the research tool. Cronbach's alpha (α) is a reliability coefficient employed to gauge the internal consistency of the scale; it is represented as a numerical value ranging between 0 and 1. Scales with a coefficient alpha falling between 0.6 and 0.7 denote fair reliability (Zikmund, 2010).

Table 2. The Outcome of the Reliability Test

Dimension	No of items	Cronbach's Alpha
Documentation Practice	6	.741
Tariff Classification	6	.749
Valuation	6	.795
Risk Assessment	4	.825
Staff Competency	6	.702
Custom Clearance	5	.702

Total Reliability	33	.900
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Source: SPSS data output, 2024

Table 2 lists five factors affecting last-mile humanitarian logistics practices, each with a specified number of items and a corresponding Cronbach's Alpha value. The Cronbach's Alpha values range from .702 to .825, indicating a satisfactory to high level of internal consistency within each dimension. The Total Reliability, encompassing all 33 items, yields a Cronbach's Alpha of .900, suggesting an excellent overall internal consistency of the survey instrument. This high level of reliability is indicative of the survey's ability to produce consistent results across various items within the same dimension, thereby affirming the dependability of the data collected through this survey. This result is a crucial component in validating the reliability of the survey, which is fundamental for academic research to ensure that the scale accurately captures the constructs intended to be assessed.

3.12. Ethical Considerations

It is important to consider ethical principles when conducting business research. Ethical issues are categorized into four different types: harm to participants, lack of informed consent, invasion of privacy, and deception (Bryman, 2011). In this study, there are descriptive questions about the respondent's age and gender but this information is not enough to identify the person. The second ethical principle to consider is the lack of informed consent. The third ethical principle concerns the invasion of privacy. In this study, the respondent has the opportunity to skip a question if it is judged sensitive. Furthermore, this study is not of a sensitive nature which enhances the respondents' willingness to answer. The fourth ethical principle refers to deception which occurs if respondents are led to believe that research is about something else than what it is. After considering these ethical principles and fully living up to the requirements, it can be classified as ethical.

CHAPTER FOUR

DATA PRESENTATION, RESULTS AND DISCUSSION

In this chapter, the collected data are presented, analyzed, and interpreted. Both descriptive and inferential analyses are conducted and the results are interpreted to address the objectives of the study. The demographic profiles of the respondents and study variables are described while the

inferential analysis is carried out to show the relationship among factors affecting on-time custom clearance of emergency responses. The output includes correlational tests, assumption tests, and regression analysis.

4.1. Response Rate

Table 3. Response Rate

Total Number of Forms Distributed		307
Not Returned and/or Declined to Participate		6
Number of Replies		301
Responses with discrepancies		4
Valid and Usable Responses		297
Response Rate (%)	Overall response rate	98.0%
	Effective response rate	96.7%

Source: Own Survey, 2023

The response rate of the sample respondents who participated in this study is described by the frequency. In Table 3, it is observed that a total of 307 questionnaires were distributed to the targeted respondents. Out of these, 301 responses were collected, resulting in a response rate of 98.0% based on the total distributed questionnaires. After screening, 4 (1.3%) responses were discarded due to missing data and inconsistencies. Finally, 297 (96.7%) valid and usable responses were encoded into SPSS 25.0. These responses underwent coding and other error corrections to prepare them for the proposed data analysis technique. Once the preparation was complete, the necessary analyses were conducted, and the results are presented below.

4.2. General Information about the Respondents

Table 4. Demographic Characteristics of Respondents

	Category	N	(%)
Gender	Male	213	71.7
	Female	84	28.3
Total		297	
Age	21 - 30	183	61.6

	31 - 40	82	27.6
	41 – 50	32	10.8
	51 – 60	0	0.0
	Total	297	
Education	Certificate	34	11.4
	Diploma	87	29.3
	First Degree	121	40.7
	Masters & above	55	18.5
	Total	297	
Department	Booking and Documentation	24	9.5
	Custom Clearance	51	20.2
	Logistics Operation	68	26.9
	Freight Handling	105	41.5
	Warehouse	5	2.0
	Total	297	
Position	Officers	140	47.1
	Coordinator	94	31.6
	Manager	42	14.1
	Director	21	7.1
	Total	297	
Experience	1 – 5 years	157	52.9
	6 – 10 Years	103	34.7
	Above 10 Years	37	12.5
	Total	297	

Source: Own Survey, 2024

Referring to Table 4, the results revealed that male respondents accounted for 213 (71.7%) while their female counterparts took the share of 84 (28.3%). The ratio of male to female respondents was four to one. It implies that the majority of the respondents were male participants. With the scope and sample size of this study, it would be premature to conclude what this gender disparity means,

other than the sampling diversity. Possibly future studies with a gender-specific focus could investigate this venue from a gender-related perspective.

In terms of age, 183 (61.6%) and 82 (27.6%) were within the range of 21 – 30 years and 31 – 40 years old. While 25 (8.4%) and 7 (1.7%) were found within 41 - 50 years band above 50 years old respectively. This implies that about two-thirds of the study participants were young and below 40 years old. It can be taken as a positive indication that the respondents were from all age groups, from adolescents to the elderly. Regarding the educational background of the respondents, 121 (40.7%) of them were first-degree holders. While 87 (29.3%) and 55 (18.5%) were holders of diploma and master degree & above. The rest 34 (11.4%) were high school certified. This implies that the majority of the study participants were well educated and capable of understanding the contents.

Respondents from the freight handling department constituted 113 (38.0%), while 75 (25.3%) from logistics operation. The rest 50 (16.8%), 18 (6.1%), and 10 (3.4%) were from custom clearance, booking & documentation, and store/ warehouse departments respectively. This also implies that the majority of the respondents were from freight handling, logistics, and customs clearance. It is expected to have more staff from these departments. Nonetheless, staff from every department participated which can be taken as a good opportunity to have and share more detailed information regarding the customs clearing process of emergency response goods and the factors affecting their customs clearance in delivering the emergency responses on time.

Regarding the respondents' current job positions in their respective organizations, the respondents on officers, coordinator, manager, and director positions accounted for 140 (47.1%), 94 (31.6%), 42 (14.1%), and 21 (7.1%), respectively. This also implies that the majority of the respondents were at lower managerial level and this phenomenon is also expected from many organizations.

As far as the employees' tenure in their current companies, the results reveal that the respondents who have been serving for 1 – 5 years took relatively the highest share 157 (52.9%), followed by 103 (34.7%), and 37 (12.5%) with the experience ranging from 6 – 10 years and above respectively. Despite the majority of the respondents having relatively fewer service years, almost half of them had more experience in the field. Thus, the result indicates that the majority of the respondents were familiar with the customs clearing process of humanitarian logistics and thus could perfectly evaluate the related factors that affect the clearing process thereon, implying that the new entrants

are on the rising stage as the number of participants whose tenure is less than 5 years is the highest in percent.

4.3. Factors Affecting On-Time Custom Clearance

Descriptive analysis uses statistical techniques to summarize and interpret a set of data. In this study, the variables constitute documentation practice, tariff classification, valuation, risk assessment staff competency, and on-time custom clearance. To attain the objectives, a total of 28 questions were grouped into the five factors that affect the custom clearing process and 5 questions for the effectiveness of on-time custom clearing to collect data based on the respondents' perceptions. Thus, a total of 33 questions were used for the analysis.

Descriptive analysis can be done using different types of measures, such as frequency, central tendency, dispersion, and position. In this case, to compare the respondents' perception of the variables, only central tendency (mean) and dispersion (standard deviation) were applied. The mean indicates to what extent the sample group averagely agrees or disagrees with the different statements. According to Best (2005), the scale is set in such a way that respondents strongly disagreed if the mean scored value is in the range of 1.00 – 1.80; disagreed within 1.81 – 2.60; neither agreed nor disagreed within 2.61 - 3.40; agreed if it is in the range of 3.41 – 4.20; while strongly agreed when it falls within 4.21 – 5.00. In addition, standard deviation shows the variability of an observed response. If it is greater than 1.000, high variability exists among their perception.

4.3.1. Documentation Practice

Table 5. Description of Documentation Practices

Statement	Mean	Std
The accuracy/ completeness of documentation significantly impacts customs clearance.	3.78	1.612
Timely submission of required documents facilitates efficient processing.	3.96	1.514
Proper labeling or description of relief goods enhances clearance speed.	4.22	1.319
Consistent documentation practices reduce delays at customs checkpoints.	3.80	1.414
Clear instructions for document preparation are provided to relief organizations.	3.59	1.602
Regular training on documentation procedures improves compliance.	3.64	1.707
Grand Mean	3.83	

Source: Own Survey, 2024

In humanitarian logistics, the efficiency of customs clearance processes is a crucial factor that can significantly impact the overall supply chain performance. The data presented in Table 5 provides valuable insights into the various aspects related to documentation and their influence on the timely processing of customs procedures. The overall grand mean of 3.83 (standard deviation of 1.013), reflects the collective perception of the respondents regarding the importance of documentation practices in customs clearance. This suggests a generally recognized significance of documentation which highly influences the on-time custom clearance of disaster relief goods.

More specifically, the participants recognize the importance of accurate and complete documentation, with a mean score of 3.78 and a standard deviation of 1.612. Similarly, the timely submission of required documents is considered essential for efficient processing, with a mean score of 3.96 (standard deviation of 1.514). Interestingly, the participants strongly agree (mean score of 4.22 with a standard deviation of 1.319) that proper labeling enhances clearance speed. This finding emphasizes the critical role of clear and accurate descriptions in facilitating the efficient identification and processing of goods at customs checkpoints. The mean score of 3.80, with a standard deviation of 1.414, suggests that consistent documentation practices contribute to reducing delays at customs checkpoints. This underscores the value of standardized procedures and the importance of aligning documentation requirements across different jurisdictions and trade partners. The participants also slightly acknowledge the need for clear instructions, with a mean score of 3.59. However, the higher standard deviation of 1.602 highlights the differing opinions on the provision of instructions, indicating that there is room for improvement in this area.

4.3.2. Tariff Classification

Table 6. Description of Tarif Classification

Statement	Mean	Std
Proper classification of goods based on tariff codes is essential for efficient clearance.	4.26	1.321
Knowledge of specific tariff categories expedites the customs process.	4.22	1.063
Consistent application of correct tariff codes minimizes delays.	3.72	1.447
Regular updates on tariff changes are communicated to relief agencies.	3.63	1.396
Staff training on tariff classification enhances accuracy.	3.43	1.684
Automated systems for tariff determination improve efficiency.	3.52	1.555
Grand Mean	3.80	

Source: Own Survey, 2024

In this study, the survey explores the influence of tariff classification practices on the efficiency of customs clearance processes. The data presented in Table 6 sheds light on various aspects related to tariff classification and their implications for timely customs processing. In this regard, the overall grand mean of 3.80 suggests a widespread recognition among participants of the importance of tariff classification in customs clearance. This collective sentiment is further reinforced by the relatively low standard deviation of 0.949, indicating a notable alignment across the various statements. This alignment highlights the shared understanding among stakeholders regarding the centrality of accurate tariff categorization in ensuring efficient customs processes.

Delving deeper into the data, the mean score of 4.26 (standard deviation of 1.321) underscores the participants' strong agreement that accurate classification according to tariff codes is essential for efficient clearance. This finding emphasizes the critical role of proper categorization, emphasizing the need for meticulous attention to detail and a comprehensive understanding of the applicable tariff codes. Furthermore, the mean score of 4.22 suggests that participants recognize the expediting effect of familiarity with specific tariff categories. This knowledge streamlines the decision-making process, allowing for swifter customs clearance and reduced delays. Consistent application of tariff classification, as indicated by a mean score of 3.72, further reinforces the importance of maintaining a standardized approach to minimize delays and facilitate a more seamless customs experience.

However, the data also reveals areas for improvement. Participants acknowledge the significance of staying informed, as reflected in the mean score of 3.63 (standard deviation of 1.396). This highlights the need for continuous training and education to ensure that stakeholders remain apprised of the evolving tariff landscape and its implications for customs clearance. The mean score of 3.43 suggests that participants recognize the potential benefits of training in enhancing the accuracy of tariff classification. In an era of increasing complexity and globalization, equipping stakeholders with the necessary knowledge and skills can contribute to a more robust and reliable customs system. Moreover, the participants' recognition of the potential benefits of automated systems, with a mean score of 3.52 (standard deviation of 1.555), underscores the growing role of technology in customs efficiency. These innovative tools can reduce manual errors and streamline the classification process, ultimately leading to greater efficiency and a more responsive customs environment.

4.3.3. Valuation

Table 7. Description of Valuation

Statement	Mean	Std
Transparent valuation practices ensure a fair assessment of import duties and taxes.	3.86	1.742
Consistent valuation methods reduce disputes during clearance.	3.75	1.652
Regular audits verify declared values for relief goods.	4.11	1.552
Collaboration with relief agencies on valuation processes enhances accuracy.	3.62	1.763
Training customs officers on valuation principles improves consistency.	4.21	1.465
Real-time valuation tools streamline the process.	3.57	1.719
Grand Mean	3.86	

Source: Own Survey, 2024

The data presented in Table 7 provides insights into the influence of valuation practices on the efficiency of customs clearance processes. The overall grand mean of 3.86 reflects the collective perception of valuation's role in customs clearance. The relatively low standard deviation of 1.161 suggests alignment across the statements. A mean score of 4.11 (standard deviation of 1.552) highlights the significance of regular audits, verifying declared values ensures accuracy. The mean score of 4.21 (standard deviation of 1.465) underscores the impact of training. Well-informed officers enhance consistency in valuation.

Similarly, the majority of the participants recognize the importance of transparency (mean score of 3.86 with a standard deviation of 1.742) in assessing import duties and taxes. Transparent practices contribute to fairness. With a mean score of 3.75 (standard deviation of 1.652), participants acknowledge that consistent valuation methods reduce disputes during clearance. Consistency fosters predictability. Participants recognize the potential benefits (mean score of 3.62) of collaboration in valuation processes. Accuracy improves through shared insights. The larger standard deviation of 1.763 reflects varying levels of collaboration effectiveness. However, the participants acknowledge the utility (mean score of 3.57 with a standard deviation of 1.719) of real-time tools. These streamline the process by providing up-to-date information. These findings contribute to the scholarly discourse on customs efficiency and provide practical insights for

policymakers, practitioners, and relief agencies involved in cross-border trade. Further research could explore the causal relationships between specific valuation practices and clearance times, allowing for targeted interventions to optimize customs processes.

4.3.4. Risk Assessment

Table 8. Description of Risk Assessment

Statement	Mean	Std
Effective risk assessment helps identify potential delays and mitigate them.	3.69	1.817
Early identification of high-risk shipments expedites clearance.	3.03	1.785
Collaboration with other agencies (health, security, etc.) enhances risk assessment.	3.74	1.797
Regular risk analysis updates improve response times.	2.47	1.887
Grand Mean	3.23	

Source: Own Survey, 2024

In the dynamic landscape of international trade, the efficient and timely processing of goods through customs clearance is a critical component of global supply chain operations. Table 8 provides valuable insights into the various aspects related to risk assessment practices and their profound implications for ensuring prompt customs processing. The overall grand mean of 3.23, with a standard deviation of 1.476, represents the collective perception of risk assessment's impact on customs clearance. This statistic underscores the significance that industry stakeholders place on the role of risk assessment in facilitating smooth and expeditious customs procedures.

More specifically, the majority of the participants recognize the importance of risk assessment, with a mean score of 3.69, in identifying potential delays and implementing proactive mitigation measures. This finding highlights the crucial role that a robust risk assessment process plays in contributing to the overall efficiency of customs operations. The relatively high standard deviation of 1.817, however, suggests varying perceptions among participants regarding the effectiveness of risk assessment practices. Furthermore, the data reveals that participants acknowledge the value of early identification of high-risk shipments, with a mean score of 3.03 and a standard deviation of 1.785. This indicates the recognized importance of timely intervention to expedite the clearance process for potentially problematic consignments.

Another significant finding is the participants' recognition of the value of collaborating with other agencies, such as health and security authorities, in the risk assessment process. With a mean score

of 3.74 and a standard deviation of 1.797, this collaboration is seen as enhancing the overall accuracy and effectiveness of the risk assessment. By leveraging the expertise and specialized knowledge of various stakeholders, the risk assessment process can be further strengthened, leading to more informed decision-making and improved customs clearance outcomes. However, the data also highlights the need for regular updates to the risk analysis, with a mean score of 2.47 and a relatively high standard deviation of 1.887. This suggests that industry participants recognize the dynamic nature of risk factors and the importance of maintaining current and responsive risk assessment frameworks. Keeping the risk analysis up-to-date can significantly improve response times and ensure that customs authorities are equipped to address evolving challenges.

4.3.5. Staff Competency

Table 9. Description of Staff Competency

Statement	Mean	Std
Competent customs staff contribute to timely processing and accurate decisions.	4.26	1.379
Ongoing training programs enhance staff knowledge and skills.	3.67	1.390
Cross-training customs officers in different areas improves flexibility.	4.24	1.377
Performance evaluations identify competency gaps.	3.44	1.483
Effective communication skills among staff expedite clearance.	4.31	1.377
Staff morale and motivation impact overall efficiency.	3.45	1.759
Grand Mean	3.89	

Source: Own Survey, 2024

One of the fundamental factors that contribute to the success of the on-time custom clearing process of disaster relief goods endeavor is the competency of the customs staff responsible for executing these critical procedures. The data presented in Table 9 underscores the profound impact that competent customs staff can have on the timely processing and accurate decision-making within the customs clearance process. With a mean score of 4.26 and a standard deviation of 1.379, the survey respondents overwhelmingly agree that competent customs staff are a vital component in ensuring the timely and efficient clearance of goods. This finding highlights the crucial role that well-trained

and knowledgeable personnel play in navigating the complexities of customs regulations, facilitating faster decision-making, and streamlining the overall clearance process.

The data also reveals the significance of ongoing training programs in enhancing the knowledge and skills of customs staff. With a mean score of 3.67 and a standard deviation of 1.390, the respondents acknowledge the positive impact that such training initiatives can have on the overall competency of the customs workforce. Another key aspect highlighted by the data is the value of cross-training customs officers in different areas. The mean score of 4.24 and a standard deviation of 1.377 indicate that respondents strongly believe that this approach can enhance the flexibility and adaptability of the customs staff, enabling them to handle a wider range of tasks and responsibilities.

The data also emphasizes the importance of performance evaluations in identifying competency gaps among customs staff. With a mean score of 3.44 and a standard deviation of 1.483, the respondents acknowledge the value of such assessments in pinpointing areas for improvement and informing targeted training and development initiatives. The data also highlights the critical role of effective communication skills among customs staff in expediting the clearance process. With a mean score of 4.31 and a standard deviation of 1.377, respondents strongly agree that clear and efficient communication between customs officers can significantly accelerate the clearance of goods. Additionally, the data suggests that staff morale and motivation can have a substantial impact on the overall efficiency of customs operations, with a mean score of 3.45 and a standard deviation of 1.759 indicating the importance of maintaining a positive and engaged workforce.

Competent customs staff, equipped with comprehensive training, cross-functional expertise, and effective communication skills, are the cornerstones of a well-functioning customs clearance system. By prioritizing the development and continuous improvement of their workforce, organizations can foster an environment of efficiency, accuracy, and responsiveness, ultimately contributing to the seamless flow of international trade and commerce.

4.3.6. On-Time Custom Clearance

The data presented in Table 10 provide a comprehensive assessment of the on-time custom clearance process from the perspective of stakeholders. The grand mean score of 3.83 suggests that, overall, the respondents perceive the clearance procedures to be relatively satisfactory. However, a closer examination of the individual statements reveals nuanced insights.

Table 10. Description of On-Time Custom Clearance

Statement	Mean	Std
The instructions for clearance procedures are clear and easy to understand.	3.68	1.436
The steps involved in the clearance process are straightforward and uncomplicated.	3.43	1.204
The time taken for clearance is efficient and meets expectations.	3.79	1.114
The security protocols in place during clearance inspire confidence.	4.07	1.482
Communication regarding clearance (notice, updates, etc.) is timely and effective.	4.20	1.028
Grand Mean	3.83	

Source: Own Survey, 2024

The highest-rated aspect is "Communication regarding clearance (notifications, updates, etc.), which is deemed timely and effective, with a mean score of 4.20. This indicates that the information flow during the clearance process is perceived as efficient and transparent, potentially contributing to a more seamless experience for users. In contrast, the "steps involved in the clearance process" are viewed as relatively less straightforward and uncomplicated, with a mean score of 3.43. This suggests that there may be opportunities to streamline the procedural aspects of the clearance process, potentially reducing complexity and enhancing the overall user experience. The standard deviations for the various statements range from 1.028 to 1.482, indicating a moderate degree of variability in the responses. It suggests that there is diverse perceptions and experiences among the respondents, warranting further investigation to understand the underlying factors contributing to these differences.

Overall, the data provide a valuable snapshot of the on-time custom clearance process, highlighting areas of strength as well as potential avenues for improvement. The findings can inform strategic decision-making and targeted interventions to enhance the efficiency, transparency, and user-friendliness of the clearance procedures, ultimately contributing to a more streamlined and satisfactory experience for all stakeholders involved.

4.4. Inferential Analysis

The inferential analysis is used to generalize about the population parameters based on results obtained from the sample. That means it measures the reliability of conclusions about a population

that is based on information gathered from a sample of the population (Saunders, 2010). Since inferential analysis doesn't sample everyone in a population, the results will always contain some level of uncertainty. To address the objectives of the study, the inferential statistics encompassed correlational tests, assumptions for the regression model test, and regression analysis of the collected data. The correlational test was meant to check the strength and direction of the relationship among the variables. Assumption tests for multiple linear regression models were for the fitness of collected data to the model specified. It included multivariate normality, multicollinearity, linearity, and homoscedasticity tests. Finally, multiple linear regression analysis was the final output of the data analysis which referred to the model summary, ANOVA test, and beta coefficient.

4.4.1. Correlational Test

Correlation analysis deals with relationships among variables and helps to gain insight into the direction and strength of the relation between the variables. In this case, the study sought to examine the relationship between the identified five factors and on-time customs clearance. There are different correlational tests like Pearson, Spearman, etc., but for this study, the Pearson Correlation test is used for the reason that the test is more appropriate for categorical data that are observed in the study.

Correlation coefficients take values between -1 and 1 ranging from being negatively correlated (-1) to uncorrelated (0) to positively correlated (+). The sign of the correlation coefficient defines the direction of the relationship. The absolute value indicates the strength of the correlation. Dancy and Reidy (2004) suggest the strength of the relationship 0.10 to 0.29 shows a weak relationship; 0.30 to 0.49 is moderate; 0.5 and above shows a strong relation b/n variable.

Table 11: Correlation Matrix

	DOC	TAR	VAL	RSK	CPT	OTCC
DOC - Documentation	1					
TAR - Tariff classification	.212**	1				
VAL - Valuation	.326**	.389**	1			
RSK - Risk assessment	.298**	.328**	.326**	1		
CPT - Staff competency	.355**	.453**	.556**	.347**	1	
OTCC - On-time custom clearance	.432**	.537**	.632**	.411**	.721**	1

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

Source: SPSS output, 2024

As revealed in Table 11, the correlation matrix of all of the independent variables was positively related to the dependent variable – On-time custom clearance. Regarding their strength, among the variables, tariff classification ($r = 0.537, p \leq 0.01$), valuation ($r = 0.632, p \leq 0.01$) and staff competency ($r = 0.721, p \leq 0.01$) factors had a strong relationship with on-time custom clearance. It connotes that clear and consistent tariff classification, custom valuation, and competent human resources have a strong positive, and significant relationship with the on-time custom clearing process of humanitarian logistics. Nonetheless, documentation and risk assessment have a moderate relationship as the r- r-coefficients were found .432 and .411 at $p \leq 0.01$ respectively. Therefore, from the results, it can be observed that some of these factors are moderate while others are highly determining the on-time custom clearing process of disaster relief goods during emergency responses.

That means swift and expedition of on-time custom clearing practice is explained by proper documentation, clear tariff classification, relief goods' valuation, risk assessment, and competent custom staff. These factors are good predictors of the on-time custom clearing process of emergency responses during a disaster.

4.4.2. The Assumptions for Testing Regression Analysis

The test of assumptions should be done because violations of the assumptions affect the consequent use of multivariate statistical methods (Hair, 2006). There are many assumptions to consider but the researcher focused on the major ones that are easily tested with SPSS.

4.4.2.1. Multicollinearity -

.Table 12: Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	Documentation	.824	1.214
	Tariff classification	.743	1.346
	Valuation	.642	1.557
	Risk assessment	.802	1.247
	Staff competency	.591	1.691

a. Dependent Variable: On-time custom clearance

Source: SPSS output, 2024

In regression, multicollinearity occurs when independent variables in the regression model are more highly correlated with each other than with the dependent variable. Hair (2006) argued that a correlation coefficient below 0.90 may not cause serious multi-collinearity problems. But also, Field (2005) suggests that the correlation coefficient should not be 0.7 for a better inference from the study. Correlations were examined using the bivariate correlation measure in SPSS and all the coefficients of correlation are below 0.8. Multicollinearity can also be detected using tolerance value and variance inflator factor (VIF) value. Thus, as revealed in Table 12, the multicollinearity does not exist among all the independent variables provided that the tolerance value is greater than 0.1 and the VIF values of all the independent variables are less than 10.

4.4.2.2. Test of Normality

Table 13: Normality of Distribution Using Descriptive Statistics (Skewness and Kurtosis)

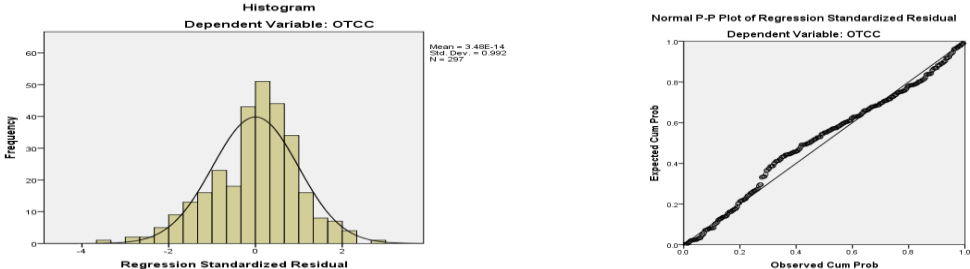
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Documentation	297	-.856	.141	-.024	.282
Tariff classification	297	-.865	.141	-.065	.282
Valuation	297	-.808	.141	-.484	.282
Risk assessment	297	-.204	.141	-1.369	.282
Staff competency	297	-.661	.141	-.672	.282
On-time custom clearance	297	-.579	.141	-.667	.282

Source: SPSS output, 2024

The test of normality is another assumption to be tested before running regression. The normal distribution is detected based on skewness and kurtosis statistics. As proposed by George and Mallery (2010), the acceptable range for normality for both statistics is between -2 and +2. Therefore, as depicted in Table 13, all variables 'values of kurtosis and skewness are almost within the acceptable range for normality. So, this implies that all items show close to normal distribution considering the criteria of skewness and kurtosis values between -2 and 2. Therefore, the data used in this study could be assumed to be normally distributed. In addition to the skewness and Kurtosis,

the normality probability plots were plotted to assess normality. The plots shown in Figure 2 were approximately a straight line instead of a curve.

4.4.2.3. Linearity



Source: SPSS output, 2024

Figure 2: Normal Point Plot of Standardized Residuals

The linearity assumption can easily be checked using scatterplots or residual plots: plots of the residuals vs. either the predicted values of the dependent variable or against (one of) the independent variable(s). The scatter plots of standardized residuals versus the fitted values for the regression models were visually inspected in Figure 3.

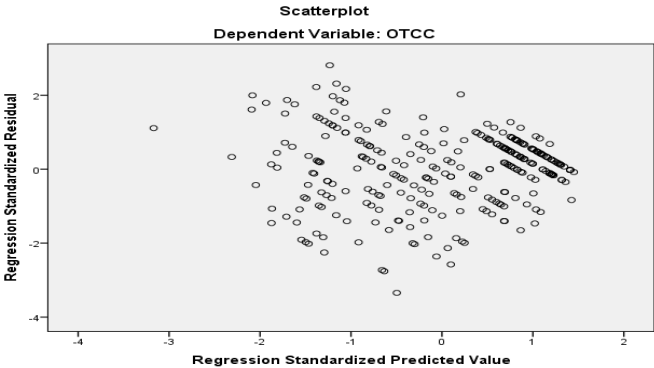


Figure 3: Frequency Distribution of Standardized Residuals

4.1.1. Multiple Linear Regression Analysis

Multiple linear regressions were used to determine the explanatory power of the independent variables (documentation practice, tariff classification, valuation, risk assessment, and staff competency). The value of R indicates the value of the multiple correlation coefficients between the independent and the dependent variable, with a range from 0.0 to 1.0, a larger value indicating a larger correlation, and 1.0 representing an equation that perfectly predicts the observed value.

Thus, the model summary ($R=.810^a$) indicated that the linear combination of the five independent variables strongly predicted the on-time custom clearance performance. Same vein, the value of the R-Square indicates the proportion of variance that can be explained in the dependent variable by the linear combination of the independent variables. In other words, R^2 is a measure of how much of the variability in the outcome is accounted for by the predictors.

Table 14: Model summary

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.810 ^a	.657	.651	.50535

a. Predictors: (Constant), CPT, RSK, VAL, TAR, DOC

b. Dependent Variable: On-time custom clearance

Table 14 shows the model summary of the regression analysis, therefore, the linear combination of independent variables predictors' i.e., custom clearance in terms of documentation practice, tariff classification, valuation, risk assessment, and staff competency factors explain 65.7% (R Squared = .657) of the variance in the performance of the on-time custom clearance and the remaining 34.3% is explained by extraneous variables, which have not been included in this regression model.

Table 15: ANOVA Test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142.094	5	28.419	111.280	.000 ^b
	Residual	74.316	291	.255		
	Total	216.410	296			

a. Predictors: (Constant), CPT, RSK, VAL, TAR, DOC

b. Dependent Variable: On-time custom clearance

Source: SPSS output, 2024

The ANOVA test shows the overall significance/ acceptability of the model from a statistical perspective. As indicated in Table 15, the p-value is less < than 0.05 i.e., .000 which indicates the variation explained by the model is not due to chance. So, it shows that the acceptability of the model.

Table 16: Regression analysis of independent and dependent variable

Coefficients ^a						
Model		Unstandardized Coeff.		Standardized Coeff.	t	Sig.
		β	Std. Error	Beta		
1	(Constant)	.370	.160		2.311	.022
	Documentation	.115	.032	.137	3.608	.000
	Tariff classification	.175	.036	.194	4.872	.000
	Valuation	.188	.032	.255	5.957	.000
	Risk assessment	.046	.022	.079	2.056	.041
	Staff competency	.382	.041	.415	9.297	.000
a. Dependent Variable: On-time Custom Clearance						

Source: SPSS output, 2024

The results in Table 16 revealed that the relationship between dependent and independent variables. Accordingly, it shows the constant beta value (β) and the p-value of the variables to examine the significance of the hypothesis. The significance level of each variable (P-value) for all independent (Documentation, Tariff classification, Valuation, Risk assessment, and Staff competency) variables were below 0.05, and their standardized coefficients are 0.137, 0.194, 0.255, 0.079, and .415 respectively. The p-value of all the independent variables below 0.05 implies that the independent variables listed under the factors affecting the performance of the on-time custom clearance have a significant relationship with the dependent variable (performance of the on-time custom clearance performance of freight forwarding and clearing agents in Ethiopia).

Same vein, the value of the standardized coefficient (Beta) value indicates the effect of each predictor on the on-time custom clearance. In this study, the result of the Beta value of all the five predictors had a positive value, which indicates a positive effect. Therefore, the hypotheses for the five variables were confirmed as documentation, tariff classification, valuation, risk assessment, and staff competency showed a positive significant effect on the performance of on-time custom

clearance. Based on these results, the regression equation that predicts the performance of on-time custom clearance based on the linear combination of documentation, tariff classification, valuation, risk assessment, and staff competency is as follows:

$$OTCC = 0.370 + 0.137 DOC + 0.194 TAR + 0.255 VAL + 0.079 RSK + 0.415 CPT$$

Where: OTCC - On-time custom clearance;
DOC - Documentation; GOV – Tariff Classification;
VAL - Valuation; RSK - Risk assessment;
CPT – Staff Competency

The regression analyses show that all five factors namely documentation practice, tariff classification, valuation, risk assessment, and staff competency have a positive and significant effect on on-time custom clearance. Based on these findings, the interpretations are presented as follows:

- The constant term ($B_0 = 0.370$) illustrates the nil effect of documentation, tariff classification, valuation, risk assessment, and staff competency dimensions. That means, in a situation where all independent variables are zero, the performance of on-time custom clearance as a dependent variable is predicted to be 0.370.
- In a situation where other variables are constant, if documentation improves by one unit the performance of on-time custom clearance is predicted to be increased by 0.137 units. This shows that documentation has a positive and significant effect on the performance of on-time custom clearance at $p < .05$. Thus, hypothesis 1 (H1a) is supported. This finding is in line with Anthony's (2016) study which concludes that proper documentation practice plays a significant role in the expedition of on-time custom clearing process for humanitarian emergency responses. Having well-designed documentation makes a difference in efficiently and effectively facilitating the custom clearing of relief goods during and after disasters.
- Keeping other variables constant, if tariff classification regarding humanitarian relief goods improves by one unit, the performance of on-time custom clearance is predicted to be increased by 0.194 units. This shows that tariff classification has a positive and significant effect on on-time custom clearance at $p < .05$. Thus, hypothesis 2 (H1b) is supported. In support of this finding, a study by Altay (2018) argues that customs procedures can be

problematic, potentially delaying the delivery of essential relief supplies. Relief imports often lack a suitable legal framework, hindering efficient customs clearance and poor communication exacerbates delays in customs processes. Thus, the way relief goods are classified under tariffs can impact clearance times.

- In conditions where other variables are constant, if the valuation factor increases by one unit, the performance of on-time custom clearance is predicted to be increased by 0.255 units. This shows that the valuation factor has a positive and significant effect on on-time custom clearance at $p < .05$. Thus, hypothesis 3 (H1c) is also supported. Korpela (2016) also supported this finding for the fact that his study explains the level of clear goods valuation influences the coping capacity of custom clearance. During humanitarian crises, the efficient and timely clearance of relief goods through customs is crucial. The valuation of these goods plays a significant role in determining the speed and effectiveness of customs processes.
- Keeping other variables constant, if risk assessment increases by one unit, the performance of on-time custom clearance is predicted to be increased by 0.079 units. This shows that risk assessment has a positive but nearly negligible significant effect on the performance of on-time custom clearance at $p < .05$. Thus, hypothesis 4 (H1d) is supported. Contrary to these findings, Kunz and Reiner (2019) also affirmed that an effective and timely humanitarian relief operation can save thousands of lives. However, balancing security concerns with timely clearance ensures compliance with regulations. This in turn highly affects the coordination and collaboration of emergency responses due to smuggling of weapons and drugs.
- Keeping other variables also constant, if staff competency increases by one unit, the performance of on-time custom clearance is predicted to be increased by 0.415 units. This shows that competent staff has a positive and significant effect on the performance of on-time custom clearance at $p < .05$. Thus, hypothesis 5 (H1e) is also supported. In support of this finding, Guven and Ergen (2017), who attempted to identify the competency of custom clearing agents for effective aid responses after an earthquake in India, concluded that improved sufficiency of humanitarian delivery and the competency of custom clearance staff highly affect the performance of humanitarian supply chains.

Finally, referring to the inferential analyses, all five objectives of the study were addressed by testing the proposed hypotheses through the application of the multiple linear regression model. The results indicate the identified five factors are good predictors of on-time custom clearance of freight forwarding and clearing organizations in Addis Ababa. That means, using well-established measurement scales, the effect of documentation practice, tariff classification, valuation, risk assessment, and staff competency factors on the effectiveness of on-time custom clearance of emergency responses for emergency relief.

The results reported here demonstrate the effectiveness of documentation practice, tariff classification, valuation, risk assessment, and staff competency contribute to the enhancement of the on-time custom clearance performance. Therefore, the test results of the proposed hypotheses are summarized as shown in Table 17.

Table 17. Summary of the proposed hypotheses

Code	Proposed Hypothesis	Decision
H1a	Documentation has a positive significant effect on on-time customs clearance	Supported
H1b	Tariff classification has a positive significant effect on on-time customs clearance	Supported
H1c	Valuation has a positive significant effect on on-time custom clearance	Supported
H1d	Risk assessment has a positive significant effect on on-time customs clearance	Supported
H1e	Staff competency has a positive significant effect on on-time customs clearance	Supported

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the major findings of the study, conclusions, and recommendations.

5.1. Summary of Major Findings

Based on the results of the analyses, the following major findings were drawn and summaries as follows. The major findings are:

1st objective – the effect of documentation on on-time custom clearance

- Properly labeling or describing relief goods significantly enhances clearance speed (mean 4.22), while clear instructions for document preparation are essential for aid organizations (mean 3.59).
- A positive and moderate association between documentation practice and on-time custom clearance is observed ($r = .432$, $p < .05$). Nonetheless, preceded by risk assessment, the documentation practice has the least effect ($B = .137$ at $p < .05$).

2nd objective – the effect of tariff classification on on-time custom clearance

- Accurate classification of goods based on tariff codes expedites the customs process (mean 4.26), and knowledge of specific tariff categories is crucial (mean 4.22). Nonetheless, staff training on tariff classification principles improves accuracy and consistency (mean 3.43).
- The tariff classification has a positive and strong relationship with ($r = .537$, $p < .05$) as well as a high effect on on-time custom clearance as the coefficient (B) was found 0.194 at $p < .05$. These factors also contribute to on-time custom clearance of disaster relief goods.

3rd objective – the effect of valuation on on-time custom clearance

- Training customs officers on valuation principles improves consistency (mean 4.21) while real-time valuation tools streamline the process (mean 3.57).

- Next to staff competency, custom valuation has also a high effect on on-time custom clearance ($B = 0.255$, $p < .05$) as a positive and strong relationship between them was observed ($r = 0.632$, $p < .05$).

4th objective – the effect of risk assessment on on-time custom clearance

- Collaboration with other agencies (such as health and security) enhances risk assessment (mean 3.74) while regular risk analysis updates are essential for improving response times (mean 2.47).
- Risk assessment exhibited moderate association with ($r = 0.411$, $p < .05$) and the relatively the least effect ($B = 0.079$, $p < .05$) on on-time custom clearance.

5th objective – the effect of staff competency on on-time customs clearance

- Effective communication skills among staff expedite clearance (mean 4.31), and staff morale and motivation play a significant role in overall efficiency (mean 3.45).
- In the study, staff competency has relatively the strongest association ($r = 0.721$) as well as relatively the highest contribution to on-time custom clearance ($B = 0.415$).

5.2. Conclusions

Humanitarian logistics is a crucial aspect of humanitarian operations, as it enables the delivery of life-saving assistance to people affected by natural or man-made disasters. In response to natural or man-made disasters, on-time custom clearance of emergency relief goods holds great potential to enhance the effectiveness of emergency response during disasters. However, operating in dynamic and uncertain environments with multiple and diverse cross-border stakeholders under limited resources, time constraints and sophisticated border clearing policies, rules and regulations have made it to be a complex and challenging field. Thus, the need for identifying and examining which factors have the highest significant effect on on-time custom clearing process by freight forwarding and clearing agents is very important for effective and efficient emergency responses in time. This study, thus, sought to examine factors affecting the performance of freight forwarders in on-time custom clearing of humanitarian logistics in Addis Ababa.

The regression analyses conducted in this study have provided valuable insights into the key factors influencing the on-time custom clearance performance of freight forwarding and clearing organizations in Addis Ababa, Ethiopia. The findings highlight the critical importance of several interrelated elements in ensuring the efficient and timely clearance of relief goods during humanitarian emergencies. Foremost, the study underscores the pivotal role of documentation practice in facilitating custom clearance. Well-designed and properly submitted documentation plays a crucial part in streamlining the customs process, thereby enhancing the speed and effectiveness of relief goods delivery. Organizations should prioritize the development and implementation of standardized, comprehensive documentation procedures to minimize delays and bottlenecks.

Furthermore, the study reveals the significance of tariff classification in shaping clearance times. Improving the classification of relief goods under the applicable tariff regimes can lead to faster custom clearance, as it aligns the goods with the appropriate tax and duty structures. By staying abreast of evolving tariff regulations and actively managing tariff classification, organizations can enhance their on-time clearance performance. The findings also highlight the influence of valuation on customs processes. Higher valuations of relief goods have been found to positively impact on-

time clearance, potentially due to the increased importance placed on expediting the movement of more valuable commodities. Organizations should carefully assess and accurately declare the valuation of their relief goods to optimize the customs clearance timeline.

While risk assessment has a comparatively minor effect, the findings underscore the need to strike a delicate balance between security concerns and timely clearance. Customs authorities must maintain a vigilant approach to risk assessment without compromising the urgency of humanitarian relief efforts. Collaborative efforts between organizations and customs authorities can help refine risk assessment protocols and enhance overall clearance efficiency. Lastly, the study emphasizes the critical role of staff competency in driving on-time custom clearance. Knowledgeable and experienced staff, well-versed in customs regulations and procedures, can significantly improve the performance of humanitarian supply chains. Firms should invest in the continuous training and development of their customs clearance personnel to ensure a high level of expertise and proficiency.

In conclusion, the regression analyses have identified five key factors – documentation practice, tariff classification, valuation, risk assessment, and staff competency – as significant predictors of on-time custom clearance performance. By understanding the impact of these elements and strategically addressing them, freight forwarding and clearing organizations in Addis Ababa can enhance their customs clearance processes and improve the timely delivery of critical relief goods during humanitarian emergencies. These findings have important implications for both organizations and policymakers, serving as a valuable framework for optimizing customs clearance procedures and strengthening the resilience of humanitarian supply chains.

5.3. Recommendations

Based on the major findings and conclusions, the following possible recommendations are suggested:

- Managers of freight forwarders are advised to efficiently manage documentation from origin to destination and establish clear channels for inquiries and updates. This can be achieved through developing robust documentation of humanitarian logistics by ensuring accurate and complete paperwork for customs clearance.
- The freight forwarders need to collaborate with customs officials to work closely to ensure correct classification and expedited processing. Border clearing officials should also accurately categorize emergency relief goods by assigning appropriate tariff codes to leverage favorable treatment of emergency relief goods.
- Border clearing officials need to assign specialized valuers to accurately value relief goods in particular as precise valuation minimizes delays and disputes. Parallely, freight forwarders should maintain transparency by providing necessary documentation to support valuation.
- Officials of border clearing should continuously conduct custom-related risk assessment. The officials need to balance security and urgency by implementing risk-based approaches without compromising aid delivery. The forwarders are also advised to communicate transparently with customs agencies by addressing security concerns while facilitating timely clearance.
- The HR managers of both border clearing agency as well as freight forwarders should invest in training and development so as to ensure personnel understand customs regulations, documentation requirements, and supply chain management. Empower staff with expertise as competent personnel enhance efficiency and responsiveness.

5.4. Limitations and Suggestions for Further Investigation

This study provides valuable insights into the factors influencing on-time custom clearance performance, a critical aspect of humanitarian relief efforts. While the findings offer a solid foundation, further research could explore additional dimensions to enhance the understanding and applicability of these insights.

One potential limitation is the geographic scope, as the study was conducted in Addis Ababa. Expanding the research to other regions or countries could shed light on contextual differences and validate the generalizability of the findings. Additionally, investigating the interplay between the identified factors and their relative importance in various humanitarian crisis scenarios could offer a more nuanced perspective.

Furthermore, the study focused on five key factors, but there may be other variables, such as institutional policies, technological advancements, or cross-border coordination, that could influence on-time custom clearance. Exploring these additional elements could provide a more comprehensive understanding of the challenges and opportunities in streamlining the customs clearance process for humanitarian relief.

Finally, a longitudinal approach to data collection and analysis could unveil dynamic patterns and trends, allowing researchers to assess the long-term effectiveness of interventions aimed at improving custom clearance performance. This could inform the development of more robust and adaptive strategies for humanitarian organizations to navigate the complexities of customs procedures during emergency responses.

Overall, the insights from this study provide a solid foundation for enhancing the efficiency of custom clearance in humanitarian contexts. By addressing the identified limitations and exploring

additional areas of investigation, future research can further strengthen the evidence-base and guide practitioners in optimizing their customs clearance processes for timely and effective relief delivery.

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APPENDICES
QUESTIONNAIRE



**Addis Ababa University Postgraduate Program, School of Commerce Department of Logistics
& Supply Chain Management**

Dear Respondent:

I am currently pursuing the degree of Master of Arts in Logistics & Supply Chain Management from Addis Ababa University Postgraduate Program. As partial fulfilment towards the completion of my graduate degree, this research titled as “factors affecting on time customs clearance in disaster relief-evidence from Ethiopian freight forwarders & customs clearance agents” is undertaken. Hence, I kindly request you to fill this questionnaire while assuring you that the information that you provide will be treated with confidentiality and shall only be used for the purpose of this academic research. Your fair and impartial feedback will make this research a very successful one. If you need any clarification and information, please use my:

e-mail sarontesfaye49@gmail.com

Mobile +251911452689.

Thank you in advance for your cooperation and timely response.

General Information

Your Participation is Voluntary

Do not write your name on the Questionnaire

I. Demographic Profile of Respondents

Direction: The following statements are about your personal information. Please write the necessary information in the blank space provided and, in the optional items, indicate your answer by putting an “x” mark in the box.

1. Sex Male Female
2. Age (Years) 21 – 30 31 – 40 41 – 50 51 – 60
3. Education Certificate Diploma Degree Masters +
 Other, please specify
4. Department Booking and Documentation
 Custom Clearance
 Logistics Operation
 Freight Handling
 Warehouse
5. Position Director Manager Coordinator Officers

6. Service year 1- 5 6 - 10 Above 10

Part – II Questions related to factors affecting on-time custom clearance of emergency relief goods during disaster

Kindly rate the following statements below as to the extent to which you agreed or disagreed with the statements described under each attribute based on your perception. Using a scale of 1 up to 5, tick in the appropriate box as to the extent of your agreement or disagreement with the statements given. Where: Scale 1= strongly disagreed; 2= disagreed; 3= Neither agreed nor disagreed; 4= agreed; 5= strongly agreed.

Factors	Likert Scale				
	1	2	3	4	5
Documentation					
The accuracy/ completeness of documentation significantly impacts customs clearance.					
Timely submission of required documents facilitates efficient processing.					
Proper labeling or description of relief goods enhances clearance speed.					
Consistent documentation practices reduce delays at customs checkpoints.					
Clear instructions for document preparation are provided to relief organizations.					
Regular training on documentation procedures improves compliance.					
Tariff Classification	1	2	3	4	5
Proper classification of goods based on tariff codes is essential for efficient clearance.					
Knowledge of specific tariff categories expedites the customs process.					
Consistent application of correct tariff codes minimizes delays.					
Regular updates on tariff changes are communicated to relief agencies.					
Staff training on tariff classification enhances accuracy.					
Automated systems for tariff determination improve efficiency.					
Valuation	1	2	3	4	5

Transparent valuation practices ensure a fair assessment of import duties and taxes.					
Consistent valuation methods reduce disputes during clearance.					
Regular audits verify declared values for relief goods.					
Collaboration with relief agencies on valuation processes enhances accuracy.					
Training customs officers on valuation principles improves consistency.					
Real-time valuation tools streamline the process.					
Risk Management	1	2	3	4	5
Effective risk assessment helps identify potential delays and mitigate them.					
Early identification of high-risk shipments expedites clearance.					
Collaboration with other agencies (health, security, etc.) enhances risk assessment.					
Regular risk analysis updates improve response times.					
Staff Competency	1	2	3	4	5
Competent customs staff contribute to timely processing and accurate decisions.					
Ongoing training programs enhance staff knowledge and skills.					
Cross-training customs officers in different areas improves flexibility.					
Performance evaluations identify competency gaps.					
Effective communication skills among staff expedite clearance.					
Staff morale and motivation impact overall efficiency.					
On-time Custom Clearance	1	2	3	4	5
The instructions for clearance procedures are clear and easy to understand.					
The steps involved in the clearance process are straightforward and uncomplicated.					
The time taken for clearance is efficient and meets expectations.					
The security protocols in place during clearance inspire confidence.					
Communication regarding clearance (notice, updates, etc.) is timely and effective.					

Many Thanks for Your Valued Time!!!