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Abstract

The increasing number of crises in recent times has put tremendous pressure on humanitarian organizations and their procurement functions. While striving to streamline supplies for humanitarian operations, procurement functions are often challenged by multiple factors intrinsic to the humanitarian context. How procurement functions can avoid such challenges and improve the efficiency and effectiveness of the procurement process has always been of great interest. As procurement methods are integral parts of the procurement process, this study investigates the application of procurement methods in humanitarian supply chains to explore opportunities for improving the procurement process.

We conducted a case study on World Vision (WV) and its procurement practice to generate in-depth insights for our research questions. Qualitative data was collected from semi-structured interviews with supply chain personnel in national and regional offices in WV. Our interviews explored not only procurement methods and their application but also relevant theories in humanitarian procurement to acquire further contexts. Moreover, data from WV's internal documents and website was also collected to help strengthen and complement our findings.

The main finding of our thesis is the proposed differentiation of procurement methods. Defining the application of procurement methods based on financial thresholds alone overlooks the fact that not all products and services are the same. With the Kraljič portfolio matrix (KPM) as the reference for categorizing products and services, recommended procurement methods for the four quadrants were retrieved. Strategic sourcing and competitive tendering process are found to be the most recommended procurement methods. It is also significant to note that the recommendations of procurement methods for the four quadrants do not always align with the strategies proposed in the literature. Findings generated on the differentiation of procurement methods in our thesis can be referred to by humanitarian organizations to re-design the procurement policy on procurement methods and by supply chain personnel for better practice of applying procurement methods.

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We also want to extend our heartfelt thanks to all the WV staff who generously dedicated their time and shared their experiences during the interviews. Your valuable insights and perspectives have enriched our research and deepened our understanding of the subject matter.

Lastly, we want to express our gratitude to our families and friends for their unwavering support, understanding, and encouragement during this challenging academic journey of ours. And we would like to thank each other for the great collaboration and friendship. Together, we have overcome challenges, supported each other, and maintained a harmonious working relationship

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List of abbreviations

- DFAT– Department of Foreign Affairs and Trade (Australia)
- DFID – Department for International Development (UK)
- DMC – Disaster Management Cycle
- ECHO – European Civil Protection and Humanitarian Aid Operations
- EU – European Union
- HO – Humanitarian organizations
- HSC – Humanitarian supply chains
- IRC – International Rescue Committee
- KPM – Kraljič portfolio matrix
- OCHA – Office for the Coordination of Humanitarian Affairs
- PPM – Purchasing portfolio models
- PSM – Purchasing and supply management
- UN – The United Nations
- UNDRR - The United Nations International Strategy for Disaster Reduction
- UNHCR – The United Nations Refugee Agency
- UNHCR – United Nations High Commissioner for Refugees
- UNICEF – United Nations Children's Fund
- USAID – United States Agency for International Development
- WFP – World Food Programme
- WV – World Vision
- WVI – World Vision International

1. Introduction

1.1. Background

The last two years have been marked by a staggering number of crises. The war in Ukraine has triggered the world's largest and fastest displacement crisis in decades (UNHCR, 2022). Meanwhile, civil wars and climate disasters such as floods and droughts in East Africa have left millions without access to food and primary resources. Adding to the list of challenges, Turkey and Syria were struck by a powerful earthquake on February 6th, 2023, with a magnitude of 7.8, causing extensive damage to buildings and infrastructure in the countries. The ongoing conflicts in various regions are likely to continue disrupting the work of humanitarian actors in 2023, making it harder for aid to reach those in need. In 2022, 340 million people required humanitarian assistance, and 100 million have to flee their homes (IRC, 2022).

Humanitarian organizations (HO) work to eliminate human suffering through disaster relief and development assistance initiatives on a routine basis (Negi, 2022). In 2021, the total value of global humanitarian aid provided was \$31.3 billion, a 2.5% increase from the previous year (Development Initiatives, 2022).

Humanitarian supply chains (HSC) aim at providing the right quantities of needed supply aids to the right end users at the right time and place (Matopoulos et al., 2014). Consequently, the decision-making process regarding procurement becomes crucial, encompassing considerations of what items are procured, their sources, timing, responsible parties, and the methods employed (Matopoulos et al., 2014). In addition, since procurement accounts for 65% of humanitarian organizations' budgets in disaster relief operations (Falasca & Zobel, 2011), it is natural to place significant attention on the procurement process in humanitarian organizations.

However, the procurement function in the humanitarian sector faces unique challenges due to the distinct characteristics and complexities of the humanitarian context (Van Wassenhove & Pedraza Martinez, 2012). Humanitarian organizations must adhere to principles and regulations such as humanity, neutrality, and impartiality (Tomasini & Van Wassenhove, 2009) while ensuring strict ethical guidelines for accountability and transparency (Moshtari et al., 2021). The high

level of uncertainty in terms of demand, supply, and network connectivity in the humanitarian context further adds to the complexity of procurement (Dönmez et al., 2021). Additionally, coordination with multiple actors remains a fundamental weakness in humanitarian operations (Rey, 2001).

While the procurement process entails multiple elements, procurement methods constitute a significant part. Procurement methods are such procedures that the procurement function employs to purchase goods and services (Khakata, 2014). The application of procurement methods has been found to impact the operational performance of government entities (Khakata, 2014).

Given the importance of procurement to humanitarian operations and the potential contributions of procurement methods, further research on how procurement methods can be applied in HSC is necessary.

1.2. Research question

In HSC, procurement is part of a complicated network that involves interactions with donors, beneficiaries and authorities over the world (Schiffing & Hughes, 2017). The volatility of the humanitarian sector further amplifies the complexity that challenges procurement functions. Opportunities of addressing challenges in humanitarian procurement and improving the efficiency and effectiveness of the procurement process should be investigated.

One critical element in the humanitarian procurement process is related to procurement methods. The application of different procurement methods implies different procurement processes. Factors such as time, authority, approaches taken toward suppliers will change accordingly. The application of procurement methods therefore can influence the performance of the procurement process.

However, a thorough analysis of different procurement methods in the HSC seems to be missing. Therefore, in order to investigate the application of procurement methods in the humanitarian context, the authors raised the following research question:

How can procurement methods be applied in humanitarian supply chains?

1.3. Relevance

1.3.1. Practical relevance

We aim to contribute to the enhancement of procurement practices in humanitarian organizations by focusing on a crucial aspect: procurement methods. By generating insights into procurement methods, this thesis will have practical implications for improving the procurement process and ultimately supporting the missions of humanitarian organizations.

This thesis aims to comprehensively investigate various procurement methods and how they can be applied in HSC. By doing so, we seek to understand how procurement functions perceive each procurement method. In addition, potential connections between the implementation of procurement methods and the challenges in the procurement process are investigated to look for opportunities to overcome such challenges. This will help increase the efficiency and effectiveness of procurement activities in humanitarian organizations.

1.3.2. Theoretical relevance

While there has been increased attention toward HSC, there is a dearth of research focusing on procurement within humanitarian organizations, emphasizing the need for greater scholarly interest (Balcik & Ak, 2014). Despite recent studies on the subject, it is noted that this progress does not align adequately with the strategic significance of procurement in the HSC management (Moshtari et al., 2021).

In terms of procurement methods in HSC, while there have been previous studies on procurement methods, the context focused is public procurement. Despite that public procurement and humanitarian procurement share certain similarities, the turbulence and complexity in the humanitarian setting could imply a significant difference when it comes to the application of procurement methods. Therefore, further research on procurement methods with a focus on the humanitarian context would be needed.

Our thesis investigates how procurement methods can be implemented in the humanitarian sector, therefore contributing to the literature on humanitarian procurement and filling the gap in the literature on procurement methods in HSC.

1.4. Thesis structure

The thesis is divided into seven chapters. The first chapter provides the background for this research, theoretical and practical relevance, and the thesis structure. In chapter two, the literature review will be presented to provide an overview of existing relevant theories. We will include discussions on HSC, purchasing and supply management, procurement methods in the humanitarian sector and purchasing portfolio models (PPM). From the literature review, a conceptual framework will be formulated. Chapter three will present the research methodology employed and the measurements taken to ensure the quality of the research. Chapter four introduces the case study's settings and operations. Data analysis and findings are then demonstrated in chapter five. In chapter six, theoretical findings and empirical findings are compared and discussed to answer the research questions. Finally, the research concludes with practical and theoretical implications, limitations and suggestions for future research.

2. Literature Review

2.1. Humanitarian supply chains

2.1.1. Definition of HSC

The supply chain can be defined as the network of upstream and downstream organizations that involves in the different processes and activities through which value is created in the form of products and services in the hands of the end users (Christopher, 2016). In previous studies such as Van Wassenhove (2006) Kovács & Spens (2007) or Santarelli et al. (2015), the two terms “humanitarian logistics (HL)” and “humanitarian supply chains (HSC)” have been used interchangeably. Humanitarian logistics is defined as *“the process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials, as well as related information, from point of origin to point of consumption for the purpose of meeting the end beneficiary’s requirements.”* (Thomas & Mizushima, 2005, p. 60).

According to Jahre et al. (2016), humanitarian logistics is similar to commercial logistics in that it involves efficiency and cost effectiveness in planning, implementing, and control of supplies and information flows from suppliers to end-users. The difference is that humanitarian logistics does not aim for profits and entails logistics preparedness. Logistics preparedness is defined as *“The implementation of processes, structures, and systems connecting local community, national and international actors by designing, planning and training for efficient, effective, and responsive mobilization of material, financial, human, and informational resources when and where needed. This encompasses a range of activities, including needs assessment, procurement, warehousing, transporting and distributing, waste management, and performance measurement for the purpose of alleviating the suffering of vulnerable people.”* (Jahre et al., 2016, p. 18).

The common goal in any supply chain of delivering the right goods, at the right time, to the right place and to the right people also applies to HSC (Van Wassenhove, 2006). HSC aim at providing the right quantities of needed supplies to the right end users at the right time and place (Seifert et al., 2018), alleviating the

suffering of affected people to the greatest extent possible (Thomas & Kopczak, 2005). Balcik et al. (2010) suggests a basic structure of HSC.

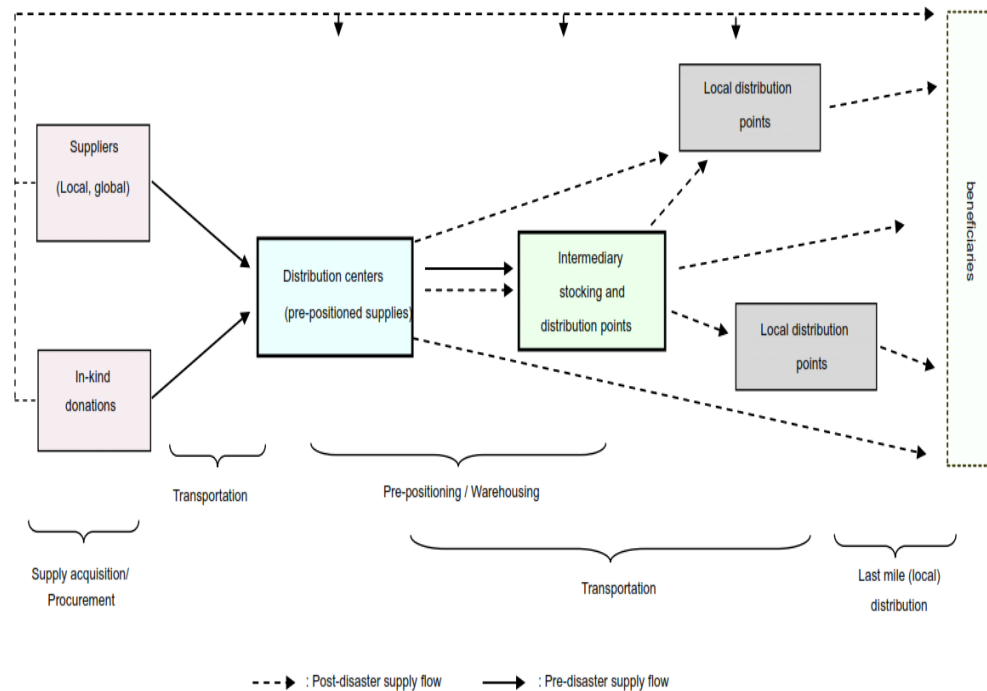


Figure 2.1. Structure of the HSC (adapted from Balcik et al., 2010)

According to Balcik et al. (2010), supplies for humanitarian operations can be purchased from suppliers or acquired through in-kind donations. Supplies acquired at pre-disaster are pre-positioned in distribution centers which are usually located near airports or seaports. Humanitarian organizations may store pre-positioned supplies at different levels such as global, regional or in-country. Finally, supplies can be delivered to beneficiaries from distribution centers, intermediary stocking and distribution points or local distribution points.

Disaster relief operations constitute a significant portion of humanitarian logistics (Duran et al., 2013). The United Nations International Strategy for Disaster Reduction (UNDRR) defines a disaster as “*a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts*” (UNDRR, 2016). Duran et al. (2013) suggest classifying disasters based on three dimensions: source, location and speed of onset.

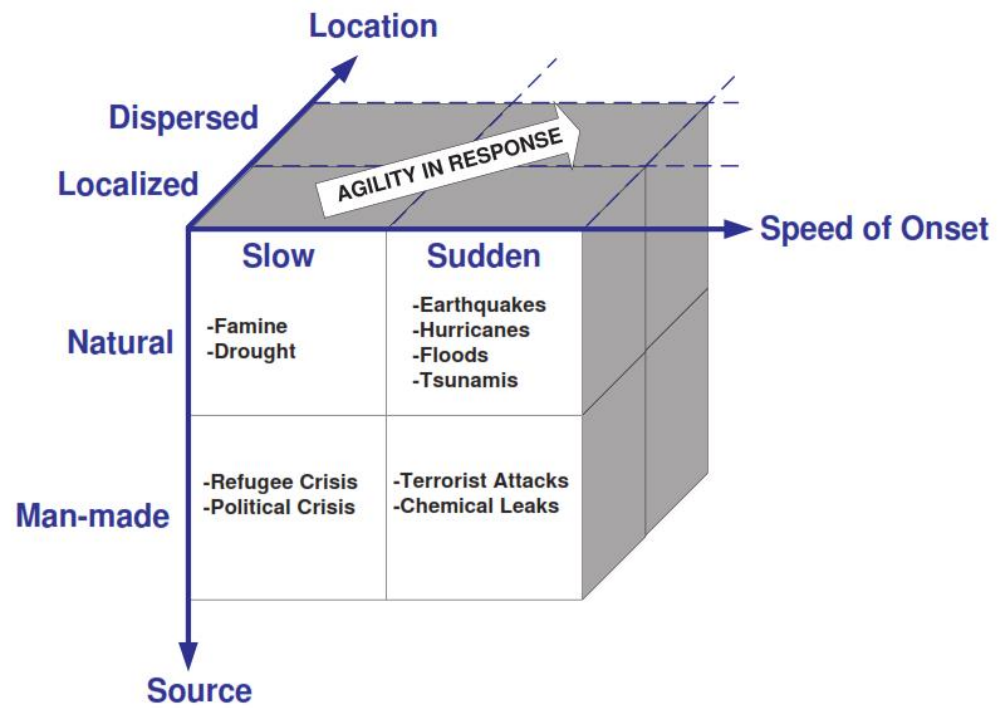


Figure 2.2. Classification of disasters (adapted from Duran et al., 2013)

2.1.2. Classification of HSC

Humanitarian organizations have begun to realize the importance of their engagement not only during disasters but also between disasters. They are paying more attention to optimizing their performance by being better prepared (Van Wassenhove, 2006). Jahre & Heigh (2008) suggest that not one but three types of supply chains are often run by humanitarian organizations.

The Permanent Supply Chain entails the standardization of processes and activities in order to increase responsiveness in highly volatile environments (Jahre & Heigh, 2008). Various elements are incorporated in The Permanent Supply Chain. Firstly, in terms of infrastructure, offices and warehouses for storing pre-positioned inventories and organizing the procurement process are established. Secondly, process development which is concerned with designing roles, responsibilities, and actions during the disaster response and materials for staff training is conducted. Next, adequate staff for response operations is ensured. Finally, necessary systems to coordinate resources and communicate with donors are set up.

Once a disaster strikes, the emergency supply chain is set up. The Emergency Supply Chain is activated in response to sudden-onset crises, such as natural

disasters or conflicts, where urgent and immediate assistance is required (Yáñez-Sandivari et al., 2021). This supply chain type prioritizes speed, flexibility, and responsiveness to rapidly deploy essential goods and services to affected populations. The Emergency Supply Chain is crucial in saving lives, alleviating suffering, and supporting the recovery and reconstruction process (Bealt & Mansouri, 2017). Quick mobilization, efficient logistics, and effective coordination among various stakeholders are key factors for emergency supply chain management's success.

The Project Supply Chain is usually set up in the aftermath of a disaster and it involves long-term rehabilitation (Kovács & Spens, 2007; Sodhi & Knuckles, 2021). This type of supply chain often requires local presence and market understanding from humanitarian organizations (Jahre & Heigh, 2008).

Certain activities taken in the three types of HSC suggested by Jahre & Heigh (2008) are relevant to different risk strategies in the four phases of disaster management discussed in Tay et al. (2022). The Permanent Supply Chain corresponds to the preparedness phase which aims to build capacity to increase responsiveness. According to Tay et al. (2022), in the preparedness phase, one risk mitigation strategy is to ensure that stakeholders should understand their roles and responsibilities so that they can respond effectively in the shortest possible time when a disaster happens. The Emergency Supply Chain is set up in the response phase focusing on life-saving missions. Uncertainty in demand is mentioned in both Jahre & Heigh (2008) and Tay et al. (2022) as a major concern in this phase. However, while Jahre & Heigh (2008) suggest postponement of procurement and labeling to increase flexibility, Tay et al. (2022) recommend a flexible supply base. Lastly, the Project Supply Chain which entails recovery efforts after the disaster and preparation for future disasters is associated with the recovery and mitigation phase. Coordination and collaboration among relevant stakeholders are emphasized to increase understanding of the local vulnerabilities, which help humanitarian organizations appropriately navigate through rebuilding and rehabilitation operations (Tay et al., 2022).

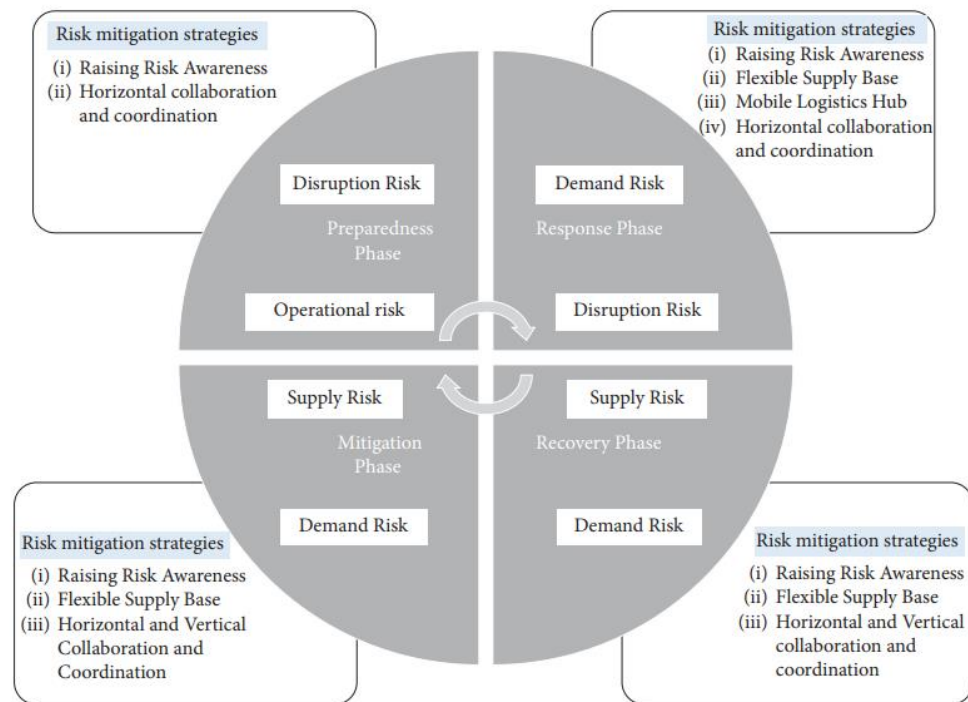


Figure 2.3. Risk mitigating strategies in DMC phases (adapted from Tay et al., 2022)

In addition, these three types of HSC are also relevant to the two types of humanitarian activities which are emergency relief activities and development aid activities. Emergency relief activities focus on providing relief items to minimize the immediate impacts of disasters to people’s health and lives (Beamon & Balcik, 2008). During emergency relief activities, the Emergency Supply Chain is activated. Development aid activities refer to longer-term aid which aims to enhance communities’ self-sufficiency and sustainability (Beamon & Balcik, 2008). Development aid activities are associated with the Project Supply Chain since development aid interventions can incorporate elements of resilience-building and disaster risk reduction to ensure that communities are better prepared to cope with future crises (Thévenaz & Resodihardjo, 2010).

While development aid and emergency relief serve different purposes, they are not mutually exclusive. In fact, they can complement each other in addressing the diverse needs of vulnerable populations. A balanced and integrated approach is crucial for effective humanitarian interventions, considering both immediate needs and long-term development goals. This requires close collaboration and coordination between humanitarian actors, along with flexible funding mechanisms that allow for a seamless transition between relief and development phases (Mosel

& Levine, 2014). Aligning development aid and emergency relief helps build resilience, promotes sustainable development, and improves the overall well-being of vulnerable populations.

2.1.3. Importance of efficiency and effectiveness

Greater effectiveness and efficiency in humanitarian logistics operations are imperative since logistics activities account for around 60-80 percent of the total cost in humanitarian operations (Lu et al., 2016). *“Efficiency is concerned with cost and process management (i.e. the efficient conversion of inputs to outputs within budget and on schedule) and wise use of human, financial and natural capital”* (Crawford & Bryce, 2003, p. 366). However, the definition of efficiency in the humanitarian context goes beyond productivity and includes planning, accountability and quality (Haavisto & Goentzel, 2015). With regards to effectiveness, humanitarian organizations have been criticized for their lack of aid effectiveness which entails positive long-term impacts on societies receiving aids. According to Haavisto & Goentzel (2015), aid effectiveness can be supported by flexibility, quality and sustainability. Program effectiveness can also be assisted by cost and time efficiency (Haavisto & Goentzel, 2015).

However, humanitarian organizations have faced significant challenges in responding to crises due to a lack of efficient and effective supply chains (Dolinskaya et al., 2018; Shen et al., 2022). For example, during the 2014 Ebola outbreak in West Africa, humanitarian organizations struggled to provide adequate aid due to supply chain inefficiencies (Miller et al., 2018). Similarly, during COVID-19 pandemic, humanitarian organizations met with various difficulties during the pandemic, including disruptions in their supply chains due to policies that blocked the movement of people and materials, shortages of personal protective equipment (PPE) and critical drugs, and a sick workforce that led to the closure of operations and further disruptions in the supply chain (Kovács & Falagara Sigala, 2021).

Given these challenges, further research is needed to develop and implement best practices for HSC management, focusing on building resilience, innovation, and collaboration among stakeholders (Kovács & Spens, 2007).

2.1.4. Challenges and complexities

HSC are complex systems that face unique challenges due to their dynamic and unpredictable nature (Abidi et al., 2020). Humanitarian organizations must often deliver aids to remote and difficult-to-reach areas, while also responding quickly to provide aids to affected populations (Halizahari et al., 2021). Additionally, HSC must navigate a range of logistical constraints, political issues, and sociocultural barriers that can hinder their effectiveness (Negi, 2022).

One of the key challenges facing HSC is the lack of infrastructure, resources, and information in crisis-affected areas (Masoud, 2022). Poor infrastructure, limited transportation options, and inadequate communication networks can all impact the ability of humanitarian organizations to deliver aid effectively (Masoud, 2022). In addition, humanitarian organizations often face difficulties in accessing and procuring essential items due to trade restrictions, bureaucratic hurdles, and limited supply chain visibility (Kovács & Falagara Sigala, 2021).

Another challenge facing HSC is the need to balance responsiveness with efficiency and cost-effectiveness (Kovács & Falagara Sigala, 2021). Humanitarian organizations must be able to respond quickly to changing needs, but must also ensure that aid delivery is coordinated, cost-effective, and transparent (Kovács & Falagara Sigala, 2021).

In light of these challenges, it is crucial for humanitarian organizations to have robust contingency plans in place, be able to mobilize resources quickly, and have strong communication and coordination mechanisms (Negi, 2022). This involves investing in technology and infrastructure to improve supply chain visibility and coordination, engaging with local stakeholders to build trust and capacity, and leveraging partnerships and cross-sector collaboration to increase supply chain resilience in disaster-affected areas. Kovács & Falagara Sigala (2021) suggest that more flexibility is needed in supply chains, and that agility, adaptability, and alignment are essential principles for managing supply chain disruptions. By addressing the challenges and complexities of HSC, aid delivery will become more effective, efficient, and sustainable; and will ultimately improve outcomes for affected populations.

2.2. Purchasing and supply management in HSC

2.2.1. Definition of Purchasing and supply management

Purchasing and supply management (PSM) has been increasingly recognized for its vital role in any organization. This is mostly due to the increasing trends of specialization and outsourcing (Gadde & Wynstra, 2017).

PSM is defined as the discipline that concerns the management of external products, services, capabilities, and knowledge that are essential for running, maintaining, and managing primary and secondary activities of an organization at the most favorable conditions (Van Weele, 2010). Bäckstrand et al. (2019) uses the term PSM to represent purchasing, procurement, buying, sourcing, and supply management. Moreover, “*terms such as purchasing, procurement, materiel, materials management, logistics, sourcing, supply management, and supply chain management are used almost interchangeably*” (Johnson et al., 2011, p. 4).

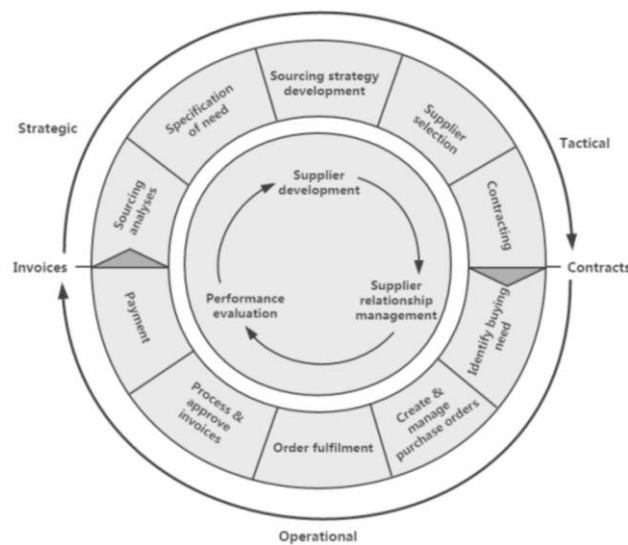


Figure 2.4. The PSM process wheel (adapted from Van Raaij, 2016)

Van Raaij (2016) demonstrates a wide range of activities in the PSM process at the strategic, tactical, and operational levels through the PSM process wheel, arguing against those who view purchasing as a merely operational process, such as placement and management of orders, as selection of suppliers, or as tender opening. Such opinions “*do not do justice to the scope of purchasing*” (Van Raaij, 2016, p. 13).

Three strategic roles of PSM have been identified: the rationalization role, the development role and the structuring role (Axelsson and Hakansson, 1984, cited in Gadde & Wynstra, 2017). The rationalization role pertains to when PSM undertakes a collection of operational activities to minimize cost and improve the performance and productivity of purchasing. As the cost of purchased products often accounts for two thirds of the total costs of goods sold (Gadde & Wynstra, 2017), the potential to cut cost lies in the hands of PSM function. Increasing attention to the cost structures of organizations and the need to minimize cost has formed the rationalization role for PSM. The development role of PSM originates from the recognition that suppliers are valuable resource providers for a buying firm. This role has become more significant as the increasing level of specialization makes it difficult for the buying firm to develop its own capability in every related area of technology. Under this circumstance, suppliers with intensive expertise can support buyer's technological development. Finally, PSM also plays the structuring role in the supply market. The structure of the supply market will be influenced by the purchasing behaviors of the buying firm. This may entail strengthening the positions of specific suppliers while weakening others'. (Gadde & Wynstra, 2017).

2.2.2. Purchasing and supply management in HSC

Decisions in sourcing and procurement can be decisive to the effectiveness and efficiency of emergency response operations in humanitarian relief chains (Ali Torabi et al., 2018; Aghajani & Torabi, 2019). In such cases that humanitarian organizations cannot procure efficiently and effectively, they may fail to meet the needs of people in the affected areas (Moshtari et al., 2021).

Humanitarian procurement is often done by organizations that comply with public procurement regulations (Haavisto & Kovács, 2015). As a result, humanitarian procurement is subject to the goals established in public procurement which are commercial goals, regulatory goals, and socioeconomic goals (Patrucco et al., 2017). According to Patrucco et al. (2017), commercial goals cover the market aspects of public procurement, including effectiveness and efficiency. Regulatory goals refer to compliance requirements in public procurement towards internal policies, transparency, and external regulations. Finally, socioeconomic goals are

associated with promoting competition, fairness, and economies and following environmental regulations.

Four primary activities in humanitarian procurement are identified from previous studies, including (i) spend analysis, (ii) sourcing strategy, (iii) supplier selection, and (iv) contract design (Moshtari et al., 2021).

Spend analysis entails collecting procurement information on suppliers, commodity and spend amount with the aim of identifying opportunities for strategic sourcing and eventually for cost reduction (Pandit & Marmanis, 2008). Humanitarian organizations aim to achieve a balance between speed and cost in their supply chains (Tomasini & Van Wassenhove, 2009). As a result, spend analysis assists humanitarian organizations with one of their top priorities – cost savings.

Sourcing strategy in humanitarian organizations depends on the characteristics of the disaster; the type of goods and services; the type, capacity and targets of the organization; and the funding status (Moshtari et al., 2021). Sourcing strategy in humanitarian procurement often revolves around pre-disaster vs post-disaster procurement (Ali Torabi et al., 2018); local sourcing vs global sourcing (Celentano et al., 2019; Matopoulos et al., 2014); and single sourcing vs multiple sourcing (Namdar et al., 2018).

Supplier selection is an important part for humanitarian organizations when making decisions related to procurement (Olanrewaju et al., 2020). It is interesting to see that different contexts are taken into consideration when supplier selection in humanitarian organizations is studied. Venkatesh et al. (2019) identify six significant criteria for supplier selection in development aid procurement which consist of humanitarian logistics performance, legal and governance, sustainable operations, responsiveness, partnership strategy, and operational factors (supply chain relevance). Meanwhile, Falasca & Zobel (2011) focus on supplier selection in disaster relief procurement and proposes a two-stage model to support procurement decision-making. Balcik & Ak (2014) develop a stochastic programming model that helps with selecting supply partners for framework agreements whilst others study supplier selection from the bidding perspective (Shokr & Torabi, 2017; Aghajani & Torabi, 2019).

Humanitarian organizations often struggle with balancing between resource shortage and resource waste and establishing cooperative purchasing contracts could be the solution (Ghavamifar et al., 2022). Contracts can include payment terms such as a fixed price of the items or conditions of a price adjustment and nonpayment terms such as the length of the contract, delivery time, delivery place, and frequency (Moshtari et al., 2021). Different types of contracts often discussed in humanitarian procurement are option contracts, quantity flexible contracts, and framework agreements (Ghavamifar et al., 2022).

2.2.3. Classification of humanitarian procurement

There are two main types of humanitarian procurement: procurement for development aid and procurement for emergency relief (Falasca & Zobel, 2011). While procurement for development aid can be associated with the project supply chain suggested by Jahre & Heigh (2008), procurement for emergency relief supports the emergency supply chain. The level of engagement in the two types of procurement differs among humanitarian organizations, depending on whether they pursue relief activities, development activities, or both.

Procurement for development aid focuses on social and economic development in the long run, hence the delivery of goods and services can follow normal lead times, providing humanitarian organizations with adequate time to set up tender procedures as well as proper evaluation process (Falasca & Zobel, 2011). According to Moshtari et al. (2021), demand in development aid operations follows a predictable pattern which enables planning in the long term, reduced costs, and less time pressure during the procurement process.

On the contrary, humanitarian organizations often meet with difficulties quantifying demand in emergency situations because it depends on disasters whose magnitude, location, and timing can be extremely hard to predict (Falasca & Zobel, 2011). Moreover, procurement for emergency relief can be more challenging when some customized supplies might be needed (Jahre & Heigh, 2008). The following procurement process is often followed in emergencies. Usually, within the first 24 hours after a disaster strikes, an assessment team is sent to the affected area to estimate needs based on a roughly estimated number of people in need that may change wildly later when there is better visibility about the situation (A. Thomas,

2003). Unlike procurement for development aid which has more data available and therefore more precise need identification, needs assessments in procurement for emergency relief are only approximate and temporary (Moshtari et al., 2021). Meanwhile, pre-positioned stock of the organization is also assessed so as to determine which supplies are to be procured further (Falasca & Zobel, 2011). Information from the assessment process will finally be translated into supply requirements (Beamon & Balcik, 2008). Procurement from local suppliers is often prioritized under emergencies as it enables more timely response to local needs compared with global sourcing which usually has longer lead time (Schiffing & Hughes, 2017). Since pre-positioned stock or inventories of suppliers may not suffice for relief operations (Ertem et al., 2010) and procurement of items that need customizing should be postponed until demand is known (Jahre & Heigh, 2008), procurement for emergency relief has an important role to play.

2.2.4. Supplier management

Appropriate relationships to establish with suppliers have been discussed in Gadde & Snehota (2019). While the traditional approach is that buying firms should keep suppliers at arm's-length and avoid depending on individual suppliers, significant returns from close relationships and partnerships with suppliers have been increasingly recognized (Gadde & Snehota, 2019). Collaboration with suppliers create values such as cost saving, optimizing supply chain, and innovation (Bygballe & Persson, 2015).

Building relationships with suppliers in HSC can lead to better coordination, effectiveness, and efficiency in delivering humanitarian assistance (McLachlin & Larson, 2011). Partnerships and collaborative efforts in the field of humanitarian logistics can be achieved by establishing agreements designed to be activated when the need arises, clear communication channels, and maintaining ethical standards (McLachlin & Larson, 2011).

Nevertheless, it is important to note that the literature on supplier management in humanitarian procurement is still limited. Existing research has rarely delved into this aspect (Bealt et al., 2016). There is a lack of literature exploring how humanitarian organizations could work with suppliers in order to have their supply chains improved (Jahre, 2017).

2.2.5. Procurement challenges in HSC

PSM differs across sectors and industries. Due to the uncertainty of the humanitarian operations and the complexity of humanitarian context, procurement in the humanitarian sector has distinct characteristics compared to procurement in the commercial sector (Moshtari et al., 2021). These differences create challenges that are unique to the humanitarian sectors (Van Wassenhove & Pedraza Martinez, 2012).

Firstly, as humanitarian organizations are subject to public procurement regulations, they have their procurement activities bound to principles and regulations. Tomasini & Van Wassenhove (2009) indicate that humanitarian organizations must respect three main principles: humanity, neutrality, and impartiality to make sure that they do not discriminate against, or associate themselves with, any group. Humanitarian organizations must respect strict ethical guidelines to ensure accountability, equality, non-discrimination, and transparency (Moshtari et al., 2021). Procurement in humanitarian organizations is also directed by the principle of best value for money which urges them to find the perfect balance point between economy, efficiency, effectiveness and equity (Jackson, 2012). Nonetheless, whilst endeavoring to satisfy different requirements from their stakeholders, humanitarian operations may eventually become cumbersome and bureaucratic (Moshtari et al., 2021).

In addition, the high level of uncertainty is intrinsic to the humanitarian context, making humanitarian procurement even more challenging. Dönmez et al. (2021) identify three main sources of uncertainty: (i) in terms of demand, (ii) in terms of supply, and (iii) in terms of network connectivity.

Uncertainty in demand occurs due to the unpredictability of disasters which makes the amount of support needed and the location of people affected almost always unknown in advance. Uncertainty in demand may require prepositioning to ensure availability. However, it is not always possible to pre-position supplies because of budget constraints (Van Wassenhove & Pedraza Martinez, 2012) or the risk of overstocking (Acar & Kaya, 2022).

Supply uncertainty can be associated with donors. Donors' decisions are strongly influenced by personal motives, religious beliefs, political agendas, and media exposure; hence many disaster relief operations may end up with no fund (Tomasini & Van Wassenhove, 2009). In addition, while humanitarian organizations have donations as one source of supply, they have no control over donated items in terms of product type, quantity and timing, all of which depend on donors' decisions (Dönmez et al., 2021). Supply uncertainty can also relate to storage facilities of pre-positioned stock (Dönmez et al., 2021). Storage facilities are often placed near disaster-prone areas, which can pose a threat to pre-positioned stock if such premises are affected by disasters.

Uncertainty in network connectivity also results from the fact that disasters are unpredictable and so is the level of disruption in the infrastructure network (Dönmez et al., 2021).

Last but not least, the procurement function in HSC is required to obtain a high level of coordination with multiple actors. According to Rey (2001), coordination remains to be one of the fundamental weaknesses of humanitarian operations. The reasons behind coordination challenges in relief operations include the chaotic nature of the relief context, the great number and variety of stakeholders, and the lack of adequate resources (Balcik et al., 2010). Balcik et al. (2010) suggest the procurement function to engage in strategic alliances with suppliers to coordinate procurement activities. Wankmüller & Reiner (2021) emphasize on the importance of procurement coordination between different humanitarian organizations as lack of coordination between them can lead to increased costs, longer lead times and delayed relief operations.

Procurement challenges in HSC are summarized as below.

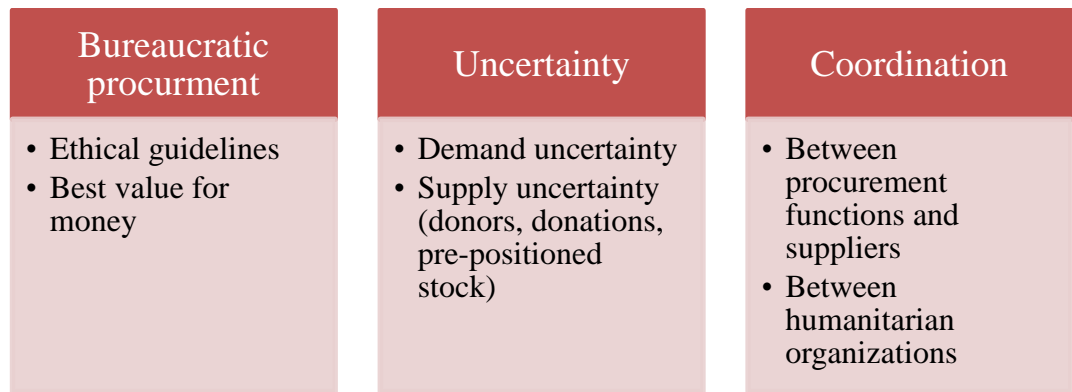


Figure 2.5. Procurement challenges in HSC (by authors)

2.3. Procurement methods in HSC

Procurement methods are defined as procedures employed by procuring entities to acquire products and services (Khakata, 2014). In the humanitarian context, procurement functions streamline supplies for humanitarian operations through procurement for pre-positioned stock, transactional sourcing and framework agreements (Moshtari et al., 2021). This section discusses different procurement methods applied in humanitarian organizations.

2.3.1. Procurement for pre-positioned stock

Procurement for pre-positioned stock is defined as the process of strategically locating relief items to prepare for disasters (Richardson et al., 2016). Humanitarian organizations often use pre-positioning to stock relief supplies in strategic locations dispersed around areas that are highly subject to disasters during the pre-disaster phase (Ali Torabi et al., 2018). Humanitarian organizations pre-position relief items in order to be able to help people in the affected areas within the shortest time and in the most efficient way (Richardson et al., 2016).

Nonetheless, effective pre-positioning can be difficult to achieve given the uncertainty of disasters (Rawls & Turnquist, 2010). If there are no disasters striking or if the pre-positioned relief items have low demand, it is likely they will be kept in warehouses until their expiry time and will eventually be disposed, which causes waste and leads to financial loss (Ali Torabi et al., 2018). Besides, it is not always possible to pre-position supplies because of budget constraints (Van Wassenhove & Pedraza Martinez, 2012). As a result, to mitigate the risks related to procurement for pre-positioned stock, and to be more flexible and effective when it comes to

responding to the demand uncertainty caused by disasters, humanitarian organizations are advised to use a combination of procurement for pre-positioned stock and established supply contracts with suppliers (Ali Torabi et al., 2018).

2.3.2. *Strategic sourcing*

In the aftermath of a disaster, humanitarian organizations often struggle with post-disaster procurement to meet the immediate needs quickly and efficiently. This might be because the relief items are not available in adequate amounts on the market (Balcik & Ak, 2014). However, coordination between humanitarian organizations and suppliers through long-term contracts at pre-disaster can help simplify the procurement procedures, reduce the cost of inventory, enhance response capacity, and ensure the availability and timely delivery of needed items after a disaster strikes (Aghajani et al., 2023). Therefore, humanitarian organizations are increasingly setting up supply contracts during the stage of disaster preparedness (Balcik & Ak, 2014).

Among different types of supply contracts, framework agreements are frequently chosen by humanitarian organizations for purchasing relief items (Ali Torabi et al., 2018). Such agreements include product specification, prices and delivery terms, reserved capacity, packaging and penalty fees (Schulz & Blecken, 2010). As a result, humanitarian organizations can shorten response time as all important terms have been specified. Based on the conditions and needs at the phrase of post-disaster, suppliers can deliver relief items directly to the affected area or to other logistical locations once an order is placed by humanitarian organizations (Balcik & Ak, 2014). In addition, framework agreements could be regarded as a form of stock prepositioning with “virtual stocks” as the delivery of these items is secured by suppliers (Schulz, 2009). Framework agreements enable humanitarian organizations to reserve critical relief items for emergency response, which would not be economical when pre-positioning such items in warehouses in large quantities (Balcik & Ak, 2014).

In spite of their advantages, frameworks agreements can sometimes be challenging for humanitarian organizations to establish given the intricacy and uncertainty in the humanitarian setting. To be more specific, it is not advisable that humanitarian organizations enter binding procurement commitments in a highly unpredictable

environment. As the post-disaster demand is unknown, there can be circumstances when framework agreements are not conducted and the penalty for not placing orders as agreed can be high (Balcik & Ak, 2014). In addition, Shao et al. (2023) found that the probability of disaster occurrence plays an important role in the decision-making process regarding framework agreements. A higher probability of disaster occurrence will encourage the use of framework agreements compared with simply conducting post-disaster procurement as usual.

2.3.3. Transactional sourcing

In contrast to strategic sourcing, transactional sourcing is defined as aggressive sourcing where procurement functions constantly look for new suppliers and aim to procure products and services under the best conditions possible with no intention of further involvement beyond the current transaction (Lindgreen et al., 2013). This section presents the literature on different transactional procurement methods in the humanitarian context: Open Tender, Restricted Tender and Single Sourcing.

2.3.3.1. Open Tender

Tendering is of great essence to the public procurement function. According to Van Weele (2018), public tendering is comprised of conducting research on the supply market; developing sourcing strategies depending on the requirements for delivered goods and services; choosing the best fit procurement procedure; preparing documents for tendering; evaluating supplier information and supplier offers; contracting; finalizing the contract; and following up the tender process.

The EU procurement directives define open procedure in public procurement as such procedure that any economic party interested may submit a bid in response to a public tender (European Union, 2014). Norwegian Red Cross explains that “tender procedures are open whenever all interested suppliers may submit a bid after the publication of a tender notice” (Norwegian Red Cross, 2021). The tender notice needs to include the regulations regarding the submission of tenders, supplier selection and award criteria, and technical requirements. Open tenders shall be publicly advertised to invite interested suppliers to request for the tendering documents to bid.

Advantages of open tender are numerous. Open tender enables potential suppliers that are interested in the tender to participate and have an equal access and fair opportunity to bid for providing required goods, services or works (Norwegian Red Cross, 2021). Furthermore, open tender is generally considered to ensure the best value for money for public agencies regarding both price and quality of the purchased products, services and works (Jones, 2013). This is mostly due to the fact that open tender has a positive impact on the competition level of the supply side (Ochrana & Pavel, 2013). Lastly, open tender is expected to be the most transparent type of tender procedures as publishing the tendering process enables stakeholders to keep track of the decision-making process of the procurement function (Bauhr et al., 2020).

However, open tender procedure often comes with higher cost for organizations. The public sector generally has to incur the expense of additional resources from the employment of administratively expensive supplier selection procedures like open tender (Lian & Laing, 2004). In addition, open tender tends to be more time consuming compared with other types of procedures. For Norwegian Red Cross, locally and internationally open tenders require 10 working days and 20 working days for advertisement respectively while none is required for sole sourcing or restricted tender (Norwegian Red Cross, 2021). Another reason is that the amount of documentation required for open tender is tremendous, which translates to the massive amount of time needed to work on the supplier selection process.

2.3.3.2. Restricted tender

In restricted tender, any interested party shall provide necessary information for the qualitative selection which is required by the procurement function in order to compete for delivering products and services (European Union, 2014).

Volker & Lauche (2008) point out that restricted tender encompasses different rounds of selection procedures. The first round of selection is to investigate the financial, organizational, and experience aspects of suppliers. In the second round, the procurement function shall decide the structure of the procurement and select the most suitable suppliers accordingly. The importance weights of different criteria can eventually influence the structure of the procedure.

According to Norwegian Red Cross (2021), tender procedures are restricted when pre-qualified and registered suppliers are invited to submit a tender for the contract award. Selection of suppliers invited to the tendering process must be conducted in a transparent and equal manner.

Procedures under the restricted tender require procurement staff to have a sound judgement and professional expertise to decide and invite an appropriate number of suppliers, with proper profiles and capacity, who can satisfy the tender requirements (Norwegian Red Cross, 2021).

2.3.3.3. *Single sourcing*

Single sourcing is conducted when there is no competition on the marketplace for a logistic requisition, for example when the products or services requested can only be provided by one suppliers (Norwegian Red Cross, 2021). Under such circumstances, an offer from a single supplier will be selected for a procurement action.

Single sourcing firstly allows humanitarian organizations to engage in a long term partnership with suppliers and therefore ensures higher quality for purchased goods and services (Herlin & Pazirandeh, 2012). Moreover, single sourcing would serve humanitarian organizations best under emergency situations. In emergency relief operations, the process of competitive tendering and contract review shall be waived and single sourcing can be conducted as the primary objective of the procurement function now becomes lifesaving (Moshtari et al., 2021).

However, humanitarian organizations may intentionally avoid proceeding with single sourcing. This is because procurement in humanitarian organizations not only aims to secure products and services needed for humanitarian operations but also serves as a policy tool to offer business opportunities for small and medium-sized companies and the local economy, reduce the unemployment rate, facilitate innovation, and stimulate market sustainability (Grandia & Meehan, 2017). Providing equal business opportunities to different suppliers is therefore one of the priorities for humanitarian organizations. Additionally, as humanitarian organizations are expected to be neutral, being associated with a single supplier might not be ideal for them. Finally, humanitarian organizations tend to avoid being

dependent on one single supplier to mitigate the supply risks when such supplier fails to meet the agreed terms due to disruptive events (Herlin & Pazirandeh, 2012).

2.4. Purchasing portfolio models

2.4.1. Introduction to PSM

To enhance the operational efficiency of any organization in handling procurement activities, it is crucial to recognize that not all purchased materials should be handled in the same way (Gelderman & Van Weele, 2003). The differentiation of these purchases is required (Gelderman & Van Weele, 2003).

The concept of PPM plays a critical role in procurement and supply chain management, enabling organizations to categorize purchased goods based on their distinct characteristics, understand their procurement portfolio and facilitate the allocation of resources in an efficient and effective manner (Hesping & Schiele, 2016).

There are two types of classifications for PPM: product-based classification (Kraljič, 1983; Olsen & Ellram, 1997; Hilletofth, 2012; Drake et al., 2013; Lv et al., 2021) and relationship-based classification (Svensson, 2004; Rezaei et al., 2015; Lajimi & Majidi, 2021). Product-based models categorize purchased items based on importance of purchase, complexity of supply market, leanness, and agility (Ekström et al., 2020). Relationship-based classifications focus on factors such as capability and willingness, along with other criteries such as the level of collaboration, and strategic importance of the supplier (Ekström et al., 2020; Lajimi & Majidi, 2021).

One widely recognized and extensively used model for purchasing portfolio classification is the Kraljič portfolio matrix (KPM), developed by Kraljič in 1983 (Hesping & Schiele, 2016). Kraljič introduced the first portfolio matrix identifying purchases based on two dimensions: profit impact and supply risk (Kraljič, 1983). The profit impact dimension in KPM assesses the significance of each item in terms of its purchased volume, proportion to the total purchase cost, and overall impact on the organization's products or financial performance. This dimension considers factors such as financial contribution, cost structure, revenue potential, and the overall influence of the item on the organization's performance (Kraljič, 1983).

The second dimension, supply risk, evaluates the level of risk associated with the availability of resources, number of suppliers, competition in demand, make-or-buy decisions, storage risks, and the presence of alternative options. This assessment helps identify potential bottlenecks and vulnerabilities in the procurement process (Kraljič, 1983).

Based on the combination of profit impact and supply risk, KPM categorizes purchased goods into four main categories: leverage, strategic, bottleneck, and non-critical purchases (Kraljič, 1983).

Leverage items have a high profit impact but a low supply risk, representing commodities with well-established markets and numerous suppliers. Organizations can leverage their purchasing power to negotiate favorable terms and achieve cost savings (Kraljič, 1983).

Strategic items have both a high profit impact and a high supply risk. They play a critical role in the organization's competitive advantage and require close collaboration with suppliers. Strategic procurement decisions focus on developing long-term relationships, ensuring supply continuity, and maximizing value creation (Kraljič, 1983).

Bottleneck items have a low profit impact but a high supply risk, often due to limited availability or dependence on specific suppliers. Managing supply risks associated with bottleneck items is crucial to avoid disruptions in the overall supply chain. Effective risk management strategies such as supplier diversification, contingency planning, and strategic sourcing can help mitigate these risks (Kraljič, 1983).

Non-critical items have both a low profit impact and a low supply risk. They represent low-value goods or services that do not significantly impact the organization's operations or profitability. Efficient management of non-critical items can still contribute to overall procurement efficiency (Kraljič, 1983).

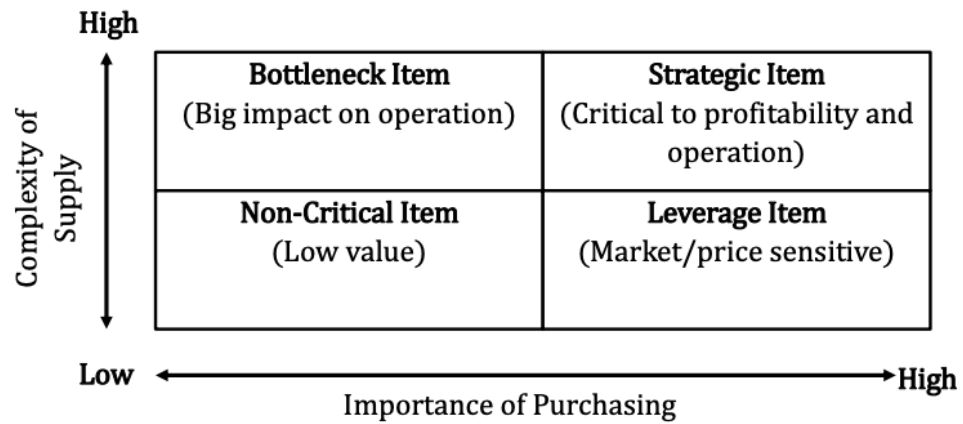


Figure 2.6. Purchasing classification (adapted from Kraljič, 1983)

KPM has gained significant recognition as a diagnostic and prescriptive tool for procurement (Jahre (2017); Montgomery et al. (2018)). Its application extends to various domains, including public procurement (Padhi et al., 2012), construction (Ferreira et al., 2015), humanitarian procurement (Bhusiri et al., 2021a), manufacturing (Lee & Drake, 2010), supplier selection analysis (de Boer et al., 2001).

2.4.2. Purchasing Portfolio Models for HSC

In HSC, PPM also play an important role since better categorization would improve visualization of purchases, resulting in a more precise application of strategies and policies to mitigate supply risks (Bhusiri et al., 2021). The concept of KPM proves to be relevant even in the humanitarian context as it remains to be the main reference for many humanitarian purchasing matrices for both the emergency relief context (Lamenza et al., 2019) and for development aid programs (Bhusiri et al., 2021).

However, according to Bhusiri et al. (2021) it is noted that the original KPM was primarily intended for commercial use. This model involved analyzing and categorizing purchased commodities and their suppliers based on factors or dimensions that would enable businesses to gain a competitive edge. However, when it comes to humanitarian organizations operating as a not-for-profit entity, it is deemed unsuitable to consider the impact of purchased commodities on the

organization's profit. An updated KPM for humanitarian context was developed by Bhusiri et al. (2021).

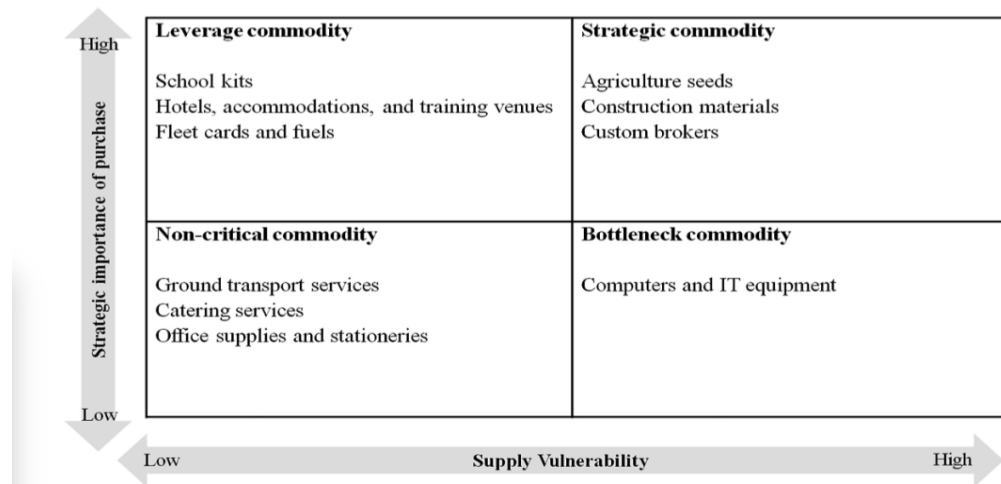


Figure 2.7. The aid organization's PPM (adapted from Bhusiri et al., 2021)

Lamenza et al. (2019) highlight that KPM fails to adequately account for the distinctive features of humanitarian operations. These characteristics include the interconnectedness of products, the occurrence of sudden-onset disasters, and the requirement for swift responses. To address these shortcomings, the researchers propose the Humanitarian Purchasing matrix categorizing relief items into four distinct groups: non-critical, leverage, strategic, and bottleneck. The classification of these relief items is based on 13 criteria organized under three primary factors: the complexity of the supply market, the significance of the procurement, and the financial implications involved.

		Importance of Purchasing			
		Criticality			
		High		Low	
		Financial Impact		Financial Impact	
		High	Low	High	Low
Complexity of Supply Market (Risk)	High	Strategic	Strategic	Bottleneck	Bottleneck
	Low	Leverage	Leverage	Leverage	Non-critical

Figure 2.8. Humanitarian Purchasing Matrix (adapted from Lamenza et al., 2019)

Pagell et al. (2010) point out that one of the primary objectives of the PPM in HSC management is to determine the appropriate level of engagement and collaboration with suppliers based on their criticality and capability to deliver in emergency situations. Other researches highlight that the main goal of PPM in HSC management is to offer a comprehensive view on procurement activities and assist aid organizations in strategizing purchases that address supply disruptions and enhance the resilience of their supply chain operations (Lee & Drake, 2010; Bhusiri et al., 2021).

2.4.3. Benefits and challenges of implementing PPM in HSC

Implementing PPM for categorizing products and services in humanitarian organizations brings forth various benefits while also posing unique challenges (Lee & Drake, 2010; Lamenza et al., 2019; Bhusiri et al., 2021).

One of the significant benefits of implementing PPM in humanitarian organizations is improved decision-making regarding the procurement of products and services (Medeiros & Ferreira, 2018; Bhusiri et al., 2021). By categorizing products and services based on their strategic importance and impact on the organization's mission, organizations can prioritize their procurement efforts, allocate resources effectively, and focus on obtaining critical supplies (Beamon & Kotleba, 2006). This categorization enables informed decision-making by aligning procurement strategies with the specific needs and goals of the organization, ultimately enhancing the overall effectiveness of humanitarian operations.

Furthermore, PPM facilitates enhanced resource allocation. By categorizing products and services into different segments, such as critical, strategic, supportive, and non-critical, organizations can allocate resources and investments based on the level of importance and urgency (Lee & Drake, 2010; Lamenza et al., 2019). Critical products and services, which are essential for the organization's primary objectives, receive higher priority in terms of resource allocation, ensuring their availability during emergency situations. This targeted resource allocation enhances the efficiency and effectiveness of humanitarian operations, leading to better outcomes in disaster response and relief efforts (Lamenza et al., 2019).

The implementation of PPM also contributes to increased operational effectiveness within humanitarian organizations (Bhusiri et al., 2021). By categorizing products and services, organizations can streamline their procurement processes, establish clear criteria for supplier selection, and develop appropriate sourcing strategies (Trkman & McCormack, 2009). This leads to improved supplier management and relationships, increased supply chain transparency, and reduced procurement cycle times. The resulting operational efficiencies enable organizations to respond more effectively to emergency situations (Lamenza et al., 2019), minimize disruptions, and meet the evolving needs of affected communities (Bhusiri et al., 2021).

Finally, PPM plays a crucial role in assisting humanitarian organizations in formulating suitable sourcing and purchasing strategies, leading to cost reduction and enhanced supply chain efficiency (Bhusiri et al., 2021). Moreover, the model enables organizations to showcase their proficient resource management capabilities, thereby strengthening their relationships with donors (Lamenza et al., 2019).

Despite the benefits, challenges exist when implementing PPM for categorizing products and services in humanitarian organizations. One of the challenges is the availability and reliability of data required for accurate categorization (Lamenza et al., 2019). Humanitarian organizations often operate in resource-constrained environments with limited access to comprehensive and up-to-date data on product and service characteristics, supplier performance, and market dynamics (Constantino et al., 2020). Overcoming this challenge requires investing in data collection systems, establishing partnerships with data providers, and implementing robust data management processes (Bhusiri et al., 2021).

Another challenge lies in stakeholder engagement and collaboration. Humanitarian organizations often involve multiple stakeholders, including internal teams, external partners, and local communities. Obtaining buy-in and cooperation from these stakeholders is essential for successful implementation of PPM (Kovács & Spens, 2007). Clear communication with suppliers, regular feedback loops, and collaborative decision-making processes can foster stakeholder engagement and ensure alignment with organizational objectives (Medeiros & Ferreira, 2018).

Additionally, system integration and complexity of supply chain pose a challenge in implementing PPM (Lee & Drake, 2010; Lamenza et al., 2019; Bhusiri et al., 2021). Many humanitarian organizations utilize diverse procurement systems and practices, inventory management tools (Beamon & Kotleba, 2006), and data platforms. Integrating these systems to enable seamless categorization and procurement processes requires significant coordination, technology investments, and interoperability considerations (Pettit et al., 2010). Organizations must address these integration challenges to realize the full potential of PPM in their procurement operations.

2.5. Sub-research question

Based on the main research question, we explored the existing literature on procurement methods in humanitarian organizations. From the literature review, we recognized the potential connections between the challenges in HSC and the application of procurement methods.

To better understand the characteristics of different procurement methods the first sub question was formulated:

1. What are the advantages and disadvantages of procurement methods in humanitarian supply chains?

Theories on PPM suggest that products and services should not be treated the same. Therefore, the practice of differentiating procurement methods based on products and services should be investigated. The second sub question was formulated:

2. Can procurement methods be differentiated for different types of products and services?

2.6. Conceptual framework

The conceptual framework demonstrates our theoretical findings pertinent to procurement methods in HSC. Theoretical findings help to provide context to our focal topic – procurement methods and their categorization. Based on the challenges in HSC, the PPM and the procurement methods discussed in existing literature, our research aims to investigate opportunities to improve HSC through procurement methods.

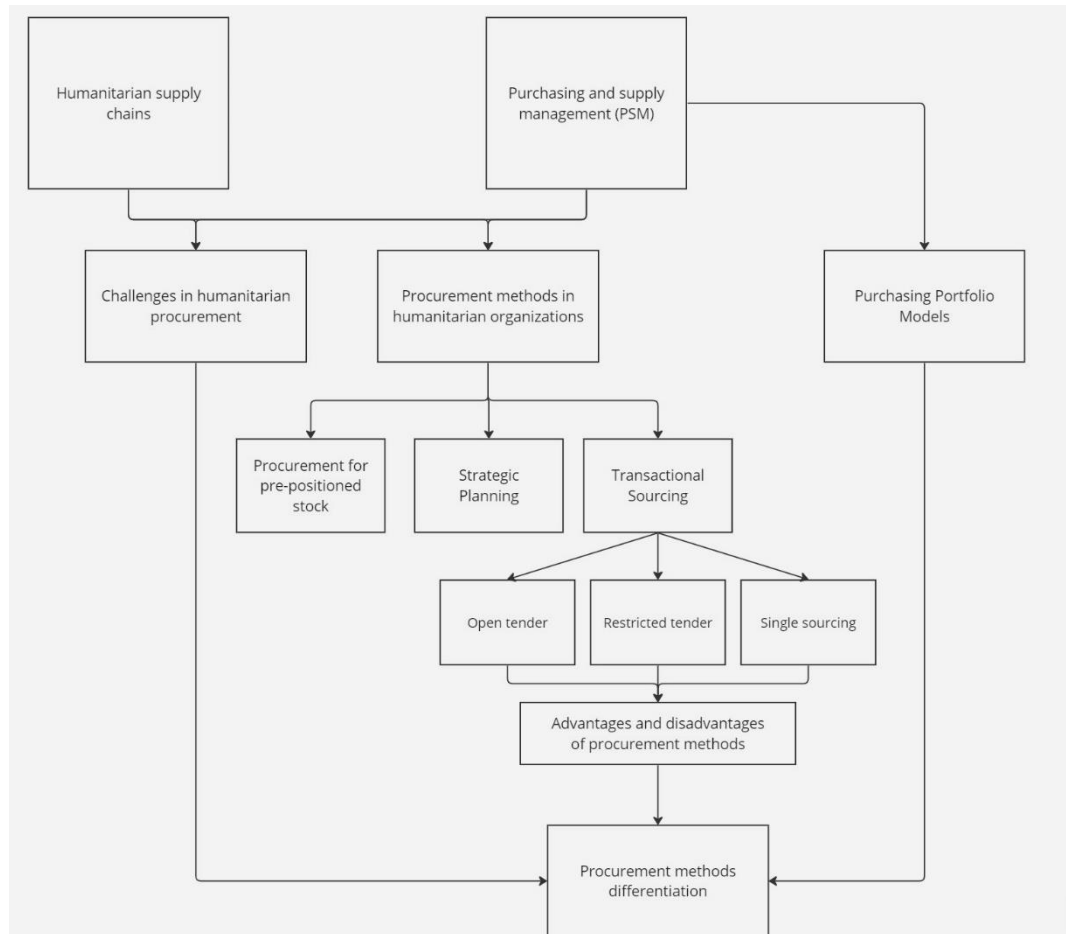


Figure 2.9. The conceptual framework (by authors)

3. Research methodology

The outcome of the research depends greatly on the selection of the appropriate research methodology. This chapter illustrates the methodological approach chosen to answer our research question and its sub-questions. We will describe the research strategy and research design employed and our approach for the sampling. In addition, we will explain the process of collecting and analyzing data. Lastly, we will go through the steps taken to ensure the quality of the research.

3.1. Research strategy

The concept of research strategy relates to the general approach taken in conducting business research (Bell et al., 2019). Research strategies are typically classified into two main categories: quantitative research strategy and qualitative research strategy. Additionally, there are three distinct approaches to conducting research: inductive, deductive, and abductive. The selection of a research strategy, as suggested by Saunders (2015), plays a crucial role in guiding the researcher in addressing research questions and achieving the intended objectives.

In our research, we have chosen to apply the qualitative research strategy. As outlined by (Bell et al., 2019), qualitative research focuses on the collection and analysis of data through an emphasis on words rather than quantification. It adopts an inductive, constructionist, and interpretivist approach, although researchers may not necessarily adhere to all three of these methods simultaneously. Qualitative research was used to investigate the pros and cons of procurement methods in the procurement process, the practice of classifying products and services, and the possibility of procurement method differentiation in HO. The qualitative data gave us an overview of the participant's experiences, their understanding of the challenges, perceptions of criteria, collaboration, transparency, and areas for improvement. By utilizing qualitative methods such as interviews and document analysis, we aimed to gather rich and descriptive data that provide a deeper understanding of the investigated area.

The choice of an abductive approach aligned with our aim to bridge theory and practice. This approach involves an iterative process of engaging with existing literature and empirical data to derive meaningful findings. This is particularly

relevant when there is limited existing literature on the specific subject, as is the case in our research. We went back and forth multiple times between examining the literature and gathering insights from practitioners before we could clearly define the research questions. This process of going back and forth helped us refine our understanding of the topic and identify the key issues that needed to be addressed in our research. It took several iterations of this process before we were able to establish a solid foundation for our study.

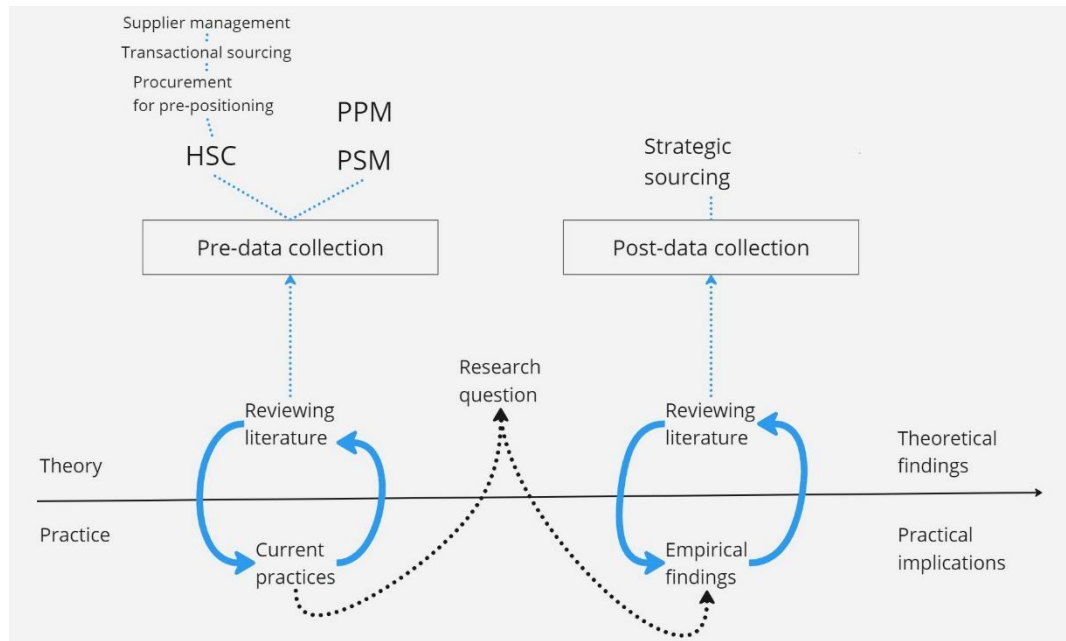


Figure 3.1. Abductive approach of this research (by authors)

3.2. Research design

Research design provides researchers with a framework for collecting and analyzing the data to answer the research question (Bell et al., 2019). According to (Bell et al., 2019), there are five different kinds of designs such as experimental design, cross-sectional design, longitudinal design, case study design, and comparative design. Each design has its own strengths and weaknesses.

In our study, we carefully considered our research question and determined that a case study design with WV chosen as a single case would be the most appropriate approach.

Since there is little research about how procurement methods can be used to procure different types of goods and services in HSC, we aimed to investigate it with the

case study approach. Case study allows for in-depth examination of a specific case or organization, providing valuable insights into the complexities and nuances of the research topic (Yin, 2014). It helps answer "how" and "why" questions, facilitate theory building, and generate hypotheses that can be further tested using other methods such as survey data or comparative analysis (Yin, 2014).

WV is a prominent international humanitarian organization that operates in numerous countries around the world. WV was chosen for our case study since it follows the decentralized procurement and therefore there is a diversity of contexts where procurement activities are done. Studying WV allows us to generate diverse insights from procurement functions in different countries and investigate how procurement practices can be adapted to the local environment.

To ensure a clear understanding of the case study, it is important to establish its boundaries (Bell et al., 2019). In our case study, the boundaries are primarily defined by the insights obtained from WV stakeholders located in different locations. The data collection focused on the operational and tactical levels of the procurement function due to time constraints and challenges in accessing information from a strategic level.

3.3. Locating the literature

To collect relevant literature to the research question, the authors followed the search strategy in Appendix 2. The search strategy should include the parameters of the research, the search terms and phrases, the database and the criteria used to identify the most relevant literature (Saunders, 2015). The search strategy must be clearly specified in such manner that it can be replicated (Bryman & Bell, 2011). The parameters of the research concern the language of publication, subject area, business sector, geographical area, publication period and literature type (Bell & Waters, 2014, as cited in Saunders, 2015). When it comes to generating the search terms and phrases, the authors followed the steps in the relevance tree suggested by Saunders (2015): starting with the research question, identifying at least two significant subject areas and dividing each subject area into sub-areas (Figure 3.2.).

The authors then generated the search string from the combination of search terms using the Boolean operators (AND, OR): “humanitarian” OR “development aid”

OR “disast*” OR “relief” AND “purchasing and supply management” OR “procur*” OR “purchas*” OR “buy*” AND “sourcing” OR “sourcing strateg*” OR “procurement method*”. All academic papers published from 2005 to 2023 were included. The reason is that most of the studies relevant to humanitarian logistics, operations and supply chain performance were published in the aftermath of the tsunami in the Indian Ocean which affected a number of nations in the year 2004 (Banomyong et al., 2019). Literature with higher citations were prioritized while allowances could be made for more recent studies if the relevance level was high.

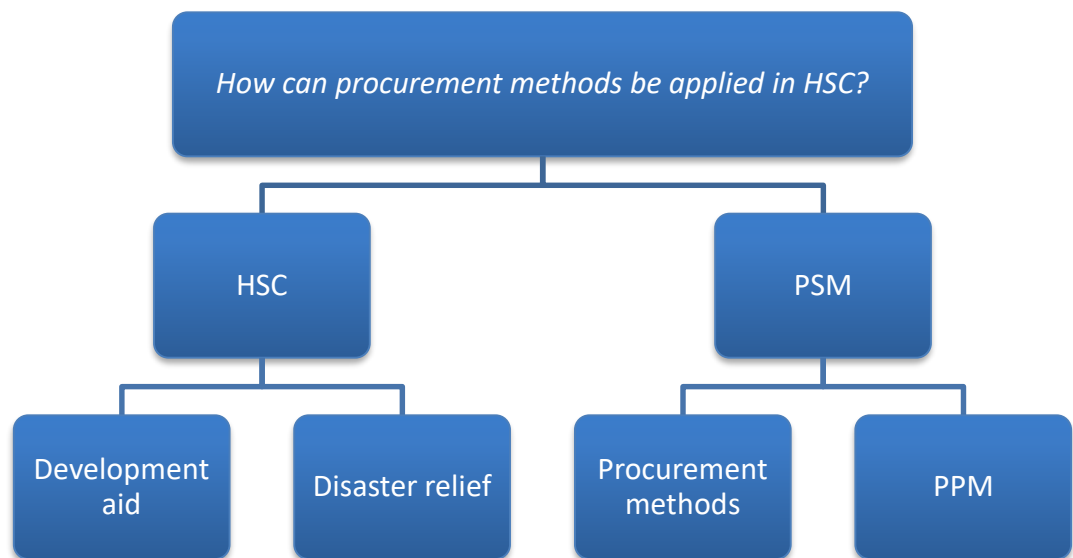


Figure 3.2. Relevance tree to generate search terms (by authors)

3.4. Data collection

There are two types of data: primary data and secondary data. While primary data are original data collected for a specific research problem, secondary data are those re-used to answer a different research question (Hox & Boeije, 2005). It is possible that researchers use secondary data in combination with primary data (Bell et al., 2019). Before data collection, the authors conducted the classification of data as different information classes had different requirements. Since the data fell into the green and yellow class, it was not compulsory for the authors to report to Sikt/NSD.

3.4.1. Primary data

The methods of data collection most used in qualitative research are interviewing and focus groups (Gill et al., 2008). In this study, we collected primary data through interviews with country supply chain managers and regional procurement officers in WV. Interviews are considered most appropriate when little is known about a study phenomenon (Gill et al., 2008). Since there is limited research on the advantages and disadvantages of different procurement methods in the humanitarian procurement and the possibility of differentiating them, we conducted interviews in order to obtain in-depth insights from participants.

We conducted semi-structured interviews as there were some specific themes that we focused on. Semi-structured interviews with an interview guide allowed us to cover such themes while still offering the participants a great deal of leeway regarding how to answer the questions (Bell et al., 2019). In addition, we could ask interviewees follow-up questions based on their replies to obtain more detailed information.

We formulated the interview guide according to the steps suggested by Bell et al. (2019). Firstly, based on the literature review, we gathered key topics that could help answer the research question: procurement activities, categorization of products and services, procurement methods, differentiation of procurement methods. From these topics, specific interviews questions were formulated. Additionally, some background questions were also added to the interview guide as they could be useful for contextualizing interviewees' answers (Bell et al., 2019). Before starting with the official interviews, the authors conducted pilot interviews with two participants to test if the questions were easy to understand and if any modification was needed. After these interviews, the authors received comments that too much focus was put on the background questions, hence the participants did not have enough time when it comes to the main topics. The authors then revised the interview guide by removing some background questions and obtained the final interview guide. The final interview guide is attached in Appendix 1. In order to help interviewees to familiarize themselves with the questions and prepare if necessary, the authors sent the interview guide to them in advance. This practice also helped enhance the dependability of the study (Bell et al., 2019).

To better prepare for the interviews, we followed some tips recommended by Bell et al. (2019) such as familiarizing with basic information about participants in advance, preparing good tools for recording audio or choosing a quiet and private setting for interviews. Moreover, we also consulted instructions for interviewers during interviews from Saunders (2015) that could help overcome quality issues associated with semi-structured interviews. According to Saunders (2015), one issue is related to interviewer bias which can be demonstrated through interviewers' comments or tone during interviews and this may affect how interviewees reply to the questions. Another suggestion is that when the authors feel the need to further explore interviewees' answers, appropriately worded probing questions should be used as the goal is to probe a point made by participants without interviewers showing any judgement (Saunders, 2015).

In this study, the majority of participants are supply chain managers in WV's national and regional offices. Participants are sampled using the purposive sampling method. According to (Bell et al., 2019), purposive sampling is the most suitable approach for qualitative research. This method involves selecting participants strategically rather than randomly. The sampled participants should possess diverse characteristics and viewpoints that are relevant to the problem statement. *"In purposive sampling, sites, such as organizations, and people (or whatever the unit of analysis is) within sites, are selected because of their relevance to the research questions"* (Bell et al., 2019, p. 389).

Initially, we reached out to regional offices to introduce our research and express our intention to interview supply chain managers at both regional and national levels. We received positive responses from regional supply chain managers, confirming their willingness to participate in the interviews. Subsequently, we received a list of nominated supply chain managers from different national offices, considering their availability and the level of procurement activities at their respective offices.

The inclusion of interviewees from different nations, in different regions and at different levels ensured variation in this research. In addition, we also interviewed a supply chain specialist working for another humanitarian organization in Norway to obtain insights into a different context. Due to the geographical distance between

the authors and interviewees, all the interviews were conducted on Zoom and Microsoft Meeting. For some participants, follow-up interviews were set up so as for the authors to clarify unclear information that could have been overlooked in the first interviews.

Interviewee	Identifier code	Date	Location	Length
Supply Chain Specialist	P1	05.04.2023	Zoom	60
Regional Supply Chain Advisor	P2	10.04.2023 11.04.2023	Zoom	120
Regional Supply Chain Director	P3	12.04.2023	Microsoft Meeting	65
Supply Chain Manager	P4	14.04.2023	Zoom	55
Supply Chain Manager	P5	21.04.2023	Microsoft Meeting	60
Supply Chain Manager	P6	21.04.2023	Microsoft Meeting	55
Supply Chain Manager	P7	24.04.2023 07.06.2023	Zoom	110
Supply Chain Manager	P8	28.04.2023	Microsoft Meeting	75
Supply Chain Manager	P9	23.05.2023	Microsoft Meeting	75
Supply Chain Manager	P10	01.06.2023	Zoom	45

Table 3.1. Overview of interviewees

To initiate the interview process, we initially reached out to the desired interviewees via email. The email included a brief introduction of the interviewers, an overview of the study and research questions, and general information about the interview (such as duration, date, language, and platform). In cases where we did not receive a response, we followed up with additional emails and sometimes contacted them by telephone.

During the interviews, before starting to ask questions, we asked for permission from participants to record the interviews. Recording the interviews are critical to

qualitative research as it ensures that interviewees' answers are recorded in their own terms (Bell et al., 2019). Nevertheless, we still took notes during interviews since they could serve as a back-up for the recordings and also help researchers to concentrate, summarize points to verify with participants to test understanding and ask follow-up questions if necessary (Saunders, 2015).

We originally received agreement to attend the interviews from five national supply chain managers in the region of East Africa. However, due to the sudden Sudan conflict that began in April 2023, offices in the region were kept occupied in humanitarian operations and only two managers managed to join the interviews. Moreover, we originally aimed to interview supply chain officers from three levels of management – national offices, regional offices and head office. However, as we did not receive any reply from head office, this study was limited to two levels of management. Eventually, we managed to cover two regions which are East Asia and East Africa with different country contexts and two levels of management to ensure diversity.

3.4.2. Secondary data

Secondary data can be data generated by other researchers or by companies or organizations for their own purposes (Bell et al., 2019). As collecting primary data can be expensive and time-consuming, using secondary data allows researchers to reserve their resources for other tasks (Saunders, 2015). Furthermore, secondary data are often of high quality with rigorous sampling procedures and large sample size (Bell et al., 2019). However, secondary data can also come with some disadvantages. Since researchers do not involve in the data collection process, it takes time until they can familiarize with the data (Bell et al., 2019). Besides, since secondary data are collected for a different purpose, they may not always fit (Saunders, 2015). Researchers then will have to look for other sources or start collecting the data themselves.

In this study, secondary data was firstly obtained from internal documents of WV – The Global Supply Chain Management (GSCM) Consolidated Policy document and Emergency Financial and Supply Chain Procedures document. The policies in these documents are applicable to all WV Field Offices, WV International and Global Centres, to all regional, programme, branch and project offices, including

all individuals who report to Global Centre departments (WV International, 2021). They also apply to WV Support Offices in terms of the involvement and/or the influence of Support Offices for the above-mentioned offices in procurement activities. Through these documents, we gained an in-depth understanding of procurement procedures in WV. This helped facilitate the interview process and provided context to the answers of interviewees. In addition, we also collected secondary data from WV website which provided us with an overview of the organization regarding its missions, the organization structure, donors and also its product portfolio.

3.5. Data analysis

In qualitative research, one of the key challenges in data analysis is that qualitative data are generated in unstructured language in the form of notes or interview transcripts, which leaves researchers with large amounts of data that are not straightforward to analyse (Bell et al., 2019).

In order to analysing the data collected from interviews, we firstly transcribed the interviews using Autotekst and Microsoft Word. Autotekst is a tool that helps transcribing audios to text (University of Oslo, n.d.). As we did not have to transcribe manually from scratch, the transcribing step is less time-consuming. However, since some mistakes can be made during automatic transcription, we still compared the generated transcripts with the recordings multiple times to ensure the quality of the transcripts. This also helped us to familiarize ourselves with the data.

After acquiring the complete transcripts of interviews, we started the data analysis process by using Nvivo and following the thematic analysis approach discussed in Saunders, (2015). The first step was breaking down the data into different codes. This step helps make the data that researchers find interesting and relevant accessible for later analysis (Saunders, 2015). According to Saunders, (2015), there are three sources of codes: codes based on existing theory and literature, codes based on the terms used by interviewees, and codes developed by researchers. Therefore, based on the theories and the data, we sifted through the transcripts and originally generated 45 codes (Appendix 3). As the flow of the transcripts followed the interview guide, some significant data that belonged to the codes generated

could be located in parts that we did not anticipate. For example, we asked interviewees about the challenges in procurement near the end of the interviews. However, interviewees might have mentioned some challenges when they described procurement process. As a result, after categorizing the data into codes, the authors went through the transcripts over again to make sure important data were not overlooked. After generating codes, the next step was to search for themes and relationships between them. We found some themes among the codes and collapsed those pertinent to each other into a new code. After refining the codes, the final list was retrieved for discussion (Appendix 4). As the analysis process differs from one person to another, we firstly worked alone to embrace the diversity in the way of thinking. Afterwards, we discussed together and agreed on the findings.

3.6. Quality of the research

Two primary criteria for evaluating the quality of a qualitative research are trustworthiness and authenticity (Bell et al., 2019). Authenticity is beyond the scope of our discussion since it concerns the political impact of research. In the following section, we discuss the quality of our thesis in terms of 4 main criteria of trustworthiness which are credibility, transferability, dependability, and confirmability.

3.6.1. Credibility

According to Bell et al. (2019), credibility of findings is established when the research is conducted in accordance with the canons of good practice. To enhance credibility, we employed the triangulation technique which entails applying more than one method of investigation or source of data in the research (Bell et al., 2019). In addition to the data collected from our interviews, we also gathered data from WV's internal documents and website which helped strengthen, supplement, and complete our findings. Furthermore, as suggested by Saunders (2015), we also checked with interviewees if there was any confusion with their answers to confirm if our interpretations were consistent with what they actually intended and therefore ensure the credibility of our findings. Another method that helps achieve a high level of credibility is related to conducting interviews (Saunders, 2015). As discussed above, we avoided influencing participants during interviews with our

comments or tones and our probing questions, which helped prevent interview bias and enhance the credibility of the data produced.

3.6.2. Transferability

According to Bell et al. (2019), transferability is similar to external validity, which refers to the extent to which a study's findings can be applied to other settings. Since qualitative research typically involves in-depth study of a small group, findings can be subject to the contextual uniqueness (Bell et al., 2019). To enhance transferability of our study, we collected primary data from a diverse group of respondents in national and regional offices of WV located in various geographical areas to capture different contexts. In addition, since in the humanitarian sector, organizations may share some similarities in regards to their objectives and challenges in the procurement process, this study can provide some valuable insights for other humanitarian organizations.

It is important to note that generalizing findings is constrained by factors such as time and space, as highlighted by Halldórsson & Aastrup (2003). To address this, we included thick description which entails providing rich accounts of the context studied in our study. Detailed descriptions of WV's missions, structure and procurement activities were provided as thick description allows other researchers to make judgements regarding the possibility of transferring our findings to other similar contexts (Guba & Lincoln, 1994).

3.6.3. Dependability

Guba & Lincoln (1994) suggest the concept of dependability as a counterpart to reliability in quantitative research and to prove trustworthiness of qualitative research. They propose that researchers should take an "auditing" approach which entails keeping complete records of all stages in the research process. To achieve this, we used Google Drive to create a common folder where we stored all the documents related to the thesis. Within this folder, sub folders were created in accordance with different phrases such as research question formulation, participant selection, interview records, data analysis. This allowed us to have easy access to the relevant materials and properly keep track of our references and records.

3.6.4. Confirmability

As explained by Bell et al. (2019), confirmability requires that researchers remain unbiased and objective throughout the study. This implies that the findings should not be influenced by personal values or theoretical biases. We made sure to uphold this criterion in all relevant stages of the research, including the formulation of the interview guide, the approaches taken to conduct interviews and the interpretations of the data produced. Throughout the thesis project, we maintained regular consultations with our supervisor and the manager in WV to ensure the research was conducted in a confirmable manner.

3.7. Ethical and societal consideration

While conducting research, concerns about ethics are unavoidable, especially in connection with research participants. Given its significance to the integrity of a study, ethical issues should be taken into account (Bell et al., 2019). According to (Diener & Crandall, 1978), ethical principles in business research are considered from four main perspectives: harm to participants, lack of informed consent, invasion of privacy and deception.

Firstly, the issue of harm to participants covers different facets: *physical harm; harm to participant's development or self-esteem; stress; harm to career prospects or future development; and 'inducing them to perform wrongdoings'* (Diener & Crandall, 1978, p. 19). With this in mind, we conducted this research in a manner that did not lead to any of the above mentioned harm to respondents. The issue of harm to participants is also extended to ensuring the confidentiality of records and anonymity of accounts which is discussed below. Secondly, with regards to informed consent, we provided participant with a full description of what the interview would entail from the start (e.g. the purpose of the study, the data collected). Accordingly, informed decisions of whether to engage in the study could be made by participants. Thirdly, to protect participants' privacy, sensitive information of their background was treated anonymously and kept confidentially. Lastly, deception occurs when participants are given the wrong information about the research (Bell et al., 2019). We ensured that deception did not occur in this research since all necessary information were provided at the beginning and participation was completely based on willingness.

4. Case description

4.1. World Vision

WV is a Christian humanitarian organizations helping children, families, and their communities overcome poverty and injustice.

WV is an international partnership of Christians dedicated to serving the poor and oppressed. The organization focuses on several key areas, including transformational development, emergency relief, promotion of justice, partnerships with churches and public awareness. WV seeks to alleviate suffering, promote social and spiritual transformation, and foster a more just and compassionate world (WV, n.d.).

WV pursue this mission through integrated, holistic commitment to:

1. Transformational development that is community-based and sustainable, focused especially on the needs of children.
2. Emergency relief that assists people afflicted by conflict or disaster.
3. Promotion of justice that seeks to change unjust structures affecting the poor among whom we work.
4. Partnerships with churches to contribute to spiritual and social transformation.
5. Public awareness that leads to informed understanding, giving, involvement, and prayer.

WV follows a hierarchical structure. At the global level, there is a central Global Center responsible for providing overall guidance and support to the organization. Regional offices operate under the Global Center, overseeing operations in specific regions. Support offices play a critical role in fundraising, marketing, and providing technical assistance, while field offices directly implement programs and projects on the ground.

4.2. Donors

The organization receives donations from various sources, including individuals, corporations, foundations, and governments. These donations are utilized to fund a

wide range of projects aimed at addressing the needs of the poor and oppressed, promoting human transformation, and seeking justice.

In addition to monetary donations, WV also receives product donations (WV, 2019).



Figure 4.1. The Distribution Process of donated products (adapted from WV, 2019)

In addition to donations from individuals and organizations, WV also receives funding through government grants and partnerships with multilaterals or UN agencies such as EU, ECHO, DFAT, USAID, OCHA, DFID, WFP, UNICEF, UNHCR, among others (WVI, 2021). When receiving grants from these entities, WV must adhere to the specific procurement requirements outlined in the agreement document between WV and the donor.

WV offices are required to comply with the Partnership Procedure for Procurement of Goods, Works, and Services in Grants (WVI, 2021). The default policy for procurement in grants is the WV International Procurement Policy unless otherwise advised in writing by the Support Office/GAM Manager or stated in the Grant Agreement.

4.3. Procurement methods in WV

There are two types of sourcing in WV: Strategic Sourcing and Transactional Sourcing (WVI, 2021). Strategic Sourcing is WV's standard method of supplier selection, contract awarding and procurement process. Only when procurement functions fail to proceed with Strategic Sourcing and no strategically sourced contracts are in place, will Transactional Sourcing is conducted.

4.3.1. Strategic Sourcing

Strategic Sourcing is defined as an organized and collaborative approach that includes strategically sourced contracts, the processes of spend analysis, development of a sourcing strategy, supplier assessment, solicitation and evaluation, negotiation and award decision, and; contracts management for continuous improvement.

Strategic Sourcing is WV's standard method of supplier selection, contract awards and procurement process. Strategic Sourcing is prioritized in the procurement process for six reasons. It helps leverage the organization's purchasing power, provide a greater understanding of supplier markets and economics, "Unbundle" pricing for greater pricing transparency, increase supplier competition, focus on total cost of product cost and process cost instead of only purchase price and align specifications with actual needs.

Strategic Sourcing Process is comprised of six main steps: profile category, developing sourcing strategy, assessing suppliers, evaluating suppliers, negotiating with suppliers and transitioning & managing. First, categories, detailed item specification, requestor, period of need and other criteria are identified through annual procurement planning process. Second, procurement function will aggregate the procurement plans across all programs to develop an appropriate sourcing strategy for each category based on current market conditions, decide on tactics that should be used to execute the strategy and identify any associated risks and resources. Third, preliminary market information from a targeted group of supplier will be collected and a short list of suppliers will be made for supplier evaluation process. The next step is supplier evaluation where suppliers are formally solicited for competitive bids and supplier offers will be evaluated based on the supplier

evaluation criteria. The supplier evaluation criteria should meet the requirements of approved suppliers and fulfill the minimum requirements established in each country. From this step, procurement function will identify suppliers for negotiation. Negotiation with suppliers needs to follow a thorough, well documented process for communicating the award of business and transitioning suppliers. The last step is to set up a disciplined, rigorous and effective supplier relationship management process. Performance between the buyer and suppliers is coordinated to achieve long-term results and enable continuous improvement.

4.3.2. Transactional purchasing

Transactional Procurement method can be used for spot buys such as one-off purchases for items that are not on previously negotiated contract. Transactional sourcing often occurs in a time constrained reactive environment. During transactional sourcing process, procurement function reacts to a purchase request by identifying the supplier, placing the order with the supplier, arranging and/or expediting the delivery of the good or service. Transactional sourcing is considered as an isolated decision in support of that one Purchase Requisition where a pre-negotiated contract is not established. During Transactional Sourcing process, the contract award decision should follow the Sourcing Threshold Award Matrix (Figure 4.3).

The procurement function must demonstrate competitiveness in the supplier selection process by ensuring that Request for Quotation or Request for Proposal is sent to a broad range of qualified suppliers. If donor procurement guidelines require a minimum number of suppliers, Procurement function must ensure the donor requirements are met.

When insufficient competitive responses are received from the sourcing event or the sourcing strategy calls for a different method such as sole source, procurement function must firstly provide clear justification and seek written waiver approval from Procurement Committee Chair for all sourcing value <\$15,000 and from Regional Supply Chain Management Director for value greater than \$15,000 prior to Procurement Committee award decision.

During the Transactional Sourcing process, it is important that all Purchase Requisitions provide clear and complete specifications, quantity, billing code, and need date and ship to address. Splitting purchases (purchase requests) at any threshold to circumvent the procurement procedures is prohibited. Knowingly treating purchases of similar goods/services as separate orders shall be considered a violation of policy.

Organizations employ different procurement methods depending on the nature of their projects and procurement requirements. The main procurement methods are shown in the Sourcing Threshold Award Matrix.

PR Threshold (USD)	Sourcing Method	Award Decision	Minimum Awarding Time
<= \$500	Refer to #6 below direct purchase	Business Unit	N/A
\$501 to <= \$5,000	RFQ from Market Assessment	Buyer	7
\$5,001 to <= \$15,000	RFQ from Prequalified suppliers or Market Assessment in the absence of Prequalified suppliers	HoD of Procurement Dept.	7
> \$15,000 to <= \$99,999	RFP from Prequalified suppliers or Market Assessment / Open Advertisement in the absence of Prequalified suppliers.	Procurement Committee	14
> \$100,000 to <= \$299,999	Open tender procedure published locally	Procurement Committee	21
> \$300,000	International open tender procedure following publication of a procurement notice	Procurement Committee	21

Figure 4.2. Sourcing Threshold Award Matrix (adapted from WVI, 2021)

The selection of procurement methods within organizations is based on the financial threshold. The value of the procurement dictates the level of scrutiny and the procurement procedure to be followed. Higher-value procurements often require more comprehensive procurement procedures, such as open tenders or competitive bidding processes. Conversely, lower-value procurements may allow for simpler methods, such as direct purchases or RFQs.

In certain contexts, such as post-disaster relief responses or regions with limited access to established markets, organizations face unique challenges. In these cases, strategic sourcing may be modified to accommodate the availability of suppliers and the urgency of procurement needs. Any exceptions to the Sourcing Thresholds Award Matrix must be approved by National Office Procurement Committee and

the Procurement Committee decision minutes must be included in the procurement documentation.

4.4. Procurement for Emergency Relief Response

In the event of a declared emergency response situation where it is often difficult, and in some cases not possible, to follow established WV International financial procedures, procurement function should follow the policies and procedures set forth in the Emergency Relief Response Policy (WV International, 2021).

During a Global or National Response, changes in the procurement process and exception to the WV Procurement Policies can be activated.

Supplier Market Assessment (Supplier Pre-Qualification)

The standard requirement is to transact with pre-qualified suppliers in carrying out sourcing activities. However, during the initial phase of an emergency program, procurement function may have to use new suppliers because of requests for new categories, new areas of operations, existing pre-qualified suppliers may also have been impacted by the disaster and it may not be possible or difficult to conduct the complete pre-qualification process.

Award Matrix

The Sourcing Thresholds Award Matrix below can be applied for supplier award decisions.

PR Threshold (USD)	Award Decision	Minimum Bidding Period
\$1,000 to \$3,000	Business Unit	n/a
\$3,001 to \$30,000	Head of Procurement Department (Note: Head of Procurement Department may delegate the Supplier Award Decision authority to Senior Buyers based on the availability and maturity or competency)	1-3 days
> \$30,000	Procurement Committee	2-10 days

Figure 4.3. Sourcing Threshold Award Matrix in Emergency Response (adapted from WV International, 2021)

Competitive Bidding Process

During the initial phase of an emergency program, the urgency to procure relief supplies immediately and in many cases the lack of multiple vendors, limits the ability of staff in obtaining competitive bids for most of goods and supplies. Under these special procedures, the general requirement for obtaining competitive bids may be waived.

Depending on the context, certain exceptions may be required. Some of the exceptions will be only applicable in extreme circumstances. The procurement function should only request to activate those exceptions that are considered necessary. Where established WV procedures can be followed in an emergency situation, a request should not be made for an exception; the established procedures should be used. Notwithstanding that an exception has been granted under these procedures, the procurement function should still follow normal procedures where possible, and rely on approved exceptions only where necessary.

4.5. Categorization of products and services

WV is a humanitarian organization that provides a wide range of products and services to help improve the lives of beneficiaries, especially children and their communities. While specific offerings may vary depending on the needs of each region or country, here are some examples of the types of products and services WV commonly provides (WV, n.d.):

1. Education: WV works to improve access to quality education for children, including the construction and renovation of schools, distribution of educational materials and supplies, teacher training, and support for educational programs.
2. Healthcare: WV supports healthcare initiatives by establishing and operating clinics, providing medical supplies, offering vaccinations, conducting health education programs, and improving access to healthcare services.
3. Emergency Relief: WV responds to natural disasters, conflicts, and other emergencies by providing immediate assistance such as food, clean water, shelter, and medical aid to affected communities.

4. **Clean Water and Sanitation:** WV aims to ensure access to clean water and proper sanitation facilities by constructing wells, boreholes, and water systems, distributing water filters, promoting hygiene practices, and providing sanitation facilities.
5. **Nutrition:** WV implements programs to address malnutrition and promote proper nutrition among children and communities. This includes the provision of nutritious food, education on balanced diets, and support for agricultural and livelihood projects.
6. **Economic Development:** WV supports economic empowerment by providing vocational training, access to microfinance and savings groups, livelihood support, and small business development opportunities to help families and communities become self-sufficient.
7. **Child Sponsorship:** WV offers child sponsorship programs that allow individuals or groups to support the education, healthcare, nutrition, and overall well-being of a specific child in need.
8. **Child Protection:** WV is committed to protecting children from abuse, exploitation, and violence. They establish child-friendly spaces, run awareness campaigns, and work with communities and governments to strengthen child protection systems.

5. Case analysis and findings

This chapter presents our analysis on the findings of this research. *First*, we examine the roles of procurement functions. *Second*, procurement activities taken by procurement functions to streamline supplies for the organizations' operations are studied. *Third*, we present the challenges perceived by procurement personnel regarding humanitarian procurement. *Fourth*, different procurement methods are investigated to deduce their advantages and disadvantages. *Next*, we look into the applicability of the Kraljič matrix to humanitarian procurement. *Finally*, based on the above mentioned sections, we will conclude on the possibility of differentiating procurement methods.

5.1. Roles of the procurement function in WV

Before investigating how procurement functions run the procurement process, we examined their objectives to better understand their decision making. Four main objectives mentioned by participants were effectiveness, efficiency, compliance and risk mitigation.

Firstly, procurement functions aim to ensure effectiveness of humanitarian operations (P1, P2, P3, P4, P5, P6, P10). P1 claimed that:

“I would say the objective of a procurement function is to ensure the correct items delivered at the correct place, at the correct time” (P1).

This is also mentioned out by P2 and P3. Timely delivery was further emphasized by P4, P6 and P10. P5 summarized the goal of procurement functions in terms of effectiveness as:

“We aim to use our resources to maximize the benefits to the community” (P5).

Secondly, efficiency is one critical objective for procurement functions (P2, P3, P4, P5, P6, P8, P10). P5 used supplier selection to exemplify how procurement functions could achieve the best value for money:

“We try to find the best supplier or provider so that we can use the value of the money as much as possible” (P5).

In addition, reducing administrative costs was also suggested by P5. Meanwhile, P8 recommended tendering process which helped ensure competitiveness as a way to obtain the best value for money. P8 emphasized that:

“We strive to act in the best interests of our organization” (P8).

Furthermore, procurement functions also place importance on following compliance requirements in the procurement process. One of these is to promote transparency (P5, P6, P8). P8 added integrity and fairness as one of ethical requirements that procurement functions need to comply with.

Lastly, procurement functions would need to take necessary measures to mitigate the risks during the procurement process which include the risk of fraud and corruption (P2).

5.2. Supplier management in WV

All interviewees agree that contract management and developing long-term relationships with suppliers play a crucial role in ensuring smooth procurement processes and supply chain operations, particularly in the context of disaster management and humanitarian organization. P5 emphasizes that this approach allows organizations to prepare for potential disasters and identify the basic needs required to support affected communities.

“We try to have many suppliers in the local target as much as possible. So when there is a disaster, we have many options.” (P5)

Also P4 emphasizes that having long term relationships or contracts with suppliers allows them to keep cost of the price of the product or services stable for a certain period of time.

It also provides stability during periods of inflation and enables organizations to understand supplier challenges and requirements, fostering collaboration and mutual understanding:

“If in the market there is inflation, it is better if we have long term relationship with suppliers. We have the supplier performance review and we hear out what are their challenges and what do they request from our

organization. We try to understand each other. When we are partners, we know each other right?” (P5)

The length of contracts varied across the different regions. P5 and P6 have contracts for one or two years, with the possibility to extend contracts up to one or two times. However, P6 explains that the contract length is influenced by money fluctuation issues, with contracts typically ranging from one year to six months to accommodate changes in exchange rates. Also, P1, P8 and P9 mention that the choice of contract type also depends on annual procurement plan and type of the product:

“When we compile the procurement requirements and assess the values and volumes, we determine what can be procured through long-term agreements (LTAs) and service level agreements (SLAs) and short term agreements.” (P9)

To that, both P6 and P9 add that for products and services such as car rentals, fuel, hotels, caterings, land and building offices, office supplies, ICT related material and air tickets, longer-term contracts are preferred to maintain price stability. However, in countries with complex economic environment, when it comes to imported products, short-term contracts will be established. This is because the price can change frequently and suppliers hesitate to sign long term contracts (P6). Similarly, according to P7, long-term contracts with fixed price are challenging to maintain after the COVID-19 pandemic. The reasons are price fluctuations, banking system disruptions, and changing government regulations.

“After COVID, 50% of the long term contracts are refused. They cannot provide the price. Some of the category items they can provide in the long term contract like air tickets. All the material items we cannot do with the long term contract. Banking system is not functioning. The taxes are changing. Regulations are changing. So that's why we cannot continue the long term contract in that area.” (P7)

As a result, P7 highlights the importance of establishing non fixed contracts with a focus on specifying the required items, not the price, for their regions as part of their

sourcing strategy to ensure the provision of essential relief items during emergency situations.

“Yeah, for 2020, we made a contract like non fixed contract with the supplier. Non fixed contract means we give the demand list. Like when emergency is coming, we want that kind of items. But from supplier side, they cannot fix the price because every time the price changes. But we make a contract so that they promise when the emergency happens on that area, they will provide the item to our organization. So that kind of procurement method we are using and we contract that one.” (P7)

P2, P5 and P6 mention that to mitigate risks and ensure timely support, it is crucial to maintain multiple suppliers, including local and town-based suppliers. Local suppliers served as back-up options in case town suppliers faced challenges in providing necessary support during disasters. The use of back-up suppliers highlights the importance of supplier diversity and redundancy in the face of uncertain circumstances. Having good relationship with both global and local suppliers can lead to such benefits as simplified procurement processes, faster delivery, trusted environments for quality items, extended payment periods, and the opportunity for suppliers to engage in corporate social responsibility activities (P2).

P7 highlights that their office has overcome difficulties in their supplier process through transparent communication, committee-level decision-making, and supplier awareness sessions, resulting in a system with 1,500 pre-qualified suppliers. By decentralizing the supplier selection process, they have expanded their supplier pool and optimized their sourcing strategies at the function, zone, and country levels.

“Because another thing is we are not centralizing the supplier process. We decentralized it. We opened it to function level, zone level, and country level. If we stick to the centralized process with the country level, it is too limited to find the supplier. So we extended it to the country level.” (P7)

5.3. Challenges in WV’s procurement

The previous section established an overview of WV’s current sourcing activities. In order to provide more context for latter sections, part of the research was to study

the current challenges in humanitarian procurement, as perceived by the procurement function.

5.3.1. Technical specification

With a wide-ranging portfolio of purchased goods and services, the procurement function in humanitarian organizations is often challenged by technical specification. The procurement function depends on the technical team to provide technical specification for selecting suppliers and purchasing requested items. Therefore, lack of detailed technical specification can affect the efficiency and effectiveness of the procurement process.

Firstly, the procurement function will struggle to proceed with strategic sourcing due to lack of clear technical specification. Strategic sourcing starts when the annual procurement plan is finalized and complete technical specifications are provided. However, this is not always the case as some project activities in the annual plan do not have clear technical specifications:

“Another issue we face is with specifications in the annual plan. The staff needs to make it clear for us so that we can follow a plan, find suppliers and create contracts for them and be ready to support them. Sometimes the technical specifications cause delay because we don’t have complete details so we cannot do anything. We cannot collect quotation.” (P6)

In addition, technical specifications can even change after strategic sourcing has been done. In such cases, the procurement function cannot proceed with the established contract but would need to do spot buy and this would also cause delay in providing the requested items (P6).

Secondly, as procurement staff are not technical experts, they meet with difficulties to ensure the quality of purchased products and services. P5 expresses concerns over counterfeit goods on the market:

“As a buyer, we are not experts in the market and have difficulties identifying copy products. We depend on our technical team. For example, we had an agreement for products in grade A, but when we received grade B, we didn't know which one was better.” (P5)

Thirdly, technical specifications play an importance role in balancing cost efficiency and quality in the procurement process. While achieving the best value for money is one of the main objectives of procurement function, quality cannot be compromised (P2, P7, P9, P10). However, when minimum requirements in terms of quality are satisfied, procurement function will consider the cost factor (P7). P4 suggests collaboration between different departments on defining technical specifications. Information about the purpose and end-users of the requested items should be considered. This would present procurement function with cost reduction opportunities when not all goods and services need the highest quality:

“We have to work closely with operation and technical department to know what we need, what specification matches with our need. Because now in the market, there are a lot of products, right? It's very hard to compare because if the high quality, it will be higher cost. So we have to know the purpose of using, who is the beneficiary. So we will work with the technical department and operation to decide at the first phase that what kind of product that we need.” (P4)

Last but not least, despite the importance of technical specifications in the procurement process, it is sometimes challenging to define them.

“And then the third one is a little bit difficult, it is based on the nature of products and services. So some goods and services can be more community based like training, food, livestock, agricultural products. They are not standardized products and services. So for these, defining specifications is very, very challenging.” (P2)

5.3.2. Internal and external regulations

Since humanitarian organizations are subject to both internal and external regulations, humanitarian procurement can become bureaucratic compared with private sector (P8, P10).

Firstly, as it is compulsory that procurement function follow the procurement policies and donor requirements to ensure transparency and integrity, the procurement process can be time consuming. In private sector, procurement process can move faster (P8). P8 explains that the procurement process needs to be

transparent so they have to prepare all related documents and follow the procurement policy “step by step”, which makes the procurement process more detailed than in private sector. P2 agrees that there are more processes involved and due diligence in humanitarian procurement. This is further emphasized by P4:

“In humanitarian organizations, we have to follow the procurement process. Clearly, what is the method and the threshold of the purchase, you have to follow. But for private sector, we just focus to find the suppliers. Documentation or the method are not really emphasized there. We just come to the most potential supplier. That is quite fast and simple. But here we have to document the procurement process, we have to apply the procurement method, the requirement for the number of quotations have to be complied as well.” (P4)

P1 shares the same opinion regarding the requirements in procurement process, calling it “a very rigid system”.

Another challenge posed to procurement function by compliance requirements is related to supplier selection. P6 reports that some donors may require purchasing from suppliers who import products and services from some designated countries. However, in their country, such products and services are imported from different countries. This makes it difficult for them to find stock in compliance with donor requirements.

“Because we are using grant budgets, so every time when we have the budget we always try to understand which restrictions and allowances are in place. This enables us to inform our team to find suppliers to match with donor requirements.” (P6)

Furthermore, procurement function may fail to comply with procurement policies owing to the turbulence of the market. Some countries where humanitarian organizations operate in have unstable political, economic and social environment. This would have impacts on humanitarian organizations and their operations. P7 claims that their procurement team cannot proceed with open tender – which is considered to be the most transparent procurement method as their procurement decisions can be influenced by the government:

“So our country is a little bit different with other countries because all the business owners are related with the government authority personnel. So sometimes, we cannot do open tender. We cannot ensure the transparency. If we announce publicly, they would make a phone call to our country director to get that tender. So that thing is so difficult to control in the process.” (P7)

One of the reasons why the government can intervene in the procurement process is because in some cases, the organization depends on the government to purchase imported products and services. In their country, humanitarian organizations are not allowed to import products and services. If the local market cannot provide needed items, the organization would have to make a MOU (Memorandum of understanding) with the government and import under their names. This gives the government leverage to influence the procurement process:

“Maybe I will give one example. One of the minister already approved our MOU. That person may have a construction company or his son or daughter or in-law may have that kind of company. So if the tender is coming out, he will call to our director. So next year if we need their support for approval, we need to give the opportunity of that tender to their company. So that’s kind of challenging.” (P7)

The government can also intervene in the procurement process when the organization decides to proceed with MOU:

“But one main challenge is that this will depend on their decision. Sometimes they may ask, we will distribute ourselves 30% of your item list. So it's very difficult to explain that to the donor.” (P7)

P9 also expresses difficulties during the procurement process when following compliance requirements. P9 considers the matter of ensuring transparency as one of the biggest challenges in humanitarian industry. The reason for this is the trap of corruption:

“You have to deal with business people who always have an intention of profits and they want to have business so there is a lot of luring. People

have fall into those traps of fraud. Corruption and misappropriation is a common practice.” (P9)

P9 goes on explaining why complex country context would aggravate this problem:

“If you have a country background like this, it has a lot of impact. Because of the background, because of the culture, because of the poverty, there are many aspects that lead to issues in people. There are a lot of attractions because they have the opportunity to get the money, people ask them so that they could get the business. If somebody is indulged, engaged into such kind of activities, and was proved by the investigation, immediately they will be sent home. Because the organization has a zero tolerance policy.” (P9)

5.3.3. Uncertainty

Certain challenges in the procurement process rise from the uncertainty of humanitarian context. One key challenge emphasized is uncertain demand. P2 states that:

“In humanitarian organization, sometimes we don't know what to procure because all of a sudden disaster can come.” (P2)

Because of that uncertainty, procurement function cannot have a clear procurement plan (P2). This is further supported by P8 who claims that disasters can happen anytime, anywhere. Not only does it make planning and preparing the items in advance difficult, it also challenges logistics management and transportation (P8). P10 points out that because of uncertain demand, procurement function would not know which suppliers to approach in advance:

“Because there are critical items that we don't know if we actually need. Because I don't know the market next year. I don't know what I would need next week. Like COVID. If we know it coming, we would have pre-qualified suppliers for sanitizers.” (P10)

Additionally, P7 identifies the uncertainty of stock as a major obstacle. As the country does not have manufacturing capabilities, products are mostly imported from other countries. This exposes procurement function to the risk of limited stock. Purchasing goods in great quantity would be challenging as if suppliers do not have

enough quantity, procurement function would have to wait for them to import the stock.

Last but not least, the uncertainty within the country context can prevent procurement function from establishing long-term contracts with suppliers. P6 explains that due to currency fluctuation, they fail to make long-term contracts with suppliers for imported products. Even if there have been long-term contracts, suppliers may try to terminate the contracts when the price changes. The same problem is confirmed by P7 and P9. P7 points out that before COVID, procurement function used to have long-term contracts with suppliers. However, when COVID hit, 50% of the contracts are terminated. At the moment, all the contracts have been terminated and procurement function would have to proceed with spot buy for all purchases.

5.3.4. Time pressure

During humanitarian relief operations, time is of the essence. P4 claims that procurement function often finds themselves working under time pressure. P1 also identifies time pressure as a general challenge for many humanitarian organizations:

“A key challenge I would say is the timeline. You have needs from the field and it might be difficult to have the goods in place within the time it's required on the ground. And I think that's a general challenge for many organizations that procurement takes time.” (P1)

5.3.5. Procurement function competencies

Competency models encompass skills, knowledge, abilities, and other features needed for performing effectively in a specific job (Campion et al., 2011, as cited in Bals et al., 2019). PSM competencies refer to the wide spread of requirements for the PSM job (Bals et al., 2019). As working under complicated, uncertain and time-constrained context is challenging, some key competencies are expected of procurement function in humanitarian organizations.

Compliance requirements burden the procurement process and constrain the decision making of the procurement function. P1 therefore suggests that the procurement function should be flexible when following these policies:

“I think the problem comes down to flexibility because of course it also makes you adapt how you do procuring. When you do procuring, especially related to the financial threshold, you say, okay, we're reaching above this threshold. Can we do something to stay just below it? Because it simplifies our work and our workload.” (P1)

P2 and P9 also emphasize the importance of flexibility, arguing that procurement function should be flexible about weighing different criteria during supplier selection. It is not uncommon that the weights of different criteria might change case by case (P9). P9 uses the case of medical supplies and health interventions to exemplify situations where delivery time weighs more than cost:

“For medical supplies, medicines, health interventions, we always prioritize time. Suppose a supplier, he may be quoting a little lower price, but he requests maybe three-week time. And maybe another person quotes \$2000 or \$5,000 higher can give you in one week. So we compare the value versus time: is the time is really worth it to pay a little more. We choose him because we can get the material immediately and we could support the life because they are lifesaving items.” (P9)

P6 also confirms that sometimes cost is not the most important criteria. For example, in some projects the donors set the deadline, then procurement function will need to select suppliers with shorter lead times.

On the other hand, P9 mentions the case of construction projects where delay may be acceptable. Each case should be carefully analyzed to determine whether time or pricing takes priority (P9). P2 supports this argument, stating that procurement function should be able to identify the key priority among different criteria:

“We train our supply chain people how to balance things, to be more flexible in terms of the need, not always look the principle meaning the process. Out of those criteria, what are your most prioritized criterion to select the supplier? So, based on that, we need to write the justification to the process committee or the awarding authority, so they will be approving our decision based on the need.” (P2)

5.4. Review of WV's procurement methods

5.4.1. Procurement for Pre-positioned Stock

Most respondents confirm that there is no need to hold prepositioning stock at local level due to cost considerations and the availability of suppliers (P5, P6, P8). P2 and P6 explain that for the development aid activities, each country follows a five-year strategy, and according to this strategy, an annual activity program is created. At the start of each year, the program prepares a procurement plan, and based on this plan, items that are required for that specific year should be timely delivered. In addition, WV's programs primarily involve providing relief responses on a monthly basis and they prioritize purchasing and transporting goods directly from the supplier to the beneficiaries (P4, P9).

This approach allows organizations to minimize costs associated with warehousing and stock maintenance (P2, P4, P5, P8, P10).

“So we are not holding any stock in our warehouse because establishing warehouse in each national office is a bit costly, it will increase the cost. So we don't hold the stock for the development work, we keep stock for the relief item only in the strategic location.” (P2)

P5, P6 and P8 also emphasize that even in the event of a disaster, they can rely on the contracts they have established and the support offered by their suppliers.

“We try to have many suppliers in the local target as much as possible. So when there is a disaster, we have many options. With the delivery time and multi-suppliers that we have contracts with, we can minimize risks if suppliers cannot support on time.” (P5)

However, on a global scale, WV maintains prepositioned items to provide swift support to affected areas. Global centers are strategically positioned based on the world map, such as Malaysia, which serves as a crucial support hub for Asia, Dubai also prepares prepositioned supplies for the Middle East region, and also Panama and Accra serve as strategic locations (P2, P7).

5.4.2. Strategic planning and sourcing

P1, P2, P6 and P9 emphasize the importance of strategic sourcing. The interviews reveal that the procurement function utilizes an annual procurement plan to identify the required products and services in a given region. The annual procurement plan is developed during the budget preparation process.

“We have an annual procurement plan that is created during the budget preparation process. This plan identifies the products and services that we plan to purchase in advance, so everything is planned and not a surprise.”
(P5)

The interviewees emphasize the significance of collaboration between the supply chain and program teams in order to ensure a smooth procurement process. To facilitate coordination, the supply chain team shares a template with the projects team to fill in annual procurement plan (P9). This template serves as a valuable tool for the supply chain team to develop a comprehensive plan on how they can effectively support the projects. P9 states that:

“On average, we handle around 60 projects per year, each with varying timelines. Some projects last for three months, while others extend to six months or even a year if they are successful and receive additional funding from the donor, so he will give another year funding to continue. We manage projects from different categories and interventions.” (P9)

P2, P6, P8, and P9 highlight the importance of the annual procurement plan in combining purchases. This allows the procurement function to proactively harness the organization's purchasing power (P9).

From the annual procurement plan, the procurement function identifies top ten categories to proceed with strategic sourcing:

“We have strategic sourcing with up to ten top categories, and we focus on those. For the top 10 categories, we will have the high value and then most requested categories from the requestors” (P6).

5.4.3. Transactional sourcing

Several participants emphasize the preference for contract purchasing over spot buying due to its advantages in terms of cost savings, time efficiency, and supplier relationships (P1, P2, P5, P6).

“We try to minimize spot purchasing which means making purchases without a contract, because it is time-consuming to find suppliers and often more expensive than contract purchases.” (P5)

“There are problems with the project activity not having clear specifications, making it difficult to make contracts with suppliers and support them on time. So in case it’s different from the activity (plan) we will have to spot buy. We purchase without a contract, which can cause (1 or 2 weeks) delays for them.” (P6)

However, P1, P2, P6 and P10 mention that sometimes spot purchasing is frequently employed when local offices encounter unplanned activities or emergencies like Covid-19 or Ebola and immediate project-specific needs.

“We do the spot buying as well, spot purchasing as well, because sometimes in the middle of the year or later of the year, so we may get that new fund, new grants, new project.” (P2)

Both P7 and P9 mention that their offices operate in countries with limited local production and dependence on imports face challenges such as price fluctuation, failed banking system, government breakdown and stock limitations. In such cases, spot purchasing becomes a necessary approach.

Also P2 mentions that spot buy is suitable for low-value purchases.

“Spot buy means the direct purchase. Based on the threshold, for example, below \$500, no need of quotation.” (P2)

Direct Purchase

According to the P2, P4, P5, P7 and P9, one of the main advantages of direct purchase is its speed and efficiency.

“For direct purchase, the benefit is that the process will be fast since we don't need to go through competitive bidding.” (P8)

Direct purchase allows offices to directly approach suppliers, negotiate prices, and make prompt decisions. P4 highlights that direct purchasing is used for ordering items with low financial threshold as there not much risk associated with these items.

Another advantage mentioned by the P7 is the convenience for internal business units. P9 points out that when there is an immediate need for an item, especially in emergency situation, direct purchase allows staff members to quickly procure the required goods without going through the lengthy procurement process. This can enhance operational efficiency and ensure timely delivery of essential items.

“They can make an activity from time to time.” (P7)

While direct purchase offers convenience and speed, it also finds certain disadvantages. P8 and P9 highlight that one major drawback is the lack of transparency and potential for biased decision-making. Direct purchase bypasses the competitive bidding process, limiting price competitiveness and supplier evaluation. As P7 mentions that direct purchase can reduce the pool of suppliers and their interest to request for quotation and tender process.

Both P2 and P8 believe the familiarity between business units and suppliers in direct purchase scenarios and lack of control by procurement team or buyer can lead to favoritism and corruption risks.

“There might be some bias if the business unit knows the suppliers very well and wants to buy from them directly. Corruption can also happen in this stage.” (P8)

Implementation of the direct purchasing can present challenges. P7 mentions that one common challenge is reducing the pool of suppliers and their interest to request for quotation and tender process. Suppliers may prefer direct purchase as it guarantees immediate payment.

“Suppliers are never interested in the request for quotation and tender process. They are happy with the direct purchase.” (P7)

Another challenge highlighted by P5 is the need to balance the risk associated with direct purchase. While it is faster and more convenient, there is a higher risk of financial mismanagement when staff members are directly involved in handling cash.

“Direct purchase meaning direct purchase from the staff. It does not go through the procurement process. It’s a risk when the staff hold the money. We also lose the benefit of discount when we buy large amounts.” (P5)

Request for Quotation from Market Assessments

According to the P2, P5, and P8 the most important advantage of the market assessment is supplier evaluation and comparison. Market assessments provide an opportunity to assess multiple suppliers, both within and outside of pre-qualified lists. This comprehensive approach allows organizations to evaluate the capabilities, product offerings, and reliability of potential suppliers.

“Market assessment involves reaching out to as many suppliers as possible to compare prices and check the market conditions.” (P2)

P2 highlights that market assessments serve as a valuable tool for conducting research and gathering information about new suppliers, product availability, logistical challenges, and governance regulations.

“Doing market assessment means sometime you may not commit to buy something. The market assessment is comprehensive is like a research that always is an option for the buyer” (P2)

P8 mentions that one challenge in market assessments is the availability and accessibility of suppliers, especially in remote areas.

“In areas far from the city, finding suppliers and conducting market research can be challenging. We rely on field staff and sometimes visit the site to assess suppliers' capacity.” (P8)

Both P5 and P7 highlight that process can lead to deterioration of supplier relationship:

“The market assessment involves a situation where there is jealousy between suppliers. We had a contract with Supplier A, but during the market assessment, we assessed Supplier B. Supplier B was not happy with this decision because the company did not have a contract with them but we want to do market assessment to check and compare the price.” (P5)

In additional, market assessment can be time consuming, because some items such as construction items would require big pool of suppliers to be checked (P7).

Request for Quotation from Prequalified Suppliers or Restricted tenders

The selection and evaluation of suppliers play a crucial role in procurement processes, ensuring that organizations acquire goods and services from reliable and ethical sources.

One of the key advantages highlights by the P2, P5, P8 and P9 is the ability to analyze and verify the credentials of suppliers from the beginning. By prequalifying suppliers, organizations can ensure that they are legally registered and meet the necessary requirements for humanitarian organization.

Restricted tenders also offer greater control and transparency, as organizations can work with a known network of pre-qualified suppliers:

“For me, restricted tender, advantage is that we know who the range of supplier we sent to. So at least we know they are pre-qualified for this one.” (P4)

This advantage provides organizations with confidence in the suppliers' legitimacy, reducing the risk of engaging with untrustworthy or non-compliant vendors.

Moreover, prequalification processes offer the opportunity for organizations to establish clear expectations and requirements for suppliers. P2, P5, P6 and P8 notice that organizations can ensure that prequalified suppliers accept and adhere to their specific requirements such as payment terms, delivery timeframes, policy documents:

“Our Code of Conduct, anti-corruption document, and conflict of interest policy, which we require suppliers to acknowledge and sign before registering them into our system. By completing these processes, we ensure that we are working with reliable and ethical suppliers.” (P8)

This enhances the alignment between the organization and the supplier, minimizing potential discrepancies and facilitating a smoother procurement process.

“Prequalified suppliers accept all of our requirements. That is the difference from market assessment. For market assessment we just check the price.” (P5)

Despite the numerous advantages, prequalified suppliers also present certain drawbacks that should be considered. P8 notes that one of the disadvantage is the potential time and resource constraints associated with the prequalification process. Gathering and verifying supplier documents and conducting background checks can be a time-consuming endeavor, potentially slowing down the procurement process.

Another disadvantages could be connected on relying solely prequalified suppliers. P1 and P2 believe that by focusing primarily on the existing pool of suppliers, there is a risk of overlooking competitive vendors available in the market. This lack of inclusivity poses a significant challenge for buyers, as they may miss out on exploring new options and leveraging competitive pricing or innovative solutions.

The interviews highlight several challenges faced when implementing this procurement method. Both P7 and P9 point out that one of the significant issue is suppliers' lack of accessibility and familiarity with WV's online platform system. Firstly, suppliers often lack the necessary knowledge and understanding of how to navigate online systems to apply for tenders or submit their quotations. Secondly, the unique circumstances of the country further compound the difficulties. In some cases, suppliers do not have reliable access to the internet or even electricity.

Open Tenders

During the interviews, participants highlight various benefits associated with open tenders. P2 and P5 emphasizes that open tenders provide a long-term agreement with suppliers, which can be beneficial for the organization. They explain that open

tenders allow for a sourcing process that leads to a contract, ensuring a stable and consistent supply of goods or services.

P1, P4 and P5 also mention that open tenders enable the organization to expand a base of the suppliers and built a new long-term relationship with them, which can further enhance efficiency.

“The advantage of open tendering projects is that they are open to any interested suppliers, which increases the likelihood of finding the right supplier.” (P5)

Also P4, P5 and P10 mention that open tenders ensure transparency in the procurement process.

“For open tender, I think for the transparency, it will be higher than the restricted supplier. Because sometimes you just mean to send to certain supplier, the other will miss the chance.” (P4)

In addition, P1 claimed that open tenders can help ensure fairness among suppliers:

“You can publish an open tender in the local newspaper or in the local market or even in more official procurement channels to ensure that everyone has equal chance of providing the same product to the customers” (P1)

Despite the benefits, open tenders were acknowledged to have certain challenges. The most prominent challenge mentioned by P1, P2 and P5 is the time-consuming nature of the process. Participants express concerns about the lengthy duration of open tenders, attributing it to the policy threshold that necessitates an open tender for high-value procurements. P8 further emphasizes this:

“Advertisements in public can attract previously unknown suppliers who may be a good fit. However, the disadvantage is that it can be costly and time-consuming.” (P8)

Another challenge highlighted was the complexity of open tenders, especially when dealing with technical items or when market conditions are intricate. P1 note that

the limited availability of suppliers for certain products could pose difficulties in conducting open tenders.

Advantages and disadvantages from our interviews can be summarized as below:

Procurement method	Advantages	Disadvantage
Direct purchasing	Speed and efficiency	Lack of transparency
	Allows quick procurement for immediate needs	Risk of favoritism and corruption
		Reduces supplier pool and interest in quotation and tender process
		Loose of discounts for larger purchases
Request for Quotation from Market Assessments	Supplier evaluation and comparison	Deterioration of supplier relationships
	Assess multiple suppliers for better prices and market conditions	Time-consuming, especially for construction items and remote areas
Request for Quotation from Prequalified Suppliers or Restricted Tenders	Analyze and verify supplier credentials	Risk of relying solely on prequalified suppliers
	Greater control and transparency	Potential to overlook competitive vendors
	Establish clear expectations and requirements	
	Confidence in supplier legitimacy and compliance	
Open tenders	Long-term agreements with suppliers	Time-consuming process
	Expand supplier base and build new relationships	Complexity, especially for technical items or intricate market conditions

	Transparency in the procurement process	Limited availability of suppliers for certain products
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Table 5.1. Advantages and disadvantages of procurement methods (by authors)

5.5. The applicability of the Kraljič portfolio matrix in WV

Despite the fact that the Kraljič portfolio matrix may provide necessary guidelines for purchasers about categorizing products and services and differentiating strategies towards suppliers accordingly, controversy surrounds its applicability. Limitations of the Kraljič portfolio matrix have been discussed in previous studies. Our findings also show a mixed opinion regarding the applicability of the Kraljič portfolio matrix in humanitarian procurement.

5.5.1. Approval of Kraljič matrix

P2, P4 and P7 believe that the Kraljič portfolio matrix can be applied to procurement in humanitarian sector. P2 explains that the Kraljič portfolio matrix would allow procurement function to develop sourcing and contracting strategies. These would support procurement function with planning, reduce cost, simplify sourcing process and reduce risks (P2). P4 further emphasizes the possibility of applying the Kraljič portfolio matrix. However, P4 suggests that in order for procurement function to fill in the matrix, detailed criteria regarding how to categorize products and services need to be provided:

“Yes, I think it's possible. But the thing is, we need to have clear criteria to categorize. Here it mentions the supply risk and the value. But in terms of detail, it is very important.” (P4)

Both P4 and P7 mentions that completing the matrix would take time given different purchased items in different projects:

“Because in our context, we do not have fixed items. It will be different from different kind of grants and activities. So we have to spend time to develop the matrix for different projects as well. I think it will be possible, but it needs time to how to put the right product into the right quadrant.” (P4)

Although P9 does not completely trust the applicability of the Kraljič portfolio matrix, which will be discussed later, P9 discusses that the Kraljič portfolio matrix could be helpful for planning procurement activities. Based on the matrix, procurement function could identify the criticality of purchases and applied necessary strategies:

“For example we have WASH projects (Water, Sanitation, and Hygiene). WASH is one of the biggest sectors for us, where we need a lot of quality standards to be maintained, certifications to be maintained with the supplies. In that case, our country is struggling because we do not have a supplier base. So we depend upon the other neighboring countries. Therefore, we collaborate with neighboring countries and pool our procurement needs. We can find good suppliers in these countries who can meet the required quality and standards. So based on the criticality, this categorization will help me to have strategies to work together and engage the same supplier for our offices. So we have a leveraging power buying power and therefore good negotiation power.” (P9)

Despite supporting the application of the Kraljič portfolio matrix, P7 comments that currently procurement function is not practicing it. Instead, their procurement function applies another type of matrix that takes into account two dimensions: (1) total value of the category and (2) the number of PO lines which means the number of requests for such category. These two criteria are used earlier to identify top ten categories for strategic sourcing. However, P7 also applies them to produce a monthly report on the current status of the categories and take appropriate actions if necessary. For example, P7’s matrix in March 2023 shows that most of the categories belong to the “Low value, low request” quadrant. This means that the procurement function has to handle various categories of such kind, which not only takes much time but also prevents the procurement function from exploiting the purchasing power. The action taken would be to ask the operation team or requestors to review the requested items and look for opportunities of aggregating them (P7).

5.5.2. *Disapproval of Kraljič matrix*

Other interviewees are doubtful about the applicability of the Kraljič portfolio matrix in humanitarian procurement. The two main reasons are characteristics of the supply base and dynamics of the supply market.

The Kraljič portfolio matrix has the complexity of supply market as one dimension, assuming that this will differ from items to items. However, this is not always the case. P9 claims that applying the Kraljič portfolio matrix is challenging for procurement function due to the lack of supplier base in their country for all products and services:

“If I sit in a stable country, I can have more opportunities to really categorize them into 4 quadrants and put each category there. But here, I hardly have strategic suppliers. We don't have manufacturers. There is not an established genuine market. All are more or less the middleman for me. I do categorization but in a different way, in a practical way, I never position all my procurements as per this” (P9)

P10 agrees that the complexity of the supply market does not differ for their products and services:

“We don't really use it here. In our country, we have so many suppliers. So if one decides to reverse, we can always get another one. We only do that when there is complexity in the supply market. It is not necessary here because our supply market is not really complex.” (P10)

In addition, P5 states that as the supply market is not static, categorizing products and services into fixed quadrants would be difficult:

“Some items can move from one category to another depending the economy, depending on the seasonality. We cannot identify for example item A under leverage because it moves.” (P5)

Nonetheless, P5 also shares that although their procurement function does not apply the matrix, four types of products and services are there:

“We have all four categories like the strategic, bottleneck, non-critical or leverage. We do not categorize but we have all four types.” (P5)

P10 also emphasizes on the dynamics of supply market in humanitarian sector. A non-critical item can suddenly become critical when a disaster strikes and it is needed for humanitarian relief response (P10). The case of sanitizers during Covid outbreak is used to exemplify this argument.

5.6. Procurement method differentiation in WV

5.6.1. Perceptions of differentiating procurement methods

Currently in humanitarian organization, the common practice to select procurement methods is to base on financial thresholds. When the value of a purchase falls within a certain range, the procurement function would need to proceed with the designated procurement method. However, the procurement function sometimes fails to follow the exact method as per policy. Perceptions of differentiating procurement methods based on the characteristics of products and services are studied in this research.

There is a consensus amongst the interviewees on the possibility of procurement method differentiation. The selection of procurement methods should not be based on financial thresholds only, the procurement function needs to take into consideration the nature of products and services:

“If you are trying to buy the yak for a community. The amount is three hundred thousand dollars. So should I publish that bid internationally according to procurement policy? No. Because of the topography, only certain types of yak can survive. Should I procure from Vietnam? Should I procure from the U.S.? No. I can’t blindly follow the process and try to publish internationally. So the procurement method should trigger from the nature of product or item or things.” (P2)

P1 mentioned the complexity of supply market as a criterion to differentiate procurement methods:

“I think you have a certain type of supplies like drugs where you have few suppliers, they are of high risk as you need certifications and you need

approvals. They require a different type of sourcing compared with more off the shelf products that are easily available.” (P1)

5.6.2. Recommendation on procurement method differentiation

The Kraljič portfolio matrix is used in this research to study procurement method differentiation. Recommendations on procurement method differentiation based on the strategic importance of products and services and the complexity of supply market are proposed. The findings report mixed views on the types of procurement methods fitting each quadrant in the Kraljič portfolio matrix.

Non-critical products and services

P4, P8 and P9 suggests that direct purchase should be the procurement method for non-critical products and services. P4 explains that:

“Because it's low value and we do not have the maybe power for bargain. It's not worth to bargain. So we can go with the direct purchase.” (P4)

P8 also uses the low spend and low purchase requirements for this type of products and services to justify the choice of direct purchase:

“Non-critical items are basic items, right? Yeah. So for the basic items, we can find everywhere on the market. They do not require high standards or high technology. So they can be sourced with direct purchase because there is also very low spend on such items.” (P8)

P2, P3 and P10 disagrees with this choice, claiming that procurement function should follow the competitive bidding process for non-critical items. The reason behind this argument is that as the supply market is not complex and the items are not critical, procurement function should have enough time to follow the competitive bidding process.

Strategic sourcing which involves establishing contracts with suppliers is appointed by P6 and P7 as the procurement method for non-critical items. P6 explains that these items are usually of low quantity and low complexity, hence the procurement function can make long term contract with suppliers.

Leverage products and services

P7 describes that leverage products and services include food and hygiene items. Regarding this quadrant, the majority of interviewees believe that procurement function should follow competitive tendering process (P2, P4, P5, P9, P10). P5 explains that due to the high value of purchases, competitive tendering process is necessary. P4 comments that with competitive tendering process, procurement function could get better price.

P7 and P8 choose strategic sourcing as the procurement method for leverage products and services:

“I think that should be strategic sourcing. Because they have quite high spend. We have to do the market research; we have to pre-qualify suppliers, which suppliers are the best supplier? And they can make the price validity for the long term agreement. Because they are high spend items.” (P8)

On the contrary, P6 believe that leverage products and services such as food or hygiene items are mainly for disaster relief operations. Procurement function should not make the contract with suppliers as there is uncertainty of needs regarding place and timing. Therefore, it is advisable that procurement function have a list of suppliers who can provide quotations and support them at the time when need requisitions are raised.

Strategic products and services

Most interviewees agree that procurement function should proceed with strategic sourcing for strategic products and services. P7 explains that as such items are significant and there are not many suppliers on the market, long-term contracts need to be in place. P2 emphasizes that procurement function should build partnership with suppliers to secure strategic items. This is further emphasized by P4:

“For the strategic quadrant, we will try to sign the contract, partner with the suppliers to maintain the supplies and also maintain the relationship with the supplier. We will have to use the kind of strategic partners contracting with them.” (P4)

Meanwhile, P6 prefers to proceed with competitive tendering process for this quadrant.

Bottleneck products and services

Competitive tendering process is the most selected procurement methods for bottleneck products and services. P2, P4 and P9 agree that procurement function can proceed with restricted tender for this quadrant. P7, on the other hand, argues that procurement function can find more suppliers by conducting open tender and sending their tenders to other humanitarian organizations’ network:

“There is an NGO network. Other NGO will have other sources of supplies. We can send our tender to them and get more suppliers. Other NGOs will support us and send our request for tender to their suppliers. So we may have some more sources of supplies from there.” (P7)

P7 prefers open tender as in restricted tender, procurement function can only work with their list of pre-qualified suppliers. Meanwhile, P10 claims that due to the high complexity of supply market in this quadrant, procurement function is advised to follow strategic sourcing and set up contracts with suppliers. The proposals of procurement method differentiation are summarized below.

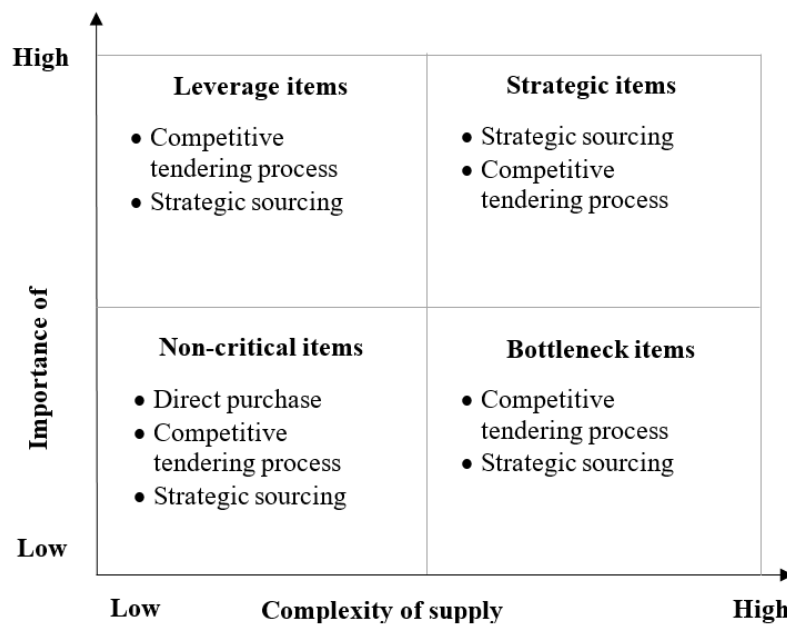


Figure 5.1. Summary of procurement method categorization (by authors)

6. Discussion

The following section discusses our empirical findings in relation to the existing literature. The discussion will firstly address some theories pertinent to our area of research. The two sub-questions will then be answered: 1) *What are the advantages and disadvantages of procurement methods in HSC?* and 2) *Can procurement methods be differentiated for different types of products and services?*. The discussion on these two sub-questions will provide the foundation to answer our main research question: *How can procurement methods be applied in HSC?*.

6.1. Relevant theories in the humanitarian procurement

6.1.1. Roles of the procurement function

The three roles of the procurement function discussed in the literature are the rationalization role, the development role and the structuring role (Axelsson and Hakansson, 1984, cited in Gadde & Wynstra, 2017). Our findings show that in humanitarian organizations, procurement functions mainly play the rationalization role and the structuring role. While the literature defines the rationalization role as when procurement functions undertake actions with an aim of minimizing cost and improving the performance (Gadde & Wynstra, 2017), our analysis also shows that procurement functions aim to enhance effectiveness and efficiency during the procurement process. This aligns with the commercial goals of public procurement which emphasize on effectiveness and efficiency (Patrucco et al., 2017). In addition, our findings also underline the structuring role of procurement functions where they influence the structure of the supply market when following and promoting such compliance requirements as transparency and fairness among suppliers. This is relevant to the regulatory goals and socio-economic goals of public procurement (Patrucco et al., 2017). The development role, however, was not demonstrated in our findings. The development role is defined as when procurement functions coordinate with suppliers who can contribute to the buyer's technological improvement. This is hardly the case for humanitarian organizations when their portfolio is comprised of basic items for development aid and disaster relief operations.

6.1.2. *Supplier management*

Both literature and our findings highlighted the importance of establishing relationships with suppliers in ensuring smooth procurement processes and supply chain operations. In addition, both the literature and findings recognized the value of clear communication channels and framework agreements to optimize supplier relationships and improve supply chain performance.

Our findings pointed out the importance of establishing diverse supplier base enables simplified procurement processes, faster delivery, trusted environments for quality items, extended payment periods, and opportunities for suppliers to engage in corporate social responsibility activities. Moreover, our findings also highlight the specific challenges and strategies related to supplier relationships in disaster management and humanitarian organizations.

6.1.3. *Challenges in humanitarian procurement*

The literature firstly pointed out one key challenge is that procurement activities in humanitarian organizations are subject to principles and regulations (Tomasini & Van Wassenhove, 2009; Jackson, 2012; Moshtari et al., 2021). Trying to balance between such principles and regulations eventually makes their operations cumbersome and bureaucratic (Moshtari et al., 2021). Our findings confirmed this as interviewees described humanitarian procurement as bureaucratic and not as straightforward as in private sector. Procurement process in humanitarian organizations which compels strict compliance and thorough documentation was viewed by participants as a time-consuming and rigid process. Additionally, our analysis also revealed difficulties that procurement function met with whilst trying to honor principles and regulations. These difficulties are mainly related to the issue of corruption in some unstable countries.

Uncertainty was mentioned in the literature as one of the factors that make humanitarian procurement more problematic. Three main types of uncertainty are identified from literature: (i) from demand aspect, (ii) from supply aspect, and (iii) in terms of network connectivity (Dönmez et al., 2021). The unpredictability of disasters causes uncertainty about the demand level and the demand location (Dönmez et al., 2021). Our findings also confirmed that uncertainty in demand

could challenge planning, preparation, logistics management and transportation. While uncertainties in terms of donors, storage facilities and network connectivity are not mentioned in our findings, uncertainties in terms of country context are discussed. Interviewees who operate in countries with the high level of economic turbulence reported that procurement activities are often hindered. Firstly, countries that have no manufacturing capabilities have to depend on imported products, hence supply stock may not be available immediately for humanitarian organizations once a disaster strikes. Besides, uncertainty from price fluctuation also makes it difficult for procurement function to establish long-term contracts with suppliers. Consequently, procurement function could not enjoy such benefits from long-term contracts as better price, higher quality and shorter lead time. They had to proceed with spot buy instead.

The literature also mentioned coordination as a weakness in humanitarian organizations (Rey; 2001). While there are emphases in literature on (i) coordination between procurement function and suppliers and (ii) coordination between different humanitarian organizations, our findings reveal that coordination between procurement function and other department, especially technical department and operation department, should not be overlooked. One of the reasons lied in technical specifications and their importance to procurement activities. Technical specifications were reported to be decisive since they helped procurement function navigate through supplier selection. Besides, coordinating closely with technical department and operation department was believed to assist procurement function in identifying counterfeit products and balancing between cost and quality.

In addition to above-mentioned challenges, our analysis also found two other obstacles: time pressure and procurement function competencies. As proper procurement process takes time, participants experienced that there was always a strong pressure on procurement function to deliver requested items timely, especially in humanitarian relief operations. In regards to procurement function competencies, participants emphasized on the importance of flexibility. As procurement function is often required to balance between different criteria, flexibility becomes of great essence since it allows them to conduct case-by-case analysis and prioritize between criteria. Summarization of challenges in

humanitarian procurement process based on the literature and our findings are illustrated below.

	Analysis	Literature
Challenges	Bureaucratic procurement process: <ul style="list-style-type: none"> • Risk of corruption 	Bureaucratic procurement process
	Uncertainty: <ul style="list-style-type: none"> • Uncertain demand • Uncertain supply of stock • Uncertain country context 	Uncertainty: <ul style="list-style-type: none"> • Uncertain demand • Uncertain donation • Uncertain network connectivity
	Collaboration: <ul style="list-style-type: none"> • Between procurement function, technical department and operation department 	Collaboration: <ul style="list-style-type: none"> • Between procurement function and suppliers • Between humanitarian organizations
	Time pressure	
	Procurement function competencies	

Table 6.1. Challenges in the humanitarian procurement (by authors)

6.1.4. The applicability of the Kraljič portfolio matrix in humanitarian procurement

The use of the Kraljič portfolio matrix in the humanitarian context has been discussed in literature. Many humanitarian purchasing matrices developed in previous studies have the Kraljič matrix as the main reference. Nonetheless, one similarity between these studies is that adaptations to the Kraljič matrix have been made to fit HSC.

Firstly, while the “Importance of Purchasing” dimension is measured through the profit impact, humanitarian organizations are non-profit entities (Lamenza et al., 2019b). Therefore, criteria to measure this dimension in humanitarian organizations have been modified (Lamenza et al. (2019); Bhusiri et al. (2021)). However, in our interviews, participants associated the “Importance of Purchasing” dimension with the purchasing amount. The higher the purchasing amount, the more important a

product or service is. This is justifiable since sourcing items of higher value requires a higher level of transparency and therefore involves more procedures for procurement function regarding procurement method, award decision and minimum awarding time.

In terms of the “Complexity of Supply Market” dimension, different views are presented in literature. Whilst Lamenza et al. (2019) believes that humanitarian organizations apply the same interpretation of this dimension, Bhusiri et al. (2021) does not limit “Complexity of Supply Market” to supplier risk but also extends to commodity risk and logistics risk. Our findings align with the latter argument since the interpretation of this dimension as supplier risk only has been mentioned as one of the reasons why procurement function does not use the Kraljič portfolio matrix. It is reported that in some countries the supply market is not complex and procurement function has a wide range of suppliers for all items. Another case is that there is no genuine supply market and therefore there is always high supplier risk among different products and services. In both cases, the “Complexity of Supply Market” dimension cannot differentiate products and services when interpreted as supplier risk.

The literature also underlines that the positioning of products and services in the Kraljič portfolio matrix is subject to change since strategic importance and complexity of supply market are not static (Kraljič (1983); Hesping & Schiele (2016)). Our analysis confirms this as according to participants, the humanitarian context is highly unpredictable and a non-critical item can become strategic in the event of disasters. Constant changes in supply market make it difficult for procurement function to classify products and services as per the Kraljič portfolio matrix. This is mainly because humanitarian organizations usually have a wide variety of items and filling in the matrix takes time. Constantly filling in the matrix once characteristics of products and services change is challenging.

One significant finding from our interviews that has yet to be discussed in literature is a concern over the definition of the “high” level and the “low” level on the two dimensions. For example, a question was raised regarding the number of suppliers that defined the “Complexity of Supply Market” dimension as “high” and “low”. Participants expressed that the levels should be specified clearly in order for

procurement function to correctly position products and services into the Kraljič portfolio matrix.

Another interesting finding is that although participants reported to categorize products and services into different quadrants to take appropriate actions, they did not apply the Kraljič portfolio matrix to this process. The two dimensions in the categorization matrix mentioned by participants are (i) total value of the category and (ii) the number of requests. From this matrix, the status of the current procurement process is shown and procurement function can take measurements to improve this process. The actions taken are not necessarily employing different strategies towards suppliers but they can also involve requestors. With better procurement plan, requestors of purchases can help aggregate purchases and thereby saving time and cost for the procurement function.

6.2. Advantages and disadvantages of procurement methods

Based on the existing literature and our empirical findings on different procurement methods, the first sub-question can be answered:

What are the advantages and disadvantages of procurement methods in HSC?

6.2.1. Pre-positioning

The discussion of pre-positioning in the literature and our empirical findings provide insights into the challenges and strategies associated with this approach in humanitarian organizations. The literature highlighted the importance of pre-positioning relief items in strategic locations to prepare for disasters and enable timely and efficient response to affected areas (Richardson et al., 2016; Ali Torabi et al., 2018). Our empirical findings confirmed that WV maintains prepositioned items in strategic locations to provide swift support to affected areas. Global centres, strategically positioned based on the world map, serve as crucial support hubs, such as Malaysia for Asia, Dubai for the Middle East, and Panama and Accra for other regions.

According to the literature, there are several challenges were identified, including the uncertainty of disasters, potential waste and financial loss due to low demand

or expiration of pre-positioned items, and budget constraints ((Rawls & Turnquist, 2010; Ali Torabi et al., 2018; Van Wassenhove & Pedraza Martinez, 2012). To mitigate these risks and enhance flexibility in responding to demand uncertainty, the literature suggested combining inventory pre-positioning with established supply contracts with suppliers (Ali Torabi et al., 2018). This strategy can help minimize costs associated with warehousing and stock maintenance. Our empirical findings aligned with these recommendations, as most respondents confirm that holding pre-positioning stock at the local level is unnecessary due to cost considerations and the availability of suppliers.

Both literature and empirical observations emphasized the importance of cost-effectiveness, supply contracts, and supplier support in pre-positioning practices. The findings further highlight the significance of global centres as key elements of pre-positioning strategies, ensuring rapid response capabilities on a larger scale.

6.2.2. Strategic sourcing: Annual planning

The findings emphasized the significance of annual procurement planning in strategic sourcing. The annual procurement plan serves as a crucial tool for forecasting and identifying the required products and services in a given region. Respondents explained that WV follows five-year strategies and creates annual activity programs that include timely delivery of required items based on a procurement plan. This approach focuses on purchasing and transporting goods directly from suppliers to beneficiaries, particularly in the case of relief responses, to minimize costs associated with warehousing.

The interviews highlighted the diverse nature of projects and interventions, with varying timelines and funding availability. The annual procurement plan therefore enables the supply chain team to adapt to the different project durations and allocate resources accordingly. This flexibility allows for efficient procurement management across different categories and interventions.

Collaboration between the supply chain and program teams was highlighted by interviews as essential to ensure a smooth procurement process. Interviews added that the annual procurement plan also plays a crucial role in grouping purchases, allowing the procurement function to leverage the organization's purchasing power.

By strategically categorizing purchases based on expenditure levels and associated timelines, the procurement team can effectively manage categories and plan sourcing activities.

The reliance on established supply contracts and support from multiple suppliers was emphasized by respondents. This multi-supplier approach allows organizations to have alternative options in the event that a supplier cannot support on time, helping to mitigate risks and ensure timely assistance during disasters.

6.2.3. *Transactional sourcing*

The findings highlighted that spot purchasing was commonly employed in situations of unplanned activities or emergencies, such as Covid-19 or Ebola outbreaks, where immediate project-specific requirements or the availability of new funds or grants necessitated quick procurement. This demonstrates the flexibility and agility of spot purchasing in responding to unforeseen circumstances and urgent needs.

In addition to that, interviews also emphasized that operating in countries with limited local production and heavy reliance on imports posed additional challenges, including price fluctuations, a failed banking system, government breakdown, and stock limitations. In such contexts, spot purchasing becomes a necessary approach to address supply chain disruptions and ensure the availability of essential items.

6.2.3.1. *Single sourcing*

Single sourcing, as described in the literature, is a procurement approach used when there is no competition on the marketplace for a specific requirement. It is employed when the products or services requested can only be provided by one supplier (Norwegian Red Cross, 2021). In addition to that, literature highlighted that single sourcing involves procuring goods or services directly from suppliers without intermediaries. It offers advantages such as speed, efficiency, and convenience, particularly for low-value items or urgent procurement needs (Norwegian Red Cross, 2021; Moshtari et al., 2021). The empirical findings corroborated several advantages of direct purchasing (single sourcing) mentioned in the literature. The interviews revealed that direct purchase allowed for quick decision-making, especially for low-value items or urgent needs. It offered convenience to internal

business units, enabling them to quickly procure the required goods without going through the lengthy procurement process. This enhanced operational efficiency and ensures timely delivery of essential items. Additionally, direct purchasing was perceived as less risky for items with a low financial threshold.

However, as highlighted in the literature, single sourcing lacks transparency, introduces the potential for biased decision-making, and may increase the risk of favoritism and corruption due to the familiarity between business units and suppliers (Norwegian Red Cross, 2021; Grandia & Meehan, 2017). In addition to that, humanitarian organizations may intentionally avoid single sourcing to offer equal business opportunities to different suppliers, stimulate market sustainability, and avoid dependence on a single supplier (Herlin & Pazirandeh, 2012). Our findings confirmed that the lack of transparency and potential for biased decision-making were identified as significant disadvantages of direct purchasing. Bypassing the competitive bidding process limits price competitiveness and supplier evaluation. The familiarity between business units and suppliers can lead to favoritism and corruption risks. Moreover, direct purchasing reduces the pool of suppliers interested in the quotation and tender process.

6.2.3.2. Market assessment

One of the most crucial advantages of the market assessment identified in the interviews is the ability to thoroughly evaluate and compare multiple suppliers, both from pre-qualified lists and outside of them. Moreover, the interviews emphasized the value of market assessments as a valuable research tool. Market assessments enable organizations to gather information about new suppliers, product availability, logistical challenges, and governance regulations.

However, the interviews also mentioned challenges associated with market assessments. The availability and accessibility of suppliers, particularly in remote areas, emerged as a significant challenge. Organizations heavily rely on field staff and even conduct site visits to assess suppliers' capacity in such cases.

Furthermore, the interviews acknowledged the time-consuming nature of market assessments, particularly for items like construction materials that require evaluating a large pool of suppliers. Allocating sufficient time and resources

becomes crucial to ensure a thorough assessment and consideration of all potential suppliers.

6.2.3.3. Restricted tenders

The discussion of our empirical findings and the existing literature on restricted tenders reveals both advantages and challenges associated with this procurement method.

The literature defines restricted tender as a process where pre-qualified and registered suppliers are invited to submit tenders, ensuring transparency and equal treatment of suppliers (European Union, 2014; Norwegian Red Cross, 2021). Moreover, our findings confirmed that restricted tenders offer greater control and transparency, as organizations can work with a known network of pre-qualified suppliers. This advantage ensures that organizations have visibility and familiarity with their suppliers, enabling them to establish clear expectations and requirements. By aligning the organization's specific requirements, such as payment terms, delivery timeframes, and policy documents, with prequalified suppliers, potential discrepancies are minimized, leading to a smoother procurement process.

The selection of suppliers in restricted tenders requires the procurement staff to exercise judgement and professional expertise to invite suppliers with proper profiles and capacity (Norwegian Red Cross, 2021). One of the key advantages highlighted in the literature is the ability to analyze and verify the credentials of suppliers from the beginning (Volker & Lauche, 2008). Our findings corroborated this advantage, as participants emphasized the importance of pre-qualifying suppliers to ensure they are legally registered and meet the necessary requirements for a humanitarian organization. Prequalification provides organizations with confidence in the legitimacy of their suppliers and reduces the risk of engaging with unreliable or non-compliant vendors.

However, our findings also revealed some drawbacks associated with restricted tenders. One disadvantage highlighted is the potential time and resource constraints associated with the prequalification process. Gathering and verifying supplier documents, as well as conducting background checks, can be time-consuming and may slow down the procurement process.

Additionally, relying solely on prequalified suppliers may limit the organization's access to competitive vendors in the market. This lack of inclusivity can hinder opportunities to explore new options, leverage competitive pricing, or benefit from innovative solutions.

Furthermore, our findings highlighted challenges faced during the implementation of restricted tenders. One significant issue is the lack of accessibility and familiarity with online platforms among suppliers. Suppliers may lack the necessary knowledge and understanding of how to navigate online systems to participate in tenders or submit quotations. This challenge is compounded by unique circumstances in some countries, such as unreliable internet access or lack of electricity, further hindering supplier participation

6.2.3.4. Open tenders

The literature highlighted that open tenders provided equal access and fair opportunities for potential suppliers to participate and bid for providing goods, services, or works. This ensures transparency and enables stakeholders to track the decision-making process of the procurement function (Bauhr et al., 2020; Norwegian Red Cross, 2021). Our findings confirmed that transparency is one of the most important advantages and in addition to that open tenders allow for the establishment of new long-term agreements with suppliers, promoting stability and consistency in the supply of goods or services.

Moreover, the literature also underlined that open tenders were believed to ensure the best value for money for public agencies in terms of price and quality, as they enhance competition among suppliers (Jones, 2013; Ochrana & Pavel, 2013). This competition can lead to the selection of the most suitable supplier for the organization's needs. Our findings also suggested that open tenders facilitate the expansion of the supplier base, which can further enhance efficiency.

However, open tenders come with certain challenges. One prominent challenge is the higher cost incurred by organizations due to the additional resources required for administratively expensive supplier selection procedures (Lian & Laing, 2004). Our analysis confirmed this as participants viewed the costly nature of open tenders as one of the substantial challenges.

Additionally, open tenders are often more time-consuming compared to other procurement procedures. The need for extensive documentation and the lengthy advertisement periods contribute to this time-consuming nature (Norwegian Red Cross, 2021). Our findings highlighted that this happened particularly due to policy thresholds and complex markets.

Furthermore, participants pointed out the limited availability of suppliers for certain products as a challenge in conducting open tenders. This limitation can impede the effectiveness of the open tender procedure, as it reduces the level of competition among suppliers.

6.3. Procurement method differentiation

In absence of the literature on the differentiation of procurement methods, the Kraljič portfolio matrix with recommended strategies has been employed in our interviews as the primary reference to answer the second sub-question:

Can procurement methods be differentiated for different types of products and services?

Our findings point out the diversity in the recommended procurement method for each quadrant.

Firstly, for non-critical items, Kraljič (1983) recommends that procurement function focus on product standardization, order volume optimization, efficient processing and inventory optimization. The main idea is to increase purchasing power by standardizing and aggregating purchase orders and reduce the indirect purchasing costs that result from such administrative activities as ordering and invoicing (Caniëls & Gelderman, 2005). For this quadrant, our findings reveal that direct purchase and competitive tendering receive equally high consensus among participants while strategic sourcing is slightly less preferred. Those in favor of direct purchase explained that as non-critical items were of low purchasing importance, they were not worth investing much efforts on. Therefore, procurement function can easily source non-critical items through direct purchase. On the contrary, some advocated for competitive tendering process notwithstanding that it could be time consuming and costly. Their justification was that for such items, procurement function often had adequate time to proceed with competitive

tendering process which ensured a proper procurement process. However, the choices of both direct purchase and competitive tendering process do not align with the general strategy recommended for this quadrant in literature. On the other hand, strategic sourcing can be seen as a better fit from the perspectives of previous studies since it allows procurement function to bundle purchase orders and save administrative cost.

Since leverage items represent strategically important purchases with a large supplier base, exploitation of full purchasing power, vendor selection, product substitution, targeted pricing negotiations, a mix between contract and spot purchasing and order volume optimization are advised (Kraljič, 1983). Most participants from our interviews agreed to exploit the purchasing power and recommended competitive tendering process for this quadrant. In doing so, procurement function can obtain a better price thanks to competitiveness. Another reason mentioned is that leverage items are often high spend items, which makes competitive tendering process necessary. However, strategic sourcing was also proposed in our findings as participants emphasized on the importance of long-term contracts for high spend items. This actually aligns with another perspective underlined in literature which encourages procurement function to abandon the leverage quadrant and develop a strategic relationship with suppliers (Caniëls & Gelderman, 2005). Nonetheless, this strategy is more recommended for technologically advanced suppliers who can contribute to the competitive edge of the buyer's firm (Caniëls & Gelderman, 2005). This is rarely applicable in the humanitarian context where purchased products and services mainly serve for the development aid and emergency relief operations.

Kraljič (1983) commends accurate demand forecasting, detailed market research, development of long-term supply relationships, make-or-buy decisions, contract staggering, risk analysis, contingency planning as well as logistics, inventory and vendor control for strategic purchases. The main recommendation for supplier management in this quadrant is to maintain a strategic partnership (Caniëls & Gelderman, 2005). Optimization of supply relationships is applied most for strategic purchases (Hesping & Schiele, 2016b). Our findings emphasize this as the majority voted for strategic sourcing as the procurement method for strategic products and services. Participants agreed that as there were not many suppliers,

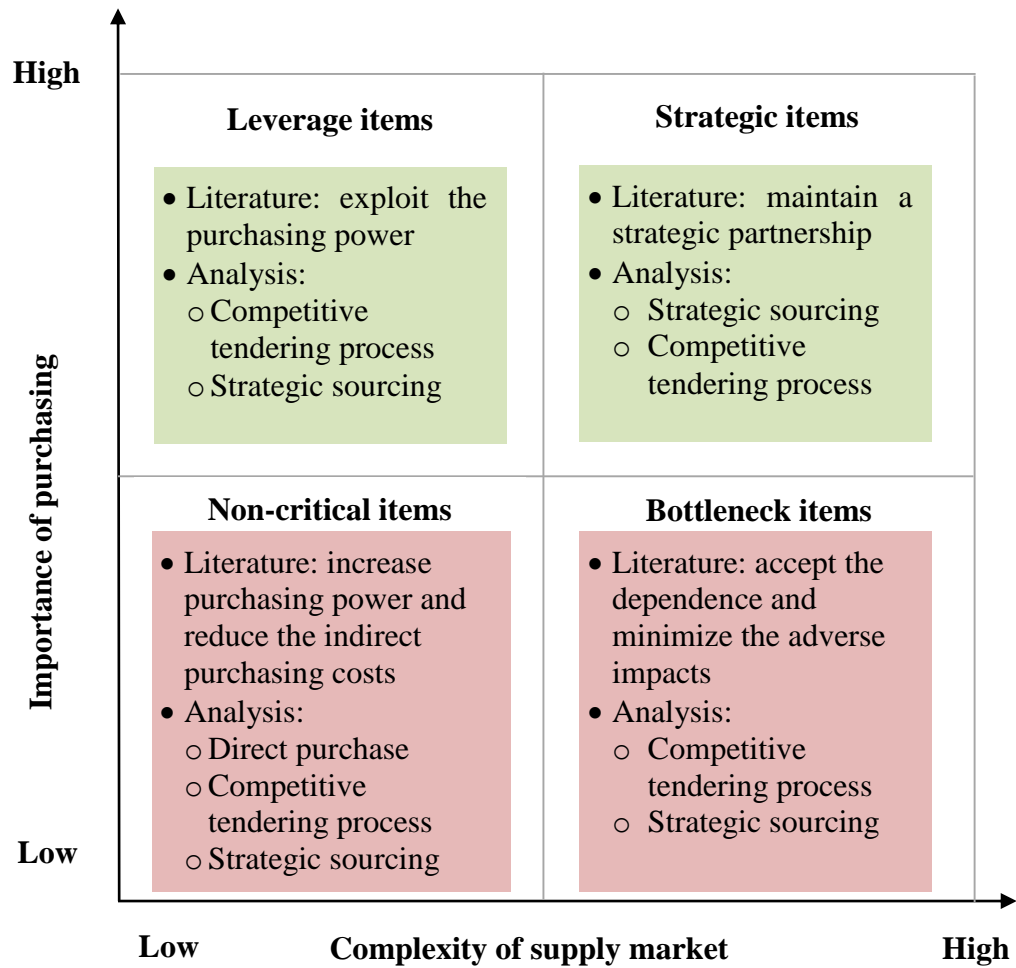
procurement function needed to secure these items through long-term contracts with suppliers.

Lastly, for bottleneck items of low strategic importance and high supply market complexity, the recommended tactics are volume insurance, control of vendors, security of inventories and backup plans (Kraljič, 1983). While the common purchasing strategy recommended for this quadrant is to accept the dependence and endeavor to minimize the adverse impacts of this unfavorable position, an alternative is to extend supplier base and move these products to non-critical quadrant (Caniëls & Gelderman, 2005). From our interviews, participants mainly agreed with the latter strategy as competitive tendering process, especially open tender, was chosen as the procurement method for bottleneck items. Supplier network of other humanitarian organizations was mentioned as one solution to finding more suppliers. However, one of the participants advocated the former strategy, suggesting procurement function to conduct strategic sourcing and establish contracts with suppliers.

It is shown from both the literature and our findings that there are two opposite approaches towards the high level of supply market complexity in the strategic and bottleneck quadrant. While some advocate for establishing strategic relationship with suppliers to reduce the negative impacts of the complex supply market, others see extension of supplier base as the opportunity to abandon this unfavorable position. Nevertheless, both “optimization of supply relationships” and “extension of supplier base” are reported to be used for strategic and bottleneck items (Hesping & Schiele, 2016). The two approaches should not be seen as alternative but rather complementary to each other.

Our findings also present another interesting insight regarding the choice of procurement methods. Competitive tendering process and strategic sourcing were recommended for all four quadrants, although the order of preference can differ from quadrant to quadrant. This further underlines the emphasis and priority that the participants place on the two procurement methods over others. While strategic sourcing is the standard procurement method for all purchases, competitive tendering process ensures competitiveness and transparency in procurement process.

Our empirical findings on procurement method differentiation in comparison with the literature are summarized below:



Analysis aligns with literature
Analysis does not align with literature

Figure 0.1. Differentiation of procurement methods (by authors)

6.4. Applying procurement methods in HSC

The previous sections provided the foundation to answer our main research question. While the first section shows the implications of relevant theories on the application of procurement methods, the discussion on the two sub-questions elaborates on the characteristics of different procurement methods and how they could be differentiated, hence helping to answer the main research question.

6.4.1. Relevant theories and implications on procurement method application

There is growing awareness of the importance that the procurement function plays to organizations (Gadde & Wynstra, 2017). Based on the literature and our findings, the roles of the procurement function in humanitarian organizations are best summarized as commercial goals, regulatory goals and socio-economic goals suggested by Patrucco et al. (2017). However, incorporating such goals is found to make the procurement process rigid and bureaucratic and therefore provides the procurement function with little freedom in decision making. When it comes to procurement methods, the procurement function in WV is required to follow strict financial thresholds when applying procurement methods. Purchase requisitions of higher value demand more complex procurement methods to ensure transparency, fairness and the best value for money. Nonetheless, our findings show that such factors as the timelines, the country context or the supply market complexity can prevent the procurement function from following the designated procurement method in the policy. Therefore, defining procurement methods based on financial thresholds only is inadequate.

In terms of supplier management, our findings reveal that the procurement function often proceed with multiple sourcing to avoid dependence on a single supplier and therefore mitigate the risk when such supplier cannot deliver on time. To extend the supply base, supplier awareness sessions are conducted by the procurement function in WV to attract new suppliers. In addition, the procurement function also emphasizes on establishing long-term relationships with suppliers to have better terms in regards to price, quality and lead time. How the procurement function manages their supply base can influence the application of procurement methods. By extending the supply base, the procurement function can reduce the complexity of supply market and will be able to proceed with complex procurement methods which work best with a large supply base such as competitive tendering process if required. Meanwhile, as long-term relationships provide various benefits, the procurement function may prefer to apply strategic sourcing over transactional sourcing for certain products and services.

6.4.2. Advantages and disadvantages of procurement methods

Before concluding on how to apply procurement methods in the humanitarian procurement, it is necessary that different procurement methods are thoroughly studied to understand their strengths and weaknesses. Having these in mind, the procurement function can make well informed decisions.

Advantages and disadvantages of each procurement method extracted from our interviews further confirm the theoretical findings. However, as discussed in section 6.2, additional insights about different procurement methods have also been found in our thesis. One significant thing to note is that every procurement method comes with advantages and disadvantages. Applying procurement methods would therefore always put the procurement function in such a position that they have to sacrifice some criteria for others. For example, while single sourcing allows quick procurement, especially in emergencies, it is associated with the lack of transparency, the risk of corruption, the failure to aggregate purchases and the decreased interests of suppliers on other procurement methods. Therefore, the procurement function should base on their priority in each case to identify and select the procurement method with the best possible outcomes.

6.4.3. Applying procurement methods with differentiation

Our findings outline that applying procurement methods based on financial thresholds alone does not suffice and that procurement methods should be differentiated depending on the characteristics of products and services. We employed the Kraljič matrix to investigate the differentiation of procurement methods and retrieved diverse recommendations for the four quadrants as summarized in figure 6.2.

Before investigating the differentiation of procurement methods with the Kraljič matrix, we studied the applicability of this matrix in humanitarian procurement. Both the literature and our findings point out some critical issues with this matrix when applied to the humanitarian context such as the problems with the criteria to measure the two dimensions, the dynamics of products and services and the lack of definition for the levels in the two dimensions. As a result, in order for the

procurement in humanitarian organizations to correctly categorize products and services as per the Kraljič matrix, such issues need to be addressed.

Despite the variation in the recommended procurement methods for the four quadrants, it can be seen from our study that such choices reflect the strategies employed by the procurement function towards the quadrants. While for leverage and strategic items, the most recommended procurement methods align with the general strategies suggested for such quadrants, the choices of procurement methods for non-critical and bottleneck items significantly differ. For non-critical items, orders are advised to be aggregated so that administrative costs can be reduced. However, direct purchase which leads to failure to aggregate demand and competitive tendering process which is a costly procurement method are most recommended for the non-critical quadrant. In regards to bottleneck items, the common approach is to accept the dependence on suppliers and try to minimize the negative impacts, the method suggested however is competitive tendering process as it helps extend the limited supplier base in this quadrant. Another interesting insight is that strategic sourcing and competitive tendering process are recommended for all four quadrants, demonstrating the emphasis procurement function in humanitarian organization put on these two methods.

7. Conclusion

This research concludes with theoretical and practical implications, limitations and suggestions for future research. The general objective of this study is to examine the application of sourcing theories in HSC. From the literature review, we narrowed down the scope of research to two sub-questions regarding (1) advantages and disadvantages of different procurement methods in HSC and (2) the differentiation of procurement methods. The authors conducted a case study on WV and its procurement activities. Semi-structured interviews were held to collect insights from supply chain officers to help answer the research questions.

7.1. Theoretical implications

Procurement methods in humanitarian organizations, albeit discussed in previous studies, have more room for investigation. Our study identifies the advantages and disadvantages associated with each type of procurement methods. Compared with the existing literature, our research show that the limited availability of suppliers can impede the implementation of open tender. In terms of single sourcing, our study adds the lack of price competitiveness as one key disadvantage. In addition, our research also generates insights into market assessment which has not been mentioned before. The possibility of thoroughly assessing suppliers, gathering research-like information, and comparing prices and market conditions are vital advantages. However, challenges related to supplier relationship and the time-consuming nature of the process must be effectively managed. The empirical findings from our study align with the existing literature with regard to restricted tender.

The Kraljič portfolio matrix have been discussed intensively in the existing literature. Nevertheless, there is still doubt over the application of the matrix in both private sector and humanitarian sector. Limitations of the Kraljič portfolio matrix found in both the literature and our research are inappropriate criteria to measure “strategic importance of purchasing” and “complexity of supply market” and the dynamics of products and services. However, our findings also reveal that in order for procurement function to categorize products and services correctly, clear definitions of the levels on the two dimensions would be needed. Without such definitions, procurement function would not know exactly, for example, how low

or high their supply market complexity is, which it difficult to position products and services into the matrix.

Lastly, our research examines the differentiation of procurement methods using the Kraljič portfolio matrix which has not been discussed in previous studies. It is found that except for the non-critical quadrant, strategic sourcing and competitive tendering process are most recommended for all other quadrants. The strategies applied for leverage and strategic items are in line with the general recommendations from the literature. However, for bottleneck items, despite the high market complexity, the procurement function does not accept the unfavorable situation as suggested in the literature but rather attempts to change it with competitive tendering process. The suggested strategy for non-critical items is also found to contradict with the literature. Direct purchase is most recommended for this quadrant despite that this procurement method does not allow the procurement function to aggregate demand and reduce administrative costs. Overall, how procurement methods can be applied in the humanitarian procurement has been explored.

7.2. Practical implications

First and foremost, this thesis provides a comprehensive review on the challenges that procurement function in humanitarian organizations meet with. From this, humanitarian organizations can have better understanding of the current procurement activities and take proper measurements to alleviate the problems. Notwithstanding some challenges that are beyond the organizations' control such as uncertainty in country context, many of the challenges require actions from the organizations. For example, humanitarian organizations can help make the procurement process less bureaucratic by discarding some unnecessary steps. Humanitarian organizations can also influence the level of collaboration between procurement function and other departments to facilitate procurement activities. The set of challenges discovered can also be helpful for procurement function. Requirements for their competencies during procurement process have been discussed, which serve as reminders for procurement function. In addition, procurement officers will be aware of not only their own challenges but also others' and therefore can be more prepared.

Another implication for humanitarian organizations is related to the Kraljič portfolio matrix. Applying the matrix can be beneficial to humanitarian organizations as it improves decision-making in procurement process, enables proper resource allocation and helps increase operational effectiveness to timely respond to emergency situations. However, implementing the Kraljič portfolio matrix also comes with challenges. Our research further strengthens this, discovering several impediments when using the matrix. Our findings help humanitarian organizations better understand the Kraljič portfolio matrix and can decide on whether to implement it or not.

Currently, the choice of procurement methods in humanitarian organizations is mainly based on financial threshold of the purchase order. However, due to this strict regulation, procurement function can meet with difficulties while applying the procurement methods. Insights on the advantages and disadvantages of different procurement methods in this study can help humanitarian organizations realize the limitations of using financial threshold as the only criteria. More proper regulation regarding the choice of procurement methods could help procurement function avoid these constraints. In addition, our retrieved differentiation of procurement method based on the nature of products and services can become a source of inspiration for humanitarian organizations.

7.3. Limitations and suggestions for future research

One significant limitation in our research is the transferability of our findings to different contexts given that they are based on a single case study. The questionable degree of theoretical generalizability has been acknowledged as a critical drawback of single case research (Bell et al., 2019). Therefore, the findings in this study will be more applicable to humanitarian organizations that share some similarities with WV. This issue opens up an opportunity for future research to test our findings with other humanitarian organizations.

Another limitation lies in our sampling method for interviewees. Purposive sampling method was chosen in this research to capture the diversity in the sample. However, this means that the authors may miss other samples that might generate some other interesting insights. To solve this problem, future research can conduct a more rigorous sampling method to generate more comprehensive findings.

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Appendices

Appendix 1. Interview guide

(A) About the interviewee		
Role	A1	What is your role in your organization? What tasks or duties do you have?

Background	A2	Have you had any experience working in the private sector, and if so, were you engaged in procurement activities?
	A3	If you had some experience working in the private sector, what do you think are the differences between the private sector and humanitarian sector?
(B) About the organization		
Scope	B1	What are the humanitarian aid activities that your organization carries out?
	B2	What types of supplies does your organization provide to beneficiaries?
	B3	In how many countries is your organization active?
	B4	Who are the main donors of your organization?
Structure	B5	How is your organization structured?
	B6	How does the Supply Chain department support the organization's activities?
(C) Sourcing strategy		
	C1	Does your organization hold prepositioned stock at local or global level? Why?
	C2	Does your organization use spot purchasing? Why?
	C3	Does your organization develop long term relationships and contracts with suppliers? Why?
	C4	Where does your organization procure products and services from?
(D) Procurement		
Procurement process	D1	What are the objectives of the procurement function?
	D2	What is a typical procurement process within your organization?
	D3	Who would be involved in the procurement process? (i.e. department, responsibilities)
	D4	Is the procurement process subject to any internal or external regulations?
	D5	How do you balance the need for cost efficiency with the need for



		high quality and reliable goods and services in procurement?
	D6	Do you meet with difficulties to ensure transparency in the procurement process?
	D7	Do you experience any other trade-offs in procurement?
	D8	Do you work with development aid or disaster relief?
Procurement for development aid	D9	What are different types of procurement methods for development aid procurement within your organization?
	D10	When would you use each type of procurement methods?
	D11	Do you usually get the expected number of offers?
	D12	Do you meet with difficulties when using each type of procurement methods?
	D13	How would you overcome the difficulties when using each type of procurement methods?
	D14	What are the criteria for selecting suppliers for development aid procurement in your organization?
	D16	Do you include suppliers' social responsibilities as one of supplier selection criteria?
Procurement for disaster relief	D17	What are different types of procurement methods for disaster relief procurement within your organization?
	D18	When would you use each type of procurement methods?
	D19	How many offers do you normally receive?
	D20	Do you meet with difficulties when using each type of procurement methods?
	D21	How would you overcome the difficulties when using each type of procurement methods?
	D22	When would you recommend each type of procurement methods?
	D23	What are the criteria for selecting suppliers for disaster relief procurement in your organization?
	D24	Do you include suppliers' social responsibilities as one of supplier selection criteria?
(E) Products and services		

	E1	What kind of products and services do you buy?
	E2	Do you have standardized products and services?
	E3	What criteria does your organization use to procure goods and services?
	E4	What criteria does your organization group products and services?
	E5	Do you think that products and services can be grouped by the strategic importance of purchasing and the complexity of the supply market?
	E6	Do you think that different types of products and services should be purchased differently in terms of procurement methods?
	E7	What types of procurement methods would you recommend for different types of products and services based on their strategic importance of purchasing and the complexity of the supply market?
	E8	What are the key challenges in procuring goods and services in humanitarian organizations?
(F) Self-reflection and organization's vision in terms of procurement function?		
	F1	What would you recommend to improve the procurement process within your organization?
	F2	What else do you think we should ask? Who should we talk to?

Appendix 2: Search strategy

Parameters	Specification
Language of publication	English
Subject area	Supply chain management
Business sector	Humanitarian
Geographical area	Global
Publication period	2005-2023
Literature type	Refereed journal
Search terms	<p>HSC - Humanitarian logistics, Humanitarian logistics, Humanitarian organization, Non-profit organization, Humanitarian relief chain, Humanitarian relief supply chain, Relief supply chain, Development aid, Disaster relief</p> <p>Purchasing and supply management – Logistics, Purchasing, Procurement, Supply chain, Buying</p> <p>Sourcing – Sourcing strategy, Procurement method, Tendering, Tender, Bidding, Competitive tendering, Competitive bidding</p>
Database	<p>Google Scholar</p> <p>Oria</p> <p>Web of Science</p>
Criteria	<p>Relevance</p> <p>Citations</p>

Appendix 3: Originally generated codes

 Name	 Files	References
<input type="radio"/> Approval of Kraljic matrix	5	7
<input type="radio"/> Balancing between quality & cost	10	11
<input type="radio"/> Bottleneck items	9	11
<input type="radio"/> Compliance	10	17
<input type="radio"/> Country context	3	8
<input type="radio"/> Differences between development vs emergency	4	9
<input type="radio"/> Differences between private and humanitarian	4	4
<input type="radio"/> Difficulties in transparency	5	5
<input type="radio"/> Direct purchase	8	13
<input type="radio"/> Disapproval of Kraljic matrix	5	8
<input type="radio"/> Donor	10	10
<input type="radio"/> Humanitarian aid activities	10	12
<input type="radio"/> Job&Duties	10	10
<input type="radio"/> Leverage items	9	10
<input type="radio"/> Long term relationship with suppliers	10	10
<input type="radio"/> Market assessment	4	8
<input type="radio"/> Non-critical items	9	10
<input type="radio"/> Number of offers	4	5

 Name	 Files	References
<input type="radio"/> Objectives of SC	4	4
<input type="radio"/> Open tender	7	24
<input type="radio"/> Organization structure	6	7
<input type="radio"/> Parties involved	4	4
<input type="radio"/> Place of procurement	4	4
<input type="radio"/> Prepositioned stock	8	9
<input type="radio"/> Procurement criteria	4	4
<input type="radio"/> Procurement process	4	12
<input type="radio"/> Recommendation	1	1
<input type="radio"/> Regulations	4	5
<input type="radio"/> Restricted tender	7	15
<input type="radio"/> SC Competencies	1	1
<input type="radio"/> SC supporting organization	3	3
<input type="radio"/> Solutions to difficulties	4	8
<input type="radio"/> Sourcing methods	3	10
<input type="radio"/> Sourcing methods - When	2	8
<input type="radio"/> Spot buy	8	9
<input type="radio"/> Standardized items	4	5

<input type="radio"/> Strategic items	9	10
<input type="radio"/> Strategic sourcing	1	5
<input type="radio"/> Supplier selection criteria	4	4
<input type="radio"/> Supplier social responsibility	4	5
<input type="radio"/> Supplies provided	9	11
<input type="radio"/> Technical specification	4	5
<input type="radio"/> Time Pressure	4	4
<input type="radio"/> Trade-off	4	4
<input type="radio"/> Uncertainty	7	8

Appendix 4: Refined codes

Name	Files	References
○ Applicability of Kraljic matrix	0	0
○ Approval of Kraljic matrix	5	7
○ Disapproval of Kraljic matrix	5	8
○ Balancing between quality & cost	10	11
○ Challenges in procurement	0	0
○ Compliance	10	17
○ Difficulties in transparency	5	5
○ Regulations	4	5
○ SC Competencies	3	4
○ Solutions to difficulties	4	8
○ Technical specification	4	5
○ Time Pressure	4	4
○ Uncertainty	7	8
○ Country context	3	8
○ Differences between development vs emergency	4	9
○ Differences between private and humanitarian	4	4
Name	Files	References
○ Procurement process	4	12
○ Long term relationship with suppliers	10	10
○ Objectives of SC	4	4
○ Parties involved	4	4
○ Place of procurement	4	4
○ Prepositioned stock	8	9
○ SC supporting organization	3	3
○ Spot buy	8	9
○ Strategic sourcing	1	5
○ Sourcing categorization	0	0
○ Bottleneck items	9	11
○ Leverage items	9	10
○ Non-critical items	9	10
○ Strategic items	9	10
Name	Files	References
○ Sourcing methods	3	10
○ Direct purchase	8	13
○ Market assessment	4	8
○ Open tender	7	24
○ Restricted tender	7	15
○ Supplier selection criteria	4	4
○ Procurement criteria	4	4
○ Supplier social responsibility	4	5
○ Supplies provided	9	11
○ Standardized items	4	5