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The Role of Supply Chain Finance in Humanitarian Aid Relief : Literature Review

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Abstract

Humanitarian aid relief has been operational since the late 19th century, addressing development and disaster aid cases. The intricate relationship between humanitarian aid relief and the supply chain encompasses various stages, from securing funding to coordinating stakeholders. However, the volatile and uncertain nature of the field poses challenges such as corruption, prolonged funding gaps, and demands for accountability and visibility.

This study highlights the critical role of funding and financing in the humanitarian supply chain, emphasizing the underdeveloped state of research on supply chain finance (SCF). The paper aims to investigate the integration of SCF into humanitarian aid relief, utilizing literature reviews from journals, papers, and reports.

The findings reveal a correlation between SCF's essential elements—focused on liquidity/cash, operational activities, and engagement among actors. This research proposes a framework, how the humanitarian aid relief sequence and SCF theory should collaborate for effective humanitarian aid supply chain finance (HASCF) practices.

1. INTRODUCTION

Humanitarian aid refers to the provision of material logistical support to individuals in need, and a robust humanitarian relief community has emerged since the Second World War (Oloruntoba & Gray, 2006). Typically, beneficiaries receive assistance from governmental or other institutions, whether at the local or international level. The United Nations (UN) plays a vital role in engaging with international communities and ensuring a unified and swift response to disasters globally through the Office for the Coordination of Humanitarian Affairs (OCHA) (Harat et al., 2015). Additionally, the UN includes four entities—United Nations High Commissioner for Refugees (UNHCR), United Nations Children's Emergency Fund (UNICEF), United Nations Development Programme (UNDP), and World Food Programme (WFP)—with specific roles in delivering humanitarian aid.

Humanitarian aid responses are commonly prompted by relief efforts following both natural and man-made disasters, targeting individuals such as the homeless, refugees, and victims of wars, famines, and natural disasters (United Nations, n.d.). The discussion on humanitarian aid should commence by delineating the types of

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assistance. Emergency assistance, or relief assistance, constitutes an immediate response to man-made or natural disasters, typically providing short-term aid. In contrast, development or rehabilitation aid (R/D) involves transferring knowledge and resources to enhance a country's capacity, encompassing long-term efforts, including mentoring and assistance in education, health, and community improvement (Harat, Chojnacki, & Leksowski, 2015).

Disaster Management consists of four distinct stage (Van Wassenhove, 2006): mitigation, preparedness, response, and rehabilitation. Mitigation and preparedness occur prior to the disaster, focusing on preventive measures to reduce the potential adverse effects. Response and rehabilitation address immediate responses following a disaster and long-term efforts to restore the community to its pre-disaster state (Seifert, Kunz, & Gold, 2018). The backbone of humanitarian operations relies on the supply chain and logistics systems to guarantee the survival of affected individuals and the distribution of relief aid. Humanitarian logistics refers to the strategic management of the economical, efficient flow, and storage of goods, materials, and pertinent information from their origin to consumption endpoints. This process aims to alleviate the distress of vulnerable populations (Thomas & Kopczak, 2005).

In contrast to commercial supply chains, the humanitarian supply chain is typically less stable due to heightened uncertainty regarding both the number of beneficiaries and the necessary funding. The breakdown often occurs at the receiving end. Additionally, instability can arise from two primary factors: politicized donations and competition for funding from donors (Oloruntoba & Gray, 2006). Kovacs and Spens (2007) subsequently identified various tasks that differ across the periods preceding a disaster (preparation), immediately following a disaster (immediate response), and in the aftermath of a natural disaster (reconstruction). Addressing these three relief phases requires distinct skill sets.

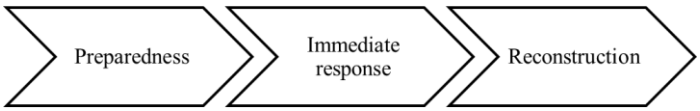

Fig 1 Disaster relief operation phase (adapted from Kovacs and Spens, 2007)

Supply chain finance aims to enhance financial flows at an inter-organizational level, utilizing solutions implemented by financial institutions or technology providers. (Caniato et al., 2016), as cited by (Bals, 2019), underscored the advantages of supply chain finance (SCF) in optimizing financial flows at an inter-organizational level (Hofmann, 2005) through solutions offered by financial institutions (Camerinelli, 2009) or technology providers (Lamoureux & Evans, 2011). The primary goal is to align financial flows with product and information flows within the supply chain, thereby improving cash-flow management from a supply chain perspective (Wuttke, Blome, & Henke, 2013).

Over time, non-governmental organizations (NGOs) have dedicated personnel, time, and logistical resources to manage in-kind donations, but it has been observed that a substantial portion of these donations does not effectively serve relief purposes (Islam, Vate, Heggestuen, Nordenson, & Dolan, 2013). Unsolicited in-kind donations are often sent to relief organizations without prior notice, leading to challenges such as warehouse overflow due to overcapacity. This overflow might result in the storage of desired donations outside the warehouse, necessitating additional time and resources for sorting needed relief items and the proper disposal of unwanted donations, including medical and pharmaceutical items. The implications extend to the loss and opportunity costs associated with these relief items, affecting humanitarian organizations. Another issue arises when donations do not align with local and geographical needs, such as donating jackets for tropical countries. These challenges contribute to the accumulation of donations in storage, impeding the flow of necessary supplies and potentially creating a 'second disaster' (Islam, Vate, Heggestuen, Nordenson, & Dolan, 2013). Additionally, the excess inventory represents an increase in working capital. Consequently, some NGOs are adopting a 'cash only' donation approach and refraining from accepting unsolicited in-kind donations (Islam, Vate, Heggestuen, Nordenson, & Dolan, 2013). Furthermore, (Gatignon et al., 2010) proposed that 80% of the expenses associated with addressing a disaster are within the domain of Logistics Supply Chain Management (LSCM). (Day et al., 2012)

also indicated that a portion of the 40% of financial resources allocated to humanitarian logistics (HL) ends up being wasted (Islam, Vate, Heggestuen, Nordenson, & Dolan, 2013).

2. METHODS

In order to integrate the domains of supply chain finance and the logistics of the humanitarian supply chain, this study puts up a viewpoint that applies systematic reviews. The systematic review process makes the underlying values and assumptions of a review explicit in an effort to mitigate bias. Policymakers and practitioners might use the evidence derived from the systematic review, which has greater legitimacy and authority, as a foundation for decision-making and action (Tranfield et al., 2003).

The purpose of conducting a systematic review on humanitarian supply chain finance is to examine how the authors have tackled the difficulties by discussing the integration of both HASCF domains. On the other hand, the funding of humanitarian response is essential for the institutions as well as the donors. The funding of humanitarian relief is essential, as was noted in the preceding chapter, and there are additional funding-related concerns that arise (corruption, financial visibility, unsolicited donations). Further research on this subject could be beneficial in a number of ways, including ensuring donors about the funding flow, improving coordination between the institution and donors in the delivery of aid, and enhancing the efficiency of fund transfers by utilizing existing technologies.

Any literature review must have a thorough methodological approach. A research issue that is too wide or unclear or too limited would not be eligible for a systematic review. As a result,(Okoli, 2015) provided the following eight steps for carrying out a systematic literature review:

1. Determine the purpose: The first stage in doing a systematic literature review is to precisely identify the review's objectives, so the report's readers will need to know what it is about.
2. Create a draft protocol and provide team training; the reviewer must fully understand and concur with the process that will be followed. To guarantee uniformity in the way the reviewers carry out the process, a comprehensive written methodology and training for each reviewer—if there are multiple—will be necessary.
3. Use a practical screen: as is the case with any literature review, the reviewers must state clearly which studies they are taking into consideration and which ones they are discarding. The reviewer must justify the excluded studies' exclusion from consideration and explain how the final evaluation may still be thorough in light of the workable exclusion criteria.
4. Searching for literature: reviewers must be clear about the specifics of their literature search and provide evidence to support their claims that the search was exhaustive.
5. Evaluate quality: The reviewers must specify the standards by the way they will determine which papers to reject due to inadequate quality. Depending on the research methods they use, researchers must rate the quality of every publication they include.
6. Data extraction: Following the identification of all the studies that were part of the evaluation, the reviewers must methodically take the pertinent information out of each study.
7. Combine the information gathered from the studies using the proper qualitative, quantitative, or both methods to synthesize the research.
8. Write the review: The systematic review process should be described in sufficient detail so that other researchers can replicate the study's findings on their own.

We will go over the whole concept of the systematic review and go into deeper depth about each phase:

2.1 *Identify the purposes*

As mentioned in the first chapter, despite the fact that the humanitarian relief community has grown since the Second World War, coordinated plans are still frequently absent from humanitarian aid. Moreover, NGOs often face off against one another for funding. The two primary causes of the instability in the supply of humanitarian assistance chain are the government's politicized donations and the competitive nature of private fund-raising (Oloruntoba & Gray, 2006). Humanitarian supply chain finance is still a relatively unexplored area. There are just five references directly related to the financing of the humanitarian supply chain listed in the Scopus database. We shall attempt to create a systematic analysis of the funding of the humanitarian supply chain based on this supposition. The research's objective is to

determine how finance and humanitarian supply chain management are related. Additionally, check what has already been covered by writers in recent literature.

2.2 *Draft the protocol and train the team*

A protocol must be created before a study is carried out. According to (Keele S, 2007), a protocol is a plan that outlines how a suggested systematic literature review would be conducted. The team discussed internally how to scope this research so that everyone understood it before the investigation began. To prevent misinterpretation and maintain team alignment with the research objectives, the following factors were taken into account for this study:

- The study will concentrate on the relationship and points of intersection between supply chain finance and supply chain management for humanitarian aid.
- The study's primary objective is to analyze the organization or organizations that manage the humanitarian supply chain.
- The study will not concentrate on disaster management within a technical framework (e.g., early warning systems and how each region or nation handles a disaster). The study will focus on the financial aspects of the supply chain for humanitarian help, including donations and funding, the relationships between chain participants, and the use of technology and information to facilitate the flow of funding.
- The study will be chosen from among the publications available on Scopus between 2006 and 2019, as the UN declared that the 2005 earthquake in Pakistan and the 2004 tsunami in the Indian Ocean were the five deadliest natural disasters of the previous 20 years. Therefore, it would be vital to scope the research around both of the tragedies.

We must decide on the research topics because we have already decided on the essential scope. What is the relationship between supply chain financing and humanitarian help, and how does it function?

2.3 *Apply practical screen*

During the selection phase, the researcher will specify the study's objectives and include or exclude any studies that will obviously not accomplish them. The references will be chosen from the literary Scopus databases, and Google Scholar will be used to find some extra humanitarian stories. The texts will be articles, papers, and editorials from Scopus. Additionally, references written in English will be chosen. We are talking about various reports released by the UN, UNOCHA, UNISDR, WFP, and other organizations when we examine the humanitarian report on Google. These criteria are used to do the search. Review of the literature with an emphasis on keywords:

Humanitarian supply chain management

- Humanitarian aid
- In-kind donation
- Cash donation
- Supply chain finance
- Crowd-funding

The purpose of compiling these terms aimed to expand the list of references related to humanitarian aid and the humanitarian supply chain. Broadening the scope of references about donations and funding was one of Professors Harland and Caniato's proposals. Truncation characters must be considered in order to obtain a more significant number of potential publications. The string may contain Boolean logic operators like "and" and "or," as well as basic operations like "*" or "?"

2.4 *Searching for Literature*

Following step 3, the papers and journals on Scopus are searched, and the papers that are chosen will be quickly reviewed based on their titles and abstracts. by becoming familiar with 18 keyword combinations associated with finance for humanitarian supply chains. Table 1 will include a comprehensive list of all 18 keyword combinations. Based on 18 keyword combinations, a total of 1330 papers were retrieved after taking into account the titles and abstracts. The list of keywords and search terms used to choose the references is displayed in the table 1.

Table 1 Keywords Combinations

No	Keywords	Hits
1	Humanitarian Aid Blockchain	4
2	Humanitarian Aid Corruption	41
3	Humanitarian Aid Finance	31
4	Humanitarian Aid Procurement	40
5	Humanitarian Aid Security	549
6	Humanitarian Aid Working Capital	4
7	Humanitarian Procurement	122
8	Humanitarian Supply Chain Blockchain	3
9	Humanitarian Supply Chain Donor Management	29
10	Humanitarian Supply Chain Finance	5
11	Humanitarian Supply Chain Fund	11
12	Humanitarian Supply Chain Fund*	41
13	Humanitarian Supply Chain Funding	19
14	Humanitarian Supply Chain Funds	10
15	Supply Chain Donor Management	171
16	In-Kind Donation	95
17	Wanted Donation	163
18	Crowdfunding donation	132
Total		**1330**

2.5 *Quality Appraisal*

Here, the quality appraisal serves as a helpful filter, selecting articles based on predetermined standards to determine what kind of content will be accepted and what will not. The reports will be chosen if respectable organizations or institutions publish them, and the references will be chosen only on the basis of the Scopus academic database. The reports used in this study are freely accessible online publications from the UN and its agencies. For instance, UNOCHA's Global Humanitarian Overview Reports for 2018 and 2019 and the study released by the Fritz Institute, a humanitarian institution

2.6 *Extract the data*

The year of publication was considered as an extra factor while choosing the articles. The selected references cover the years 2006–2019. After an extensive selection process based on a study of the title and abstract, 44 papers (or around 3% of all the documents discovered) are chosen as being closely related to this topic.

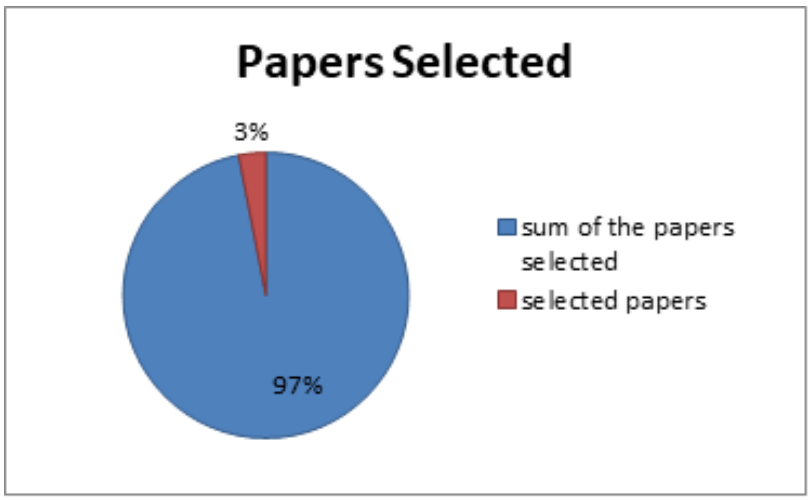

Figure 1 Percentage of selected papers

Only 3% of the papers that were accounted for will be examined in further detail because some of them appear more than once in terms of keywords, which is redundant information. Here are some instances that help explain why the repeat occurs:

Table 2 The redundancy of the papers in keywords used

Title of the selected papers	Authors and Year	Keywords Used
The funding- Humanitarian supply chain interface	Christian Burkart, Maria Besiou, Tina Wakolbinger (2016)	• Humanitarian Supply Chain Funds • Humanitarian Supply Chain Funding • Humanitarian Supply Chain Fund
Vehicle supply chains in humanitarian operations: Decentralization, operational mix, and earmarked funding	Maria Besiou, Alfonso J. Pedraza-Martinez, Luk N. Van Wassenhove (2014)	• Humanitarian Supply Chain Funds • Humanitarian Supply Chain Funding • Humanitarian Supply Chain Fund

Furthermore, other fields including medical, psychology, geography, politics, and entrepreneurship all utilize the same keywords. Furthermore, the majority of the studies covered corporate social responsibility, or CSR, which this study would not be focusing on. Table 2.1 indicates that we have eight keywords that encompass different science subjects outside the purview of HASCF when we insert those keywords into Scopus. These are lists of keywords along with the categories in which they are also used.

Table 3 Other Science Field Covered by the Keywords

Keywords	Other Science Field Covered
The word contains "security"	Political and geographical
The word contains "donation" and "donor"	Medical and psychological
The word contains "blockchain" and "humanitarian"	Information and Technology (IT)
The word contains "crowd-funding", "funding", and "cash"	Entrepreneurial, taxation, and CSR

As previously mentioned, the keywords selected also encompassed other fields, which also produced articles unrelated to the subject of this study. Consequently, only 44 articles (3%) out of 1330 publications collected were deemed to be relevant to our research. Four UN papers—the "Global Humanitarian

Review 2019" from UNOCHA and "The Disaster Report 2018" from UNISDR, for example—also take into account the current state of humanitarian relief. These reports provide further information about the situation. We create an Excel table based on the chosen documents in order to streamline the details and classification. The articles were divided into themes by us. Nine themes are suggested to help understand each paper's overall structure and help better categorize the general themes of each of the 44 papers. Additionally, an article may have multiple issues. The list of themes is as follows:

1) In-kind or cash donation
2) Temporal (pre/during/post) disaster/ development aid
3) Information technology or digital technology
4) Corruption
5) Logistics
6) Financial tracking and tracing
7) Procurement
8) Supply chain finance
9) Forecasting

In addition to categorizing the papers according to themes, the necessary details about the papers are also taken into account in order to help identify the papers more accurately in the future. The statistical distribution of the papers is also shown based on the publications' year of publication, institutional collaboration, methodology, and other details. The following is an inventory of the data we gathered while reviewing the literature:

1. Title
2. Authors
3. Year
4. Name of the journal
5. Name of the source
6. Name of the keywords used
7. Link
8. Summary of the paper
9. Conclusion of the paper
10. Comments; personal comments from the reviewer
11. Proposed research or recommendation (if any)
12. Methodology; how the author collect the data in the references, whether it is a literature review, observation, interview, etc
13. The locations; where the research is taken place
14. The type of assistance they performed; whether the references explain about the disaster/emergency assistance or development assistance
15. Sample used; if the references made some sampling method
16. Theory; any theory used in the references
17. Collaboration of the institutions; to identify from which institution the papers are published (academia, institutions, NGO, government, or the collaboration among them).

Lastly, it is crucial to carry out the content evaluation in order to find and examine any possible similarities among the themes and articles. To assist the reader grasp this still-evolving topic, the final result synthesizes the data and discusses the consequences of HASCF. We'll continue our review of the literature.

3. RESULT AND DISCUSSION

3.1 The pillars of supply chain finance and humanitarian aid supply chain

The main actors in humanitarian supply chain aid pictured as follows: donor - humanitarian agencies – beneficiaries. Three challenges face humanitarian assistance. First, the humanitarian aid response may face two types of situations: keeping relief items ready to be mobilized before they are needed (but currently, humanitarian agencies are having difficulty providing the cash to operate the activities), and when humanitarian agencies have

no items but the disaster occurs, and the agencies must respond as soon as possible even before the cash is available. Second, the HASCF typically requires assistance from several fields. One of the issues identified by the humanitarian response is the financial shortfall issue. Third, while talking about funding, there is a chance of corruption and financial mismanagement. There could be a risk of corruption due to the numerous parties involved in humanitarian help, the variety of donations, and the lack of facilities to support transparency initiatives. The supply chain finance has three critical elements:

1. the liquidity/cash
2. the operational activities
3. the engagement of the actors

The SCF will serve as the foundation, and the three essential components of the SCF will be used to identify and categorize the nine themes. Given their close relationship to operational activity, logistics, purchasing, and forecasting will be included in the operational tasks. The actor's involvement will include information/digital technology, financial tracking and tracing, and corruption. The donation (cash or in-kind) and the date (before to the disaster, during the disaster, or after the disaster) will be included in the liquidity/cash.

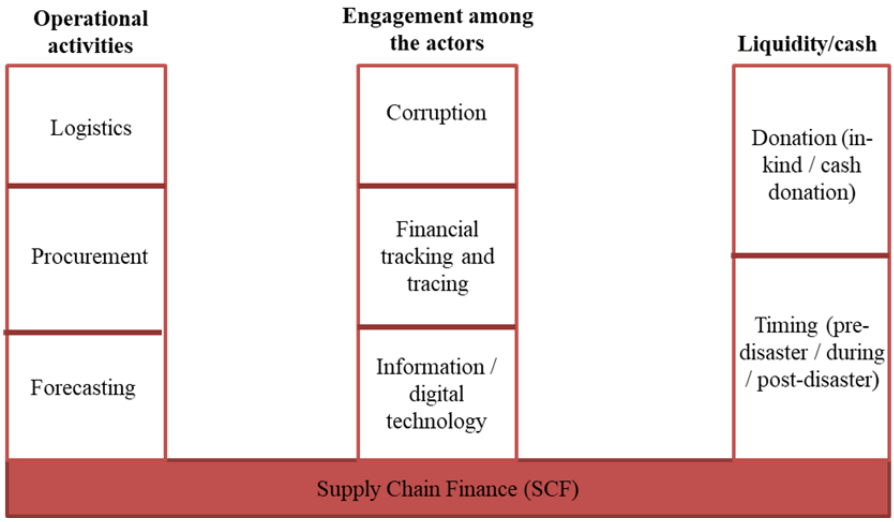

Fig 2 Pillars of SCF and humanitarian supply chain

3.2 Operational activities: logistics, procurement, and forecasting in HASCF

Logistics, procurement, and forecasting are the three topics that guide operational activity. Every actor is immediately impacted by the operational actions. The timing of the operational actions (pre-disaster, during the disaster, and post-disaster) also varies; each stage requires a distinct focus. The beneficiaries must be able to access and receive the relief supplies efficiently. However, unlike the commercial supply chain, it is impossible to forecast the demand for the commodities in the case of humanitarian relief. The supply chain in this industry must be nimble due to the unpredictability and uncertainty of humanitarian aid, which (Oloruntoba & Gray, 2006) described as the capacity to flourish in an environment characterized by frequent and unpredictable change.

Humanitarian organizations typically require strategies for logistics management to maintain the effectiveness and efficiency of the entire chain. It is crucial to control the "important relief aid" that must be supplied as soon as the crisis strikes and to reduce the amount of unsolicited donations that could trigger the "second disaster." The IFRC has taken the initiative to work with international suppliers to obtain necessary relief supplies (such as blankets, sleeping bags, etc.). This will inevitably lead to a commitment to maintain a predetermined supply.

According to (Oloruntoba & Gray, 2006), the humanitarian supply chain requires flexibility due to its unpredictable and uncertain nature when it comes to stocks as a component of logistics. They suggested that demand data should be kept near to the upstream and that strategic inventory should be kept in a generic form close to the downstream. Together, these two can create a hybrid supply chain that blends nimble and effective downstream supply with lean and efficient upstream supply. They described the method of postponement, which aimed to delay inventory until the customer order was received, so lowering the "anticipatory risk" of logistics. This allowed for the timely delivery of the necessary relief materials and proved to be a more affordable option than prepositioning. (Miko & Abbas, 2023) posit the pivotal role of last-mile delivery within the realm of

humanitarian aid. They contend that considerations such as delivery time, cost, mode of delivery, and facility technology are paramount in bolstering the efficiency of last-mile delivery systems. The avoidance of supply stockouts and the consequential enhancement of life-saving interventions are highlighted as key imperatives driving these optimization efforts.

When it comes to procurement, having more precise information about the things required might help the process work better. Placing the necessary orders will decrease the amount of unsolicited goods, saving additional money, enhancing accuracy, and lowering the possibility of corruption. Humanitarian organizations must establish plans to deal with the flexibility of disaster management when it comes to the procurement activity to control the supply of relief supplies. In humanitarian organizations, managing the long-term contract with the supplier is another tactic used.

3.3 Engagement among the actors: corruption, financial tracking and tracing, and information/digital technology in HASCF

The corruption listed as one of the challenges in humanitarian response. (Schultz & Søreide, 2008) proposed four initiatives to prevent any corruption act:

1. Reducing the "on-the-spot" procurement: the idea of having pre-determined stock and inventory for most-needed relief items that mentioned before
2. Involving the beneficiary regarding the procurement activities: beneficiaries as the person who is living in the affected area and will continue the development of the in it are the ones who understand what they need to develop long-term community.
3. Monitoring and evaluation by "real-time evaluation". UNOCHA has done this initiative in leveraging technology to maintain the financial tracking and tracing services as the activities to reduce the corruption. The ideas for proposing blockchain also emerge in cope up with fraud and corruption.
4. Sanctions: the firms might lose their eligibility to participate in future tenders for defined a period if they do any bribery.

The other initiatives in leveraging the technology (especially for collaboration with other parties) are the mobile money services, voucher-based initiatives, and the idea of leveraging on the blockchain. Using digital technology to facilitate financial tracking and tracing can lower the risk of corruption and other difficulties experienced by humanitarian organizations, while also boosting donor confidence in the humanitarian response's operations.

(Veron, 2022) implies several recommendations can be inferred from the utilization of digital tools in humanitarian endeavors. These include the expansion of digital tool implementation to enhance efficiency and efficacy, facilitating targeted financing allocation through the utilization of objective and precise data. Additionally, fostering digital literacy within organizational and institutional frameworks, cultivating partnerships with the private sector, and prioritizing the maintenance and sustainability of technological infrastructure are crucial components for advancing humanitarian initiatives in the digital age.

3.4 Liquidity/cash: donations (in-kind and cash donation) and timing (pre/during/post-disaster)

Pre-, during, and post-disaster phases of the humanitarian response all depend on the availability of resources (currency and liquidity). The primary players in the system are the donors. One of the issues the humanitarian supply chain faces is the financial deficit. The recommended solutions to this problem are the Grand Bargain and crowdfunding. The Grand Bargain was published in 2016 during the World Humanitarian Summit. Grand Bargain seeks to close budget gaps by reducing earmarking, standardizing reporting guidelines, offering longer-term financing, increasing transparency, and defining longer-term planning and strategy.

It is imperative that the donation be timed to correspond with the various phases of humanitarian relief efforts. Keeping the essentials for the first aid response following the disaster is one way the humanitarian aid response keeps its operational capital intact. Non-perishable goods (such as blankets, sleeping bags, tents, etc.) and in-kind donations were determined to be necessary to help the initial phase of relief efforts following the tragedy.

Regarding the "supply chain-oriented" perspective, which makes use of working capital availability, (Heaslip et al., 2018) contended in their research that the cash-based response (CBR) initiative for humanitarian aid could expedite aid delivery and lessen the need for inventories and transportation capacity. Consequently, it will be easier to manage the beneficiaries' current need if there is cash on hand. Like the monetary gift, the in-

kind donation regulation was also successful in lowering the amount of unsolicited donations. The government of the affected nation and the humanitarian community must determine the priorities for life-saving goods, and the in-kind donations must be suitable for the recipients.

It is crucial that donations be sent in kind or cash depending on when they are needed—before, during, or after a crisis. In response to the dynamic humanitarian aid environment, several laws, programs, and strategies have been developed to support the resource's availability.

3.5 The role and connection of supply chain finance in humanitarian aid

The relationship between the supply chains for humanitarian aid and money was covered in the preceding section. We may draw the conclusion that there is a strong link between supply chain finance and humanitarian thelp, as evidenced by the pillars that matched the nine themes found in the scholarly literature on the subject. Maintaining the availability of resources (monetary and in-kind donations) to meet the requirements of the recipients across all phases of humanitarian operations is also essential. Suggested approaches to disaster relief include integrating the supply chain financial perspective with humanitarian help.

Two further factors that influence the HASCF are the actors and the events. In general, for the HASCF to be completed, each component must cooperate and assist the others.

Fig 3 The sequence line of HASCF

Actors are the second sequence, which will fulfil the HASCF practice and act during the events, while events are the first sequence that is closest to the HASCF practice. The first two necessary components for the HASCF's implementation are the actors and the events. Every component embodies the events and their current state of performance. The performers act out the scenes as they happen. The recipients will request necessities, the relief organizations will arrange for delivery of supplies, and the donors will provide financial support to the humanitarian organizations. Next, it proceeded with the other components in the sequence.

For actors to be supported and managed during different stages of an event, cash liquidity is essential. To address issues in Humanitarian Aid and Supply Chain Finance (HASCF), operational operations concentrate on distributing and managing donations within the liquidity and fostering coordination among parties. For operations to continue, there must be a relationship between gifts, liquidity, and timing. Inventorying beneficiary needs at various stages of a disaster is necessary for humanitarian agencies, and this has an impact on the kinds of donations and purchases that are made. Timing and resource availability are key factors in how well operational operations integrate with other components.

Actor engagement entails operational, financial, and liquidity-related tasks. Technology is used to reduce the risk of corruption and improve accountability. All phases of humanitarian relief depend heavily on digital technology, which fosters cooperation, efficiency, and transparency in HASCF components. Donors and funding are important components that necessitate openness in financial management. Information and technology enable financial tracking and tracing, which keeps an eye on cash and liquidity. The Green Bargain ensures accountability and transparency by filling in budget shortfalls. In the Humanitarian Aid and Supply Chain Finance (HASCF) performance, actors work together with occurrences.

4. CONCLUSION

The Humanitarian Aid Supply Chain Finance (HASCF) is examined in this reserach with a focus on stakeholder coordination and collaboration. Nine topics are connected by three essential components: involvement among participants, liquidity/cash, and operational activities. These themes constitute a sequence for HASCF practices. The reduction of corruption and enhancement of teamwork are attributed to transparency and technology. In order to manage humanitarian relief resources effectively, avoid waste or shortages, and satisfy the requirements of beneficiaries, HASCF is essential. Some limitations of this research include its emphasis on scholarly literature and its preference for disaster relief over development aid. These points point to the necessity for more research with field experts and a wider range of humanitarian contexts..

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