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Humanitarian-Business Partnerships in Managing Humanitarian Logistics

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Humanitarian-Business Partnerships in Managing Humanitarian Logistics

Structured Abstract:

Purpose - The aim of this article is to conduct a systematic literature review to understand the state of the art of partnerships between humanitarian organizations and business corporations in managing humanitarian logistics.

Design/methodology/approach - A systematic literature review is conducted based on the steps proposed by Denyer and Tranfield (2009). The Context-Intervention-Mechanism-Outcome (CIMO) logic is applied to identify the state of the art of partnerships between humanitarian organizations and business corporations in humanitarian logistics. Thirty-six papers related to the topic are extracted from recognized journal databases and then classified into four categories based on the CIMO logic: situational context, intervention factors, mechanisms, and outcomes.

Findings – The study shows that while the context and mechanisms for developing cross-sector partnerships between the humanitarian and the business sector have been examined and illuminated by many researchers, additional research (in particular, empirical studies) is needed to measure outcomes as well as the contributions of partnerships to the performance of humanitarian logistics. In addition to synthesizing the literature in this area this study also presents challenges of such partnerships.

Academic and practical implications – The study improves the understanding of the state of cross-sector partnerships in humanitarian logistics as well as identifies opportunities for future research in this area. The study provides reasons and motives of initiating humanitarian-business partnerships in humanitarian logistics as well as their mechanisms and potential outcomes. This may help in developing successful logistics partnerships with each other.

Originality/value – This is the first systematic literature review to examine the nature of partnerships between humanitarian organizations and business corporations in humanitarian logistics using CIMO logic.

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3 Keywords: Humanitarian logistics, humanitarian supply chain, partnership, collaboration,
4 humanitarian-business partnerships.
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8 Paper type: Literature review.
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11 12 13 **1. Introduction**

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16 The importance of effective management of humanitarian supply chains is beyond question.
17 The stakes in the humanitarian sector are high and a well-managed supply chain is crucial
18 to achieving humanitarian goals (Van Wassenhove, 2006). It is generally acknowledged that
19 humanitarian supply chains face many challenges, including poor logistics infrastructures
20 (Liu et al., 2010), slow coordination and response (Chandes and Paché, 2010), fragmented
21 technology and information systems (Tatham and Spens, 2011), and high employee
22 turnover (Beamon and Kotleba, 2006; Van Wassenhove, 2006; Tomasini and Van
23 Wassenhove, 2009). At the same time, humanitarian supply chains are also argued to be
24 among the most agile supply chains in existence (Van Wassenhove, 2006).
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32 Several researchers have recommended that the humanitarian sector take lessons from the
33 business sector (Scholten et al., 2010; Tomasini and Van Wassenhove, 2009). It has, for
34 example, been argued that the humanitarian sector would better achieve its goals with
35 greater supply chain collaboration and coordination (Balcik et al., 2010; Van Wassenhove,
36 2006; Maon et al., 2009), an area with which the business sector has significant experience.
37 Although such collaboration is often seen as beneficial humanitarian organizations also face
38 difficulties in managing collaborative efforts, including collaboration with the private
39 sector. These difficulties may stem from conflicting goals and mandates (Kumar and Havey,
40 2013; Kovács and Spens, 2007), lack of willingness to share information (Altay and Pal,
41 2014), technology barriers (Altay and Pal, 2014; Pettit and Beresford, 2009b), structure
42 conflict (Akhtar et al., 2012), cultural conflict (Kovacs and Spens, 2007) or lack of
43 performance metrics (Simatupang and Sridharan, 2005). The business world, which is
44 highly experienced in these areas (Bolumole, 2001; Fabbe-Costes and Jahre, 2007) could,
45 some argue, help humanitarian organizations improve the humanitarian supply chain by
46 taking advantage of the resources and expertise of the business sector (Tomasini and Van
47 Wassenhove, 2009).
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Cross-sector partnerships have been discussed as a means to address the complex cross-sectoral problems that exceed the ability of a single sector (Selsky and Parker, 2005; Clarke and Fuller, 2010). A cross-sector partnership generally involves the government (public), business (private), and non-profit (civil society, communities) sectors (Waddell and Brown, 1997). By engaging in a cross-sector partnership, an organization or sector can expand its boundaries and achieve outcomes that are difficult to be gained individually (Selsky and Parker, 2005; Clarke and Fuller, 2010; Waddell and Brown, 1997).

Although the idea of applying cross-sector partnerships in the humanitarian sector has been suggested by several researchers (Kovács and Spens, 2011; Thomas and Fritz, 2006; Van Wassenhove, 2006), the discussion on how such partnerships could benefit humanitarian supply chains has not yet been researched thoroughly. Even though the potential contributions of the business sector to the humanitarian sector are expected to be positive and significant (Maon et al., 2009; Thomas and Fritz, 2006; Tomasini and Van Wassenhove, 2009; Van Wassenhove, 2006), there is still a lack of research on how such contributions might be transferred from the business sector to the humanitarian sector.

In this article, we perform a systematic literature review to identify the current state of cross-sector partnerships between humanitarian organizations and business corporations in managing humanitarian logistics. We adopt the CIMO (Context-Intervention-Mechanism-Outcomes) logic proposed by (Denyer and Tranfield, 2009); that is, in a context (C), interventions (I) are used to generate mechanisms (M), which will lead to Outcomes (O) (Pilbeam et al., 2012; Rousseau et al., 2008). We complement the discussion on cross-sector partnerships in humanitarian logistics with a brief analysis of opportunities in this area that we based on practitioner input.

The remainder of this paper is organized as follows. In Section 2, we discuss the methodology of this study. In Section 3 we present our descriptive analysis. In Section 4 we discuss our findings. In Section 5, we discuss some challenges in managing effective humanitarian-business partnerships and we also propose an agenda for future research. Finally, the paper ends with a summary conclusion.

2. Methodology

2.1 Study design

In this article we adopt the systematic literature review methodology proposed by Denyer and Tranfield (2009). Systematic review is a specific methodology that locates existing studies, selects and evaluates contributions, analyses and synthesizes data, and reports the evidence in such a way that allows reasonably clear conclusions to be reached about what is and is not known (Denyer and Tranfield, 2009). The method synthesizes existing information related to a set of research questions in an unbiased presentation through five main steps: (1) formulating research questions; (2) locating studies; (3) selecting and evaluating studies; (4) analyzing and synthesizing results; and (5) reporting.

Denyer and Tranfield (2009) propose the use of CIMO (Context-Intervention-Mechanism-Outcomes) logic in specifying a systematic literature review. The CIMO logic has been adopted in many systematic literature reviews and case studies as it gives a clear analytical framework (Colicchia and Strozzi, 2012; Mazzocato et al., 2014; Pilbeam et al., 2012; Rossi et al., 2013). According to CIMO, in a specific context (C), an intervention (I) is initiated to generate mechanisms (M) in order to deliver expected outcomes (O) (Pilbeam et al., 2012). We describe the development of CIMO for this study below:

Context. Context refers to which systems/ organizations/ problems are being studied. (Colicchia and Strozzi, 2012). The ‘context’ in this study is humanitarian logistics. Humanitarian logistics has its own objectives and characteristics (Van Wassenhove, 2006; Beamon and Kotleba, 2006), which differ from those of the business sector. A discussion of the context of humanitarian logistics involves a description of its situation, environment, stakeholders, challenges, as well as the connections between such contextual elements.

Intervention. Intervention refers to the event or action the effects of which are being studied (Colicchia and Strozzi, 2012). One specific ‘intervention’ that we investigate in this study is the adoption of cross-sector partnerships. Some researchers have argued that it is important for the humanitarian sector to develop cross-sector partnerships with the business sector (Scholten et al., 2010; Tomasini and Van Wassenhove, 2009). Cross-sector partnerships have been identified as a means by which to address complex social problems that exceed the capacity of any single sector (Clarke and Fuller, 2010; Selsky and Parker,

2005). The discussion is developed from the perspective of solving mutual problems that affect two or more sectors and from the perspective of each individual organization/ sector.

Mechanism. Mechanism refers to the process that explains why a particular intervention will lead to specific outcomes. Put another way, a mechanism explains the relationships between intervention and outcome (Colicchia and Strozzi, 2012). The ‘mechanism’ in this study is composed of the activities brought about by humanitarian-business partnerships within the context of managing humanitarian logistics. The discussion involves how these activities can be delivered by humanitarian organizations and business corporations.

Outcomes. Outcomes refers to the effects or results of an intervention brought about by the use of a specific mechanism (Colicchia and Strozzi, 2012). In this study we focus on the outcomes of humanitarian-business partnerships on humanitarian logistics. The discussion involves what the outcomes are, how to measure these outcomes, and what intended and unintended effects may occur.

Using the CIMO logic as a basis, we describe the research question of our systematic literature study as follows: In the context of humanitarian logistics, through which mechanisms does adoption of cross-sector partnerships affect the outcomes of humanitarian logistics?

2.2 Locating studies and study selection

The key in systematic reviews is to expand the search to the most possible and relevant literature related to research questions. Below we describe how we searched.

Selection of databases

To ensure the reliability and completeness of our database source we used online databases providing multiple subjects and broad access to various types of articles, multiple journals, and multiple publishers. We included two widely used electronic databases: ABI/INFORM and Science Direct. These databases are among the largest in terms of the collection of published articles with multiple subjects, including social sciences. We furthermore

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3 reviewed additional journals published by well-known publishers including Springer,
4 Wiley, Emerald and Taylor and Francis.
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8 Time horizon for the selection of papers

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10 Some authors suggest that research on humanitarian logistics and its related areas began to
11 receive significant attention only after the Indian Ocean Tsunami of 2004 (Abidi et al.,
12 2014; Beamon and Kotleba, 2006); however, to increase the likelihood of finding related
13 articles for this review we did not restrict the time horizon of the search to 2004 and later.
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18 Article selection

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20 To search for articles we first developed multiple search terms. Since our focus is
21 partnerships between humanitarian organizations and business corporations in managing
22 humanitarian logistics, we used "humanitarian logistics" and "humanitarian supply chain"
23 in our keywords. Different terms may be used for partnerships between two parties; for
24 instance, Jahre and Jensen (2010) find that the terms coordination, collaboration,
25 cooperation, and integration are all used interchangeably. We therefore also included
26 "partnership", "collaboration", "coordination", and "agreement" as keywords. Finally, in
27 order to focus on partnerships in the humanitarian sector that involve the business sector
28 we added "corporation", "company", "commercial", and "business" to our keywords. We
29 also combined keywords using Boolean operators (AND, OR). The final keywords used in
30 our study were: ("humanitarian logistics" OR "humanitarian supply chain") AND
31 ("agreement" OR "collaboration" OR "coordination" OR "partnership") AND
32 ("corporation" OR "company" OR "commercial" OR "business"). We limited our search to
33 academic and peer-reviewed articles to ensure quality, as proposed by David and Han
34 (2004) and Vazquez-Carrasco and Lopez-Perez (2013).
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48 Inclusion and exclusion criteria

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50 In the next step, we develop and apply inclusion and exclusion criteria to the article search,
51 in order to assess the relevance of each paper to our research objectives, as summarized in
52 **Table 1.**
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We performed our search in November 2016 and included papers up to July 2016. Our database search, which was based on the aforementioned set and combination of keywords, resulted in 450 articles in ABI/INFORM and 153 articles on Science Direct. We furthermore found 124 articles in Emerald, 46 articles in Taylor & Francis, 202 articles in Springer, and 118 articles in Wiley journals based on the aforementioned keywords. Since we focused on partnerships between humanitarian agencies and business organizations we excluded all articles that were not related to disaster relief conducted by humanitarian organizations, e.g. humanitarian operations conducted by military personnel or partnerships to support military operations. After applying the inclusion and exclusion criteria, our search resulted in 104 articles in ABI/INFORM, 82 articles on Science Direct, 97 articles in Emerald, 16 articles in Taylor and Francis, 24 articles in Springer, and 27 articles in Wiley. We first eliminated duplicates; then carried out further selection by reviewing the abstract and content; and then conducted a quality assessment based on the research question, methodology, and contribution of each article to the existing body of knowledge (Pilbeam et al., 2012). This process resulted in a total of 36 articles. **Figure 1** shows the process of locating, studying, and evaluating studies.

<INSERT FIGURE 1 ABOUT HERE>

2.3 Analysis and synthesis

The final sample of 36 papers were then analyzed and categorized. An analysis and synthesis of information from the articles was entered into a spreadsheet for descriptive and thematic analysis. There are a number of alternative approaches to synthesizing literature systematically (Denyer and Tranfield, 2009). Since this study aims to identify what works in which circumstances, as conceptualized by the CIMO-logic, we adopted an explanatory method of synthesis as proposed by Rousseau et al. (2008). We developed four sub-topics based on our CIMO logic: the humanitarian logistics context related to cross-sector partnerships, the adoption of cross-sector partnerships in humanitarian logistics as an intervention, the mechanisms of humanitarian-business partnerships in humanitarian logistics, and the potential outcomes of humanitarian-business partnerships in humanitarian logistics. The results of the thematic analysis and synthesis can be seen in **Table 2**.

<INSERT TABLE 2 ABOUT HERE>

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3 In order to identify whether the findings of our literature study are also recognized in
4 practice we decided to interview practitioners. We asked experts to comment on the
5 challenges and opportunities in humanitarian-business partnerships for managing
6 humanitarian logistics. This is reported in section 5 (Challenges and future research
7 agenda).
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11 12 13 **3. Descriptive analysis**

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15 In this section we describe the number of articles per year, the region of the authoring
16 research centers, and the methodologies used in articles.
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20 Number of articles per year

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22 <INSERT FIGURE 2 ABOUT HERE>
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25 Our study shows that research attention to partnerships between the humanitarian sector and
26 the business sector on managing humanitarian logistics increased after the 2004 Tsunami.
27 This finding is supported by Beamon and Kotleba (2006) and Abidi et al. (2014). Until the
28 2004 Tsunami there was a limited amount of research in the area of humanitarian logistics
29 generally. Our study finds that output was greatest in 2009 and 2010.
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35 Articles by region of research center

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42 We found that a majority of the papers included in the review were authored by researchers
43 at research centers located in Europe (61.5%). Finland and France contributed the most
44 articles, followed by Germany. Research centers in the US and Canada contributed 27% of
45 the papers. The remaining articles came from Australia (8.9%), followed by Asia
46 (Singapore; 2.5%).
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53 Number of articles per methodology

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While all of the reviewed articles applied a literature-based approach in developing their content, we found thirteen articles that discuss general conceptual models or frameworks focused on the wider topic of humanitarian logistics. Out of these thirteen articles, five articles discuss a conceptual model or framework specifically related to the mechanisms of humanitarian logistics partnerships between humanitarian organizations and the business sector. We found 14 papers that used a case-study approach. Among these case studies, we found only five articles (Maon et al., 2009; Rueede and Kreutzer, 2014; Van Wassenhove, 2006; Chen et al, 2013; Thomas and Fritz, 2006) that focused on cross-sector partnerships in the humanitarian sector. The remaining methods used were survey and in-depth interviews. Example are Haigh and Sutton (2012) and Rueede and Kreutzer (2014), who conduct interviews with practitioners from the humanitarian and the business sector.

4. Discussion

In this section, we discuss the context of humanitarian logistics, the interventions in humanitarian logistics conducted by humanitarian organizations and business corporations by adopting cross-sector partnership, the mechanisms involved, and its potential outcomes.

1. The humanitarian logistics context

We found that 25 articles of articles investigated discuss the context of humanitarian logistics (See **Table 2**).

The main objective of the humanitarian sector is to meet human basic needs and to minimize human suffering (Beamon and Balcik, 2008; Van Wassenhove, 2006). The mission of humanitarian logistics is to deliver humanitarian goods and services to meet these needs in the most efficient and responsive way (Beamon and Balcik 2008). Humanitarian logistics embodies all logistical activities from preparedness to recovery phases (Kovács and Spens, 2009). It serves operations for natural disasters and man-made disasters (Van Wassenhove, 2006), anticipating both slow-onset and rapid-onset disasters (Kovács and Spens, 2009). International humanitarian agencies are the major actors in this industry. They can be categorized as (1) organizations under the umbrella of the United Nations, e.g. World Food Program (WFP) or United Nations High Commissioner for

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3 Refugees (UNHCR); (2) humanitarian organizations with a role as implementing partners,
4 e.g. Care International or Oxfam; or (3) the International Federation of Red Cross and its
5 affiliated National Societies (Oloruntoba and Gray, 2009; McGoldrick, 2011).
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9 The environment of humanitarian logistics is characterized by turbulence and volatile
10 situations. Time pressure in humanitarian operations is high due to the high stakes involved
11 (Kovács and Spens, 2007; Rueede and Kreutzer, 2014; Van Wassenhove, 2006; Bealt et
12 al., 2016). Demand is unpredictable and supply patterns are not clear (Kovács and Spens,
13 2009; Oloruntoba and Gray, 2006; De La Torre et al., 2016). Predicting lead time is
14 difficult and sometimes the available lead time is extremely short (Balcik et al., 2010;
15 Beamon and Balcik, 2008; Charles et al., 2010). Visibility and accountability are low in
16 humanitarian logistics due to a lack of information along the supply chain (Scholten et al.,
17 2010; Tatham and Pettit, 2010; Beamon and Balcik, 2008; Van Wassenhove, 2006). When
18 a natural disaster occurs, it is common for existing transportation and distribution networks
19 to be destroyed or unprepared (Beamon and Balcik, 2008; Tomasini and Van Wassenhove,
20 2009; Van Wassenhove, 2006). Information technologies are inadequate (Tatham and Pettit,
21 2010; Maldonado et al., 2010; Thomas and Fritz, 2006). Performance measurement is an
22 ongoing issue in humanitarian logistics (Beamon and Balcik, 2008).
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33 Humanitarian logistics has not been recognized as a respected career path (Tomasini and
34 Van Wassenhove, 2009; Thomas and Fritz, 2006). As a result, humanitarian organizations
35 are challenged by high employee turnover, lack of skilled logisticians, and unclear career
36 paths, making the management of human resources cumbersome (Tomasini and Van
37 Wassenhove, 2009; Van Wassenhove, 2006; Thomas and Fritz, 2006).
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43 Coordination and collaboration among agencies involved is a major issue in humanitarian
44 logistics due to: conflicting goals and mandates (Kovács and Spens, 2009; Fawcett and
45 Fawcett, 2013; Maon et al., 2009), a general lack of willingness to share information (Maon
46 et al., 2009; McLachlin and Larson, 2011), a lack of transparency among players (Pettit and
47 Beresford, 2009), culture shock (Kovács and Spens, 2007), and structure conflicts (Akhtar
48 et al., 2012; Haigh and Sutton, 2012; Heaslip, 2013; Jensen, 2012). Collaboration often
49 ensues only on an ad-hoc basis during a crisis; moreover, it is difficult to establish long-
50 term strategic collaboration (Pettit and Beresford, 2009).
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2. The adoption of cross-sector partnerships in humanitarian logistics

Since the 2004 Tsunami, many researchers have argued for cross-sector partnerships in the humanitarian sector. We found that 23 of the articles we incorporated in our review relate to the adoption of cross-sector partnerships in humanitarian logistics (See **Table 2**). In this section we discuss the reasons for adopting cross-sector partnerships in humanitarian logistics and the potential resources that can be shared among potential partners.

There is an assumption that partnerships with business organizations will help humanitarian organizations reach more efficient and effective humanitarian logistics by facilitating the transfer of knowledge and skills of supply chain and logistics management from the business sector to the humanitarians sector (Beamon and Balcik, 2008; Oloruntoba and Gray, 2009; Van Wassenhove, 2006; Thomas and Fritz, 2006). Researchers therefore suggest that cross-sector partnerships can foster better, more adequate, and innovative solutions to any given relief response (Maon et al., 2009; Van Wassenhove, 2006; Thomas and Fritz, 2006). From a supply-chain perspective, partnerships between commercial and humanitarian organizations are a reasonable thought since most supply-chain elements are similar in the commercial and humanitarian sectors; therefore, tools and methods developed for commercial supply chains can be adapted to humanitarian relief chains (Beamon and Balcik, 2008; Oloruntoba and Gray, 2006; Van Wassenhove, 2006). Additionally, the involvement of the business sector in relief operations could enable faster response times since some critical infrastructures that affect public well-being are owned by the commercial sector (Stewart et al., 2009).

From the perspective of the humanitarian sector, one urgent motivation for engaging in partnerships with the business sector is the need to learn about business supply chains. This urgency stems from the fact that humanitarian logistics is too fragmented to deal efficiently with the dynamics of relief operations (Kovács and Spens, 2009; McGoldrick, 2011; Scholten et al., 2010; Thomas and Fritz, 2006; Fikar et al., 2016). Business supply chains have long been recognized as mature supply chains (Beamon and Balcik, 2008; Oloruntoba and Gray, 2009; Thomas and Fritz, 2006). In the commercial sector, it is normal to use highly developed technology (Pettit and Beresford, 2009) and apply well-developed performance measurement techniques (Beamon and Balcik, 2008). Moreover, supply patterns are generally stable, inventory can be easily monitored, and lead times are

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3 predictable (Oloruntoba and Gray, 2006). Humanitarian organizations can learn about
4 quality, productivity, and efficiency from the 3PL and 4PL concepts (Jensen, 2012). Aid
5 agencies can collaborate with businesses to improve the effectiveness of their distribution
6 network, inventory management, and technology (Rueede and Kreutzer 2014; Pettit and
7 Beresford, 2009). The concept of agility, which is considered to be vital to business supply
8 chains, can be adopted by humanitarian organizations in order to increase the flexibility and
9 reliability of humanitarian relief chains (Charles et al., 2010; Scholten et al., 2010).
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16 Pressure from donors is another motivation for the humanitarian sector to collaborate with
17 the business sector, particularly since humanitarian organizations are increasingly
18 dependent upon corporate and individual private donations. Donors today increasingly
19 demand professionalization of the humanitarian sector (Oloruntoba and Gray, 2009;
20 Scholten et al., 2010). For example, they expect humanitarian organizations to be more
21 efficient, visible, accountable, and transparent; to deliver value for money; and to utilize
22 clear performance metrics in their supply chain (Beamon and Balcik, 2008; Oloruntoba and
23 Gray, 2009; Scholten et al., 2010). The humanitarian sector is also under increasing pressure
24 to demonstrate to their donors that their relief operations are able to reach targeted
25 beneficiaries. Since logistics is about 80% of relief operation, the efficiency and
26 effectiveness of humanitarian logistics is therefore becoming a major area of attention
27 (Oloruntoba and Gray, 2009; Scholten et al., 2010; Tomasini and Van Wassenhove, 2009;
28 Van Wassenhove, 2006).
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39 The pressure to initiate partnerships in relief operations is coming not only from the need of
40 humanitarian agencies, but also from business organizations. Like the humanitarian
41 organizations, businesses are under pressure to deliver benefits beyond profit to customers
42 and society (Maon et al., 2009; Rueede and Kreutzer, 2014; Thomas and Fritz, 2006; Bealt
43 et al., 2016) in order to boost their reputations and secure their licenses to operate. They are
44 expected to demonstrate that their Corporate Social Responsibility (CSR) policies and
45 practices are having significant impact (Jerbi, 2012; Muller and Kräussl, 2011; Rueede and
46 Kreutzer, 2014). As an example, several business corporations participated in so-called
47 'multi-stakeholder initiatives' (MSIs) aimed at addressing social and human rights issues in
48 order to advance their global corporate responsibility agendas (Jerbi, 2012). By engaging in
49 cross-sector partnerships in the humanitarian sector, business corporations can manifest
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3 their CSR ambitions, while increasing levels of internal staff motivation and boosting their
4 reputations (Balcik et al., 2010; Rueede and Kreutzer, 2014).
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8 For the business sector, another reason to take a role in mitigating the impacts of natural
9 disasters is because natural disasters can negatively impact productivity, growth, and
10 welfare of societies to which their customers belong (Maon et al., 2009; Thomas and Fritz,
11 2006). The overwhelming potential business loss that can result from natural disasters
12 justifies the efforts and contributions of the business sector to minimize the negative
13 impacts of natural disaster (Maon et al., 2009; Thomas and Fritz, 2006).
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19 Learning from the humanitarian sector is another reason for the business sector to engage in
20 partnerships. Given increasing uncertainty in the market, the business sector is continually
21 searching for new ways to expand their agility capabilities in order to improve their
22 competitiveness and profitability. Humanitarian organizations are accustomed to dealing
23 with high levels of uncertainty and the business sector can, in this respect, learn from the
24 humanitarian sector (Beamon and Balcik, 2008; Cozzolino et al., 2012; Maon et al., 2009;
25 Van Wassenhove, 2006; Charles et al., 2010).
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33 For business corporations, developing partnerships with well-established humanitarian
34 organizations can yield other benefits. Humanitarian organizations have decades of
35 experience, and therefore expertise with managing front-line relief operations (Kusumasari
36 and Alam, 2012; Lu et al., 2013; Pettit and Beresford, 2009; Thomas and Fritz, 2006). They
37 also have well established networks, access to communities, and relationships with key
38 stakeholders, such as the military and local governments (Kusumasari and Alam, 2012; Lu
39 et al., 2013; Pettit and Beresford, 2009; Thomas and Fritz, 2006). Successful disaster relief
40 operations requires both a high degree of adaptability to local conditions and sufficient
41 experience and skilled staffs (Kusumasari and Alam, 2012). In such uncertain situations a
42 learning-by-doing approach can be risky for any organization and establishing a partnership
43 with experienced partner is a good solution (Lu et al., 2013; Rueede and Kreutzer, 2014).
44 Business organizations will select partnership options that can ensure an employee's
45 security during disaster response activities (Rueede and Kreutzer, 2014). Pettit and
46 Beresford (2009) found that the business sector chooses to develop partnerships with
47 humanitarian organizations rather than with governments and military.
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3 Last, the key resources that the humanitarian sector can share with the business sector under
4 cross-sector partnerships are their network, access to vulnerable people, and knowledge and
5 skills related to humanitarian operations (Kusumasari and Alam, 2012; Lu et al., 2013;
6 Pettit and Beresford, 2009); and the main resources that the business sector can share with
7 humanitarian sector are the availability of funding, information technology, and skills and
8 expertise in the area of standardized supply chain (Charles et al., 2010; Jensen, 2012; Pettit
9 and Beresford, 2009; Rueede and Kreutzer, 2014; Scholten et al., 2010).
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16 3. The mechanisms of humanitarian-business partnerships in humanitarian logistics

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20 The operationalization of partnerships between humanitarian organizations and business
21 corporations in humanitarian logistics was discussed in 21 of the articles we incorporated in
22 our study (See **Table 2**). There are several ways in which businesses can be involved with
23 humanitarian agencies in the area of managing humanitarian logistics. Below we discuss the
24 mechanisms by which business corporations and humanitarian organizations cooperate
25 based on resources delivered, level of engagement, number of participants, phase of disaster
26 relief operation, financial agreement, and logistics activities. We discuss each in the sections
27 below.
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35 Business organizations can contribute cash, goods, services, or a combination of these
36 resources (Stewart et al., 2009; Tomasini and Van Wassenhove, 2009; Van Wassenhove,
37 2006; Thomas and Fritz, 2006). For immediate charity, cash donation can reduce the risk of
38 receiving unsolicited items delivered by business corporations (Van Wassenhove, 2006).
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44 Business organizations can engage in short-term ad-hoc collaboration during relief
45 operations or in more strategic partnerships (Balcik et al., 2010; Muller and Kräussl, 2011;
46 Muller and Whiteman, 2009; Tomasini and Van Wassenhove, 2009; Van Wassenhove,
47 2006; Thomas and Fritz, 2006). A well-known example of a long-term strategic partnership
48 is TNT and the United Nations World Food Programme (WFP) with “Moving the World”
49 (Maon et al., 2009). Compared to ad-hoc collaboration, a long-term partnership will provide
50 more opportunities for the humanitarian sector to learn from the business sector (Tomasini
51 and Van Wassenhove, 2009). However, collaborations in the humanitarian sector are often
52 initiated only when a crisis has occurred; and in such circumstances, it is much more
53 difficult to optimize strategic collaboration (Pettit and Beresford, 2009).
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4 Business organizations can develop partnerships with a single humanitarian organization,
5 jointly with a consortium, or via multi-stakeholders initiatives (Haigh and Sutton, 2012;
6 Jerbi, 2012; Thomas and Fritz, 2006; Chen et al., 2013). The United Nations High
7 Commissioner for Refugees (UNHCR)'s Council of Business Leaders is an example of
8 corporations engaging in humanitarian operations by joining a consortium. It consists of top
9 executives from major corporations working together with humanitarian agencies to
10 improve services for refugees (Haigh and Sutton, 2012). Another example of a consortium
11 for humanitarian purposes is the Business Roundtable initiative. This is an initiative
12 consisting of approximately 160 CEOs of leading U.S. corporations launched in response to
13 the 2004 tsunami (Thomas and Fritz, 2006).
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23 Furthermore, business corporations and humanitarian organizations can develop
24 partnerships to help humanitarian logistics in different phases of disaster relief, such as:
25 preparedness, implementation, reconstruction, or a combination of these. Corporations can
26 provide materials and financial support to charities immediately after the occurrence of a
27 disaster (Tomasini and Van Wassenhove, 2009; Van Wassenhove, 2006), or they can help
28 humanitarian agencies by engaging in preparedness phase before disasters occur (Maon et
29 al., 2009; Pettit and Beresford, 2009; Stewart et al., 2009; Chen et al., 2013). Continuing
30 with collaboration after a disaster can help organizations to share experiences and
31 information, which will improve future coordination activities (Pettit and Beresford, 2009).
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40 While partnerships between the humanitarian and business sectors are identical to charitable
41 activities and Corporate Social Responsibility, in this study we found that this is not the
42 only option. Not all agreements are philanthropic in nature. Business corporations and
43 humanitarian organizations can very well be engaged in in business agreements as several
44 studies have suggested (Balcik et al., 2010; McLachlin and Larson, 2011; Schulz and
45 Blecken, 2010; Pazirandeh and Herlin, 2014; De la Torre et al., 2016). In line with this,
46 Balcik et al., (2010) consider two types of relationships between business sector and
47 humanitarian sector: commercial relationships and the philanthropic relationships. Several
48 authors furthermore suggest that the concept of third or fourth party logistics providers
49 (3PL/4PL) is also applicable within the humanitarian field (Tatham and Pettit, 2010; Jensen,
50 2012).
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3 The last consideration is the type of logistics activity. Business corporations can choose to
4 be involved in primary logistics activities or in support activities. Stewart et al. (2009)
5 summarizes that a corporation can be involved in humanitarian logistics by providing
6 information exchanges, operational linkages, legal bonds, corporate norms, or by acting as a
7 buyer or seller. When business corporations choose to be involved in primary logistics
8 activities, the coordination within organizations can be either horizontal, which involves
9 different organizations working at the same level, or vertical, which involves different
10 members at different value-chain stages (Balcik et al., 2010; Pettit and Beresford, 2009;
11 Bealt et al., 2016). Examples of primary humanitarian logistics activities are transportation,
12 inventory management, and warehousing. Examples of supporting logistics activities are the
13 development of information technology and back-office support to improve the logistics
14 functions of humanitarian operations (Tomasini and Van Wassenhove, 2009). Vertical
15 collaboration between humanitarian organizations and their suppliers can help to lower
16 purchasing costs (Pettit and Beresford, 2009). An example of horizontal collaboration in
17 humanitarian logistics is the 'Get Airport Ready for Disaster' partnership by Deutsche Post
18 DHL Group (DPDHL) and United Nation Office for the Coordination of Humanitarian
19 Affairs (UN OCHA), in which Deutsche Post DHL provides airport-related primary
20 logistics services and support activities such as training (Rueede and Kreutzer, 2014).
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35 Five articles presented a conceptual model and/or framework specifically related to the
36 mechanisms of partnerships between the humanitarian and business sector. Haigh and
37 Sutton (2012) classified humanitarian-business partnerships into four generic
38 categorizations based on their motives and level of engagement: philanthropic, strategic,
39 commercial, and political. Thomas and Fritz (2006)'s conceptual model categorizes
40 partnerships between the humanitarian and business sector based on the decision regarding
41 the level of engagement and on the number of participant. They propose four types of
42 humanitarian-business partnerships: single-company philanthropic partnerships, multi
43 company philanthropic partnerships, single-company integrative partnerships, multi
44 company integrative partnerships. Chen et al. (2013) identified types of partnerships based
45 on the phase of the relief operation and participants. They highlight the importance of the
46 three-partite partnerships between businesses, humanitarian organizations, and public sector
47 (government) in the response phase. Fikar et al. (2016) developed a simulation and
48 optimization based decision support-system for business – humanitarian collaboration.
49 Balcik et al. (2010) developed a framework for relief chain relationships and conceptualized
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3 that the collaboration between humanitarian and business actors can involve single/multiple
4 humanitarian organizations and single/multiple business corporations. In this model the
5 commitment between the two sectors can be philanthropic and commercial.
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8 9 10 4. The potential outcomes of humanitarian-business partnerships in humanitarian logistics

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12 We found only eight articles in our sample that related to the expected outcomes of
13 humanitarian-business partnerships in humanitarian logistics (See **Table 2**). Partnerships
14 with the business sector are expected to provide learning opportunities for the humanitarian
15 sector as well as the business sector (Tomasini and Van Wassenhove, 2009; Thomas and
16 Fritz, 2006). For the humanitarian sector, the expected outcomes of humanitarian-business
17 partnerships in humanitarian logistics are mostly related to the improvement of the
18 efficiency and capabilities of humanitarian logistics. Partnerships can help humanitarian
19 organizations expand their logistical capabilities by providing insights into how
20 corporations master the logistics process (Schulz and Blecken, 2010; Van Wassenhove,
21 2006; Fikar et al., 2016). For the business sector, engagement in humanitarian-business
22 partnerships provides companies with an opportunity to show their corporate
23 responsiveness and CSR and thereby improve their reputations (Muller and Kräussl, 2011).
24 We found only three examples of outcomes of humanitarian-business partnerships from
25 case studies. The first was the partnership between TNT and WFP (called “Moving the
26 World”), which demonstrated that long-term partnerships can contribute to an increase in
27 the capacity of aid networks and can enhance the core competencies of both parties (Maon
28 et al., 2009 ; Van Wassenhove, 2006). The second is the partnership between DPDHL and
29 UN OCHA, which solved the problem of the presence of bottlenecks and unsolicited relief
30 items at airports and thus improved the effectiveness of humanitarian distribution networks
31 (Rueede and Kreutzer, 2014). The third is the partnerships between American Red Cross
32 and Abbot Laboratories that increased the visibility of the supply chain (Thomas and Fritz,
33 2006)
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50 51 **5. Challenges and future research agenda**

52 The fundamental principle of supply-chain collaboration is the exchange of information and
53 the application of shared knowledge to decrease uncertainty, increase visibility, increase
54 operational effectiveness and efficiency, and enhance customer service. Humanitarian-
55 business partnerships in humanitarian logistics are still far from effective. Our research
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3 identifies several challenges on the road to achieve effective and efficient collaboration
4 between humanitarian organization and business corporations in the area of supply-chain
5 management.
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10 The first challenge for humanitarian organizations relates to differences in mandates and
11 goals. Humanitarian agencies are mandated by their vision of saving lives (Van
12 Wassenhove, 2006). The strategic goals of managing humanitarian supply chains relate to
13 cost reduction, capital reduction, and service improvement (Beamon and Balcik, 2008).
14 Meanwhile, business organizations are mandated by their vision of acquiring profit. The
15 strategic goals of the business sector are defined based on the financial returns delivered to
16 shareholders (Beamon and Balcik, 2008). These conflicting goals may create challenges for
17 multi-organizational collaboration. Directed by their mandate and vision, humanitarian
18 agencies may therefore find it difficult to select partners in time-pressed situation (Kovács
19 and Spens, 2009).
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28 The second challenge relates to differences in working rhythms, culture, and individual
29 perspective (Haigh and Sutton, 2012; Maon et al., 2009; Schulz and Blecken, 2010; Bealt et
30 al., 2016). For humanitarian organizations, partnerships with business corporations could
31 bring cultural and technical problems (Haigh and Sutton, 2012). In contrast to commercial
32 companies, where managing a supply chain with multiple partners has become mainstream,
33 humanitarian organizations view supply-chain management as an individual
34 responsibility—a perspective that can become a barrier to effective collaboration (Schulz
35 and Blecken, 2010).
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43 The third challenge relates to trust and negative perceptions. Humanitarian organizations
44 can be wary of working with the business sector because they need to be seen as
45 independent (Rueede and Kreutzer, 2014; Pettit and Beresford, 2009; Thomas and Fritz,
46 2006). At the same time, business corporations can be wary of working with the
47 humanitarian sector because they perceive it to lack both capabilities and professionalism
48 (Rueede and Kreutzer, 2014; Thomas and Fritz, 2006; Bealt et al., 2016).
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54 The fourth challenge relates to the resources available for developing partnerships. Because
55 humanitarian-sector donors and business corporations are sometimes uncomfortable with
56 paying upfront costs for an uncertain event (e.g. a natural disaster), funding allocated to
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3 building partnerships in the preparedness phase can be relatively small (Fawcett and
4 Fawcett, 2013; Tatham and Pettit, 2010). Because uncertainty related to the prediction of
5 upcoming disasters weakens pre-planning efforts among the diverse participants, many
6 humanitarian collaborations are still mostly ad hoc (Fawcett and Fawcett, 2013).
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11 The next challenge relates to minimizing the negative impact of cross-sector partnerships on
12 the bottom line of business partners, as well as on daily business activities (Rueede and
13 Kreutzer, 2014). For example, DPDHL avoided providing transportation capacity or
14 handling distributional tasks within a particular disaster zone as it calculated that this could
15 disturb its daily business activities (Rueede and Kreutzer, 2014). For security reasons it also
16 limited the deployment of its employees to relief operations (Rueede and Kreutzer, 2014).
17 Thus, even when a partnership has been built and both parties have overcome problems
18 related to coordination and cultural differences, they will still have to deal with the dynamic
19 and uncertain environment of the humanitarian sector (Rueede and Kreutzer, 2014; Stewart
20 et al., 2009).
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30 The challenges and opportunities identified above were discussed in interviews with experts
31 from practice. We aimed to interview experts from a humanitarian organization active in
32 humanitarian relief and from an organization aimed at supporting the improvement of the
33 humanitarian sector to respond to and recover from disasters (to provide a broader view on
34 the issue). In total we interviewed one person from a humanitarian organization and two
35 from a supporting organization. Because of confidentiality reasons we are neither able to
36 disclose names of the interviewees nor of the organizations.
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41 All interviewees recognized the challenges identified above in the literature review. The
42 interviewees specifically indicated that cultural differences between the business sector and
43 the humanitarian sector compose a very important issue that needs to be overcome. In a
44 recent example from the Middle East in the area of cash distribution, an interviewee
45 indicated that the humanitarian people involved were afraid to work with the private sector
46 because they did not understand the way of working of the private sector nor did they want
47 to be seen as incompetent by the private sector. Another interviewee argued that this may go
48 as far as the humanitarian sector sometimes hiding their partnerships with the private sector
49 because they are afraid of the reaction of other stakeholders (including the society they are
50 active in). One interviewee also stated that a key challenge is that both organizations have
51 different motives for being engaged in humanitarian relief activities: aims of the private
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sector are to make a profit (directly or indirectly) whereas that is not the objective of a humanitarian organization. Our discussion with the three experts also revealed that the word 'partnership' is used to identify different types of settings. One interviewee indicated that for example in cash distribution the cooperation between the provider of the systems needed to distribute cash (such as the cards and the infrastructure) and the humanitarian organization responsible for cash distribution is sometimes argued to be a partnership. However, in reality this is rather a vendor-buyer relationship because the objectives of the two organizations are different (making a profit for the vendor of cash distribution services vs. providing relief for the humanitarian organization buying the cash distribution services). It was also argued that many private companies have a desire to contribute to humanitarian relief but humanitarian organizations argue it takes long to get to know the humanitarian sector – time that a private organization may not have or may not be willing to spend. As a result humanitarian organizations have a tendency to focus on obtaining cash donations from the private sector rather than establishing long-term partnerships with the private sector. In any case, the interviewees particularly emphasized the need to develop Key Performance Indicators (KPIs) in humanitarian logistics in order to determine the success of partnerships. Such KPIs will help humanitarian organizations to talk the same language as the private sector, something that may be of use in overcoming the cultural divide between the two sectors.

Research agenda

Our research indicates that there has been scant research on partnerships between humanitarian and business organizations in humanitarian logistics. In particular, there is a lack of empirical research and case studies focusing on the outputs and outcomes of these partnerships. We propose the following research agenda:

- (1) *Understanding factors that affect the effective development of cross-sector partnerships between humanitarian organizations and business corporations.*

Our research shows that the discussion on the adoption of cross-sectors partnerships in humanitarian logistics is aimed primarily at understanding the reasons and motivations for partnerships. Some of the major problems in developing effective cross sector collaboration between the humanitarian and the business sector include conflicts in mandate, culture, organizational structure, as well as lack of trust and

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3 understanding (Beamon and Balcik, 2008; Rueede and Kreutzer, 2014; Van
4 Wassenhove, 2006). Our study finds that there is lack of research and case studies on
5 how the two sectors can initiate partnerships, which resources should be allocated,
6 which risks should be shared, which strategy should be taken to overcome the cross-
7 sector conflicts, how to identify common goals and strategies, and which performance
8 metrics should be developed.

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14 (2) *Understanding which situations require which type of partnership mechanisms to*
15 *support the management of humanitarian logistics.*
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18 Several mechanisms of humanitarian-business partnerships have been identified by
19 researchers (Kovács and Spens, 2009; Maon et al., 2009; Oloruntoba and Gray, 2009).
20 However, empirical studies are needed to assess how businesses are dealing with
21 various options, as well as to examine the clustering of mechanisms. It is also not
22 entirely clear which factors affect the decision to choose certain mechanisms in certain
23 situations, and which performance metrics need to be established to monitor the
24 effectiveness of a mechanism.

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30 (3) *Measuring output and outcomes of humanitarian-business partnerships on the*
31 *performance of humanitarian logistics.*
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34 Our study finds that the discussion of outputs and outcomes of humanitarian-business
35 partnerships related to the performance of humanitarian logistics (including impacts
36 on beneficiaries) still lacks empirical support. In our study we mentioned only two
37 case studies from Maon et al., (2009) and Rueede and Kreutzer (2014). A set of
38 performance metrics needs to be built to measure the success of partnerships. As the
39 measurement of impact is at the core of the humanitarian sector (Abidi et al., 2014),
40 this can be integrated with the impact measurement of relief operations to targeted
41 beneficiaries.

42 43 44 45 46 47 48 49 **6. Conclusion**

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52 We find that while the importance of humanitarian-business partnerships has been
53 suggested by many articles (Maon et al., 2009; Scholten et al., 2010; Thomas and Fritz,
54 2006; Tomasini and Van Wassenhove, 2009), partnerships between humanitarian
55 organizations and business corporations in managing humanitarian supply chain is an area
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3 in need of further research. This study was aimed at understanding the state of the art of
4 partnerships between humanitarian organizations and business corporations in humanitarian
5 logistics using a systematic literature review method as proposed by Denyer and Tranfield
6 (2009). We found that there is a lack of clarity in the use of ‘partnership’, ‘coordination’,
7 ‘collaboration’, and ‘relationship’ to explain the engagement between the business sector
8 and the humanitarian sector in humanitarian logistics as these terms are used
9 interchangeability by researchers.
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16 Our descriptive study showed that the idea of better collaboration between the humanitarian
17 sector and business sector in humanitarian logistics has emerged after the 2004 Tsunami, a
18 finding supported by Beamon and Kotleba (2006) and Abidi et al. (2014). Our study shows
19 that multiple research methodologies have been used to contribute to the topic. Among the
20 researchers, we found that researchers from Europe and the US have contributed most to the
21 idea, followed by those from Australia and Asia.
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28 Using the CIMO logic, in this research we described the context of humanitarian logistics
29 and the need for adoption of cross-sector partnerships in humanitarian logistics. We also
30 described the potential resources that each sector can contribute to cross-sector partnerships;
31 discussed the mechanisms of partnerships between the humanitarian sector and business
32 sector; and determined potential outcomes for each sector.
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38 We found that partnerships between humanitarian organization and business corporations in
39 managing humanitarian logistics still face many challenges. We discussed that particularly
40 the measurement of the success of these partnerships is a challenge that may help
41 humanitarian organizations to talk the same language as the private sector. Having
42 appropriate KPIs may be of use in overcoming the cultural divide between the two sectors.
43 Finally, we proposed three future research agenda topics in this field: understanding factors
44 that affect the effective development of cross-sector partnerships between humanitarian
45 organizations and business corporations; understanding which situations require which type
46 of partnership mechanisms to support the management of humanitarian logistics; and
47 measuring outputs and outcomes of humanitarian-business partnerships on the performance
48 of humanitarian logistics.
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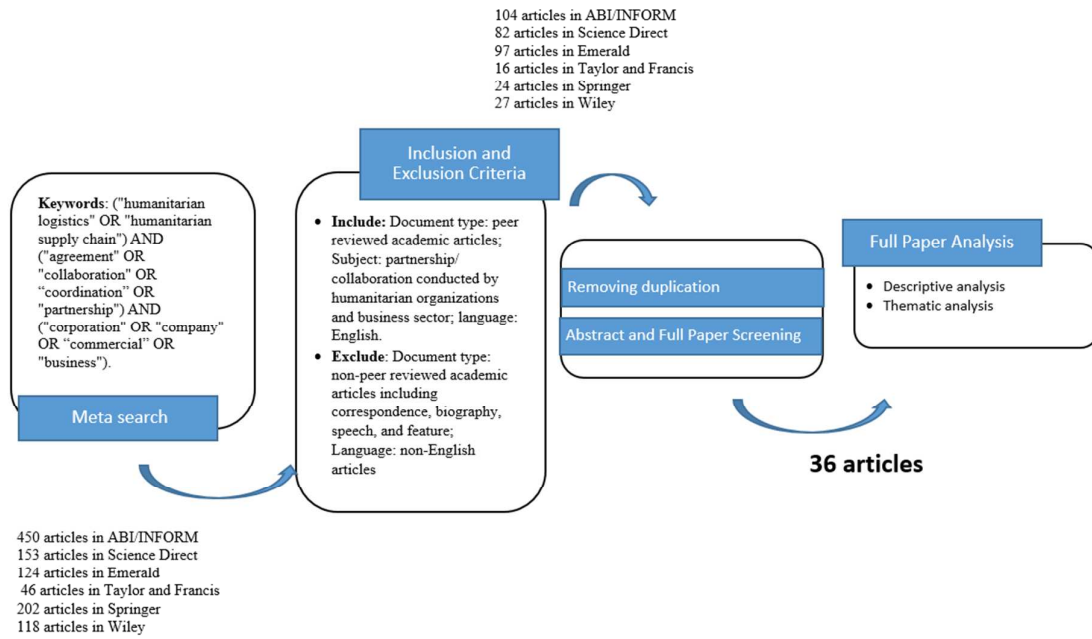


Figure 1: Locating Studies and Study Selection and Evaluation (modified from Pilbeam et al., 2012; Abidi et al., 2014)

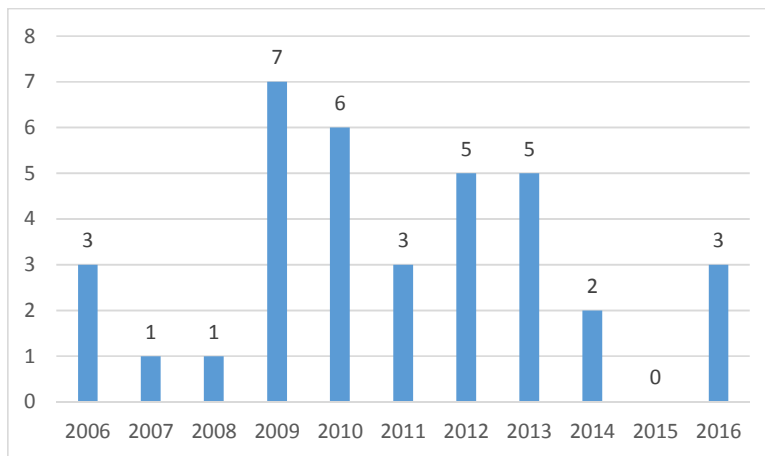


Figure 2. Number of Articles per Year

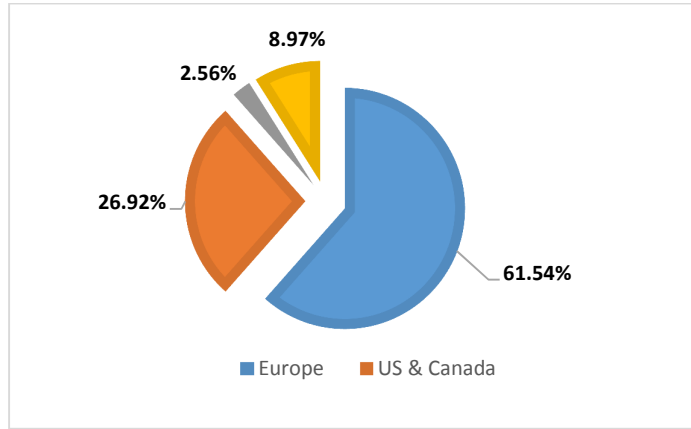


Figure 3. Percentage of Articles per Region of Research Center

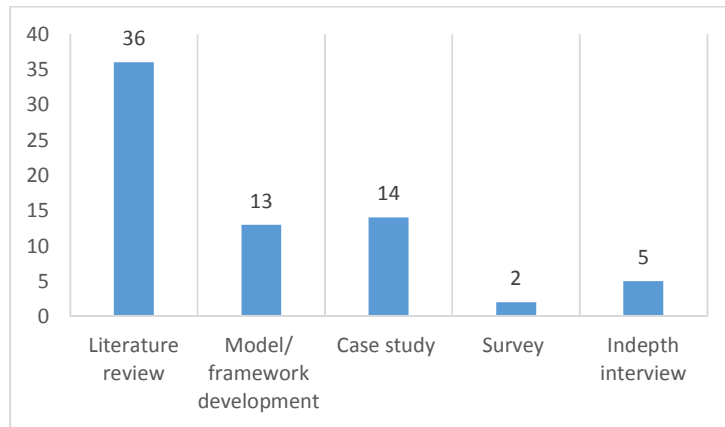


Figure 4. Number of Articles per Methodology

Table 1. Inclusion and Exclusion Criteria

Aspect	Inclusion Criteria	Exclusion Criteria
Type	We included only peer reviewed articles.	We excluded all non-peer reviewed articles.
Subject	We included articles that are related to partnerships/collaboration/agreement in humanitarian/disaster relief logistics/supply chain conducted by humanitarian organizations.	We excluded all articles that are not related with disaster relief conducted by humanitarian organizations, such as humanitarian operations conducted by military teams or partnerships for the purposes of military operation.
Language	We included all articles in English.	We excluded all articles which were not in English

Table 2. Thematic Overview of Articles

No	Articles	The Humanitarian Logistics Context Related to Cross-sector Partnerships	The Adoption of Cross-Sector Partnerships in Humanitarian Logistics	The Mechanisms of Humanitarian-Business Partnerships in Humanitarian Logistics	The Potential Outcomes of Humanitarian-Business Partnerships in Humanitarian Logistics
1	Akhtar et al. (2012)	v			
2	Balcik et al. (2010)	v	v	v	
3	Beallt et al. (2016)	v	v	v	
4	Beamon and Balcik (2008)	v	v		
5	Charles et al. (2010)	v	v		
6	Chen et al. (2013)			v	
7	Cozzolino et al. (2012)		v		
8	De la Torre et al. (2016)	v		v	
9	Fawcett and Fawcett (2013)	v			
10	Fikar et al. (2016)		v	v	v
11	Haigh and Sutton (2012)	v		v	
12	Heaslip (2013)	v			
13	Jensen (2012)	v	v	v	
14	Jerbi (2012)		v	v	
15	Kovács and Spens	v			

	(2007)				
16	Kovács and Spens (2009)	v	v		
17	Kusumasari and Alam (2012)		v		
18	Lu et al. (2013)		v		
19	Maldonado et al. (2010)	v			
20	Maon et al. (2009)	v	v	v	v
21	McGoldrick (2011)	v	v		
22	McLachlin and Larson (2011)	v		v	
23	Muller and Kräussl (2011)		v	v	v
24	Muller and Whiteman (2009)			v	
25	Oloruntoba and Gray (2006)	v	v		
26	Oloruntoba and Gray (2009)	v	v		
27	Pazirandeh and Herlin (2014)			v	
28	Pettit and Beresford (2009)	v	v	v	
29	Rueede and Kreutzer (2014)	v	v	v	v
30	Scholten et al. (2010)	v	v		
31	Schulz and Blecken (2010)			v	v
32	Stewart et al. (2009)		v	v	
33	Tatham and Pettit (2010)	v		v	
34	Thomas and Fritz (2006)	v	v	v	v
35	Tomasini and Van Wassenhove (2009)	v	v	v	v
36	Van Wassenhove (2006)	v	v	v	v