Title: Cross-collaborative supply chains. How logistics services contribute to social responsibility.

Authors

Alessandra Cozzolino, Ewa Wankowicz, Enrico Massaroni,

Department of Management, Faculty of Economics, Sapienza University

Corresponding author: Alessandra Cozzolino

Alessandra Cozzolino can be contacted at: alessandra.cozzolino@uniroma1.it

Biographical notes:

<u>Alessandra Cozzolino</u> is a Researcher and Assistant Professor of Business Market Management at the Sapienza University of Rome. She holds a PhD in Management and Finance. Her research interests focus on supply chain management, logistics service providers in sustainability innovation and humanitarian logistics.

Department of Management,

Sapienza University of Rome,

Via del Castro Laurenziano 9,

00161, Rome, Italy

Email: alessandra.cozzolino@uniroma1.it

<u>Ewa Wankowicz</u> is a PhD Student in Management, Banking and Commodity Sciences at the Sapienza University of Rome. Her research interests are related to logistics, sustainable supply chain management and business model innovation.

Department of Management,

Sapienza University of Rome,

Via del Castro Laurenziano 9,

00161, Rome, Italy

Email: ewa.wankowicz@uniroma1.it

Enrico Massaroni is a Professor of Supply Chain Management and Planning and Strategic Management at the Sapienza University of Rome. His research interests include logistics and supply chain management, production and operations management.

Department of Management,

Sapienza University of Rome,

Via del Castro Laurenziano 9,

00161, Rome, Italy

Email: enrico.massaroni@uniroma1.it

Abstract

Purpose: The collaboration between profit and nonprofit entities has become a burning topic in supply chain management studies and corporate strategies. The world's largest logistics service providers (LSPs) have been developing several practices improving social responsibility while collaborating with nonprofit actors. In particular, their core competences and offered services become extremely relevant in the context of humanitarian logistics initiatives. A key purpose of this article is to examine the projects currently undertaken by LSPs in humanitarian logistics.

Methodology/Approach: This research follows a qualitative approach based on multiple case studies.

Findings: The paper provides an overview of the leading LSPs' involvement in humanitarian logistics and presents an analysis of their current "best practices" services in disaster relief with high impact in terms of social responsibility.

Research Limitations/implications: There has been increased interest on the part of international academic and professional communities in humanitarian logistics. This study constitutes a platform for benchmarking analysis of logistics services to assure effective implementation of social responsibility principles.

Originality/Value of paper: Humanitarian logistics is a rather new field in logistics management. This paper addresses the innovative socially responsible initiatives undertaken by the main international LSPs in the area of humanitarian logistics.

Keywords: logistics services, logistics service providers, humanitarian logistics and supply chain management, disaster relief, social responsibility, profit/nonprofit collaboration

Type of paper: Research paper

1. Background

In recent years, logistics services in humanitarian operations and the capacity of logistics service providers (LSPs) to improve supply chain management in various contexts have become increasingly important. Thus, LSPs have become key players in the humanitarian field, providing support for aid agencies, NGOs and governments when they respond to major disasters (Vega and Roussat, 2015).

Business-humanitarian collaboration in disaster relief seeks "to build on synergies between the business and humanitarian communities to advance humanitarian objectives and at the same time support Corporate Social Responsibility (CSR)" (Andonova and Carbonnier, 2014, p. 350).

CSR is an area "where commercial and philanthropic intentions can easily overlap", even in humanitarian logistics (Tomasini and Van Wassenhove, 2009b p. 140). Companies may seek opportunities to improve their impact on society through responsible actions, including obtaining economic benefits. This development is based on the assumption, which is now widely accepted, that companies can increase their competitiveness through initiatives in which social value and economic value overlap because "there is no inherent contradiction between improving competitive context and making a sincere commitment to bettering society" (Porter and Kramer, 2002, p. 66).

Majewski et al. (2010), whose study highlights the growing interest of the commercial sector in humanitarian relief logistics, note that most commercial logistics providers do not expect significant growth in their CSR activities; however, larger ones expect to "grow their core businesses by providing supply chain management, especially transportation and warehouse management services, to the humanitarian sector, based on a profit motivation" (p. 14).

Companies often provide a mix of "cash donation, in-kind donation of goods or services, the provision of technical or managerial expertise, cause-related marketing, employee giving schemes and sponsoring, or logistical support and collaboration specific to field activities"; in such cases, the humanitarian organization involved generally "grants its corporate partner the possibility of using its name or logo in public communication, thus creating a public association of image or brand between the two parties" (Andonova and Carbonnier, 2014, p. 350).

In humanitarian supply chain management studies, and particularly in disaster relief operations, collaboration and coordination among organizations in the humanitarian context have received significant attention in academia and practice (Thomas and Fritz, 2006; Altay and Green, 2006; Van Wassenhove, 2006; Blecken et al., 2009; Jahre and Jensen, 2010; Schulz and Blecken, 2010; Kovács, 2011; Cozzolino, 2012; Akhtar et al., 2012; Jensen 2012; Abidi et al., 2015).

Business—humanitarian partnerships fall into a particular category of multi-stakeholder arrangements or public—private partnerships (Andonova, 2010; Elsig and Amalric, 2008). Business—humanitarian partnerships typically involve one or several firms as well as an intergovernmental or non-governmental humanitarian organization. In the latter case, there is no 'public' actor in the partnership, but a private nonprofit and a private commercial organization, both of which operate within a field framed by a set of humanitarian norms endorsed by international public law (Andonova and Carbonnier, 2014, p. 351).

As the company contributions with the highest impact on the social sector use "the core competencies of the business" (Kanter, 1999) for disaster relief operations, the supply chain and logistics functions are crucial for an operation's success (Van Wassenhove, 2006).

By virtue of their logistics and supply chain management competencies, LSPs are among the best private organizations to partner with humanitarian organizations "not only from a charitable concern but also as an opportunity for learning and business development" (Tomasini and Van Wassenhove, 2009a, p. 557). They possess not only logistics capabilities but also supply chain management capabilities, those capabilities most needed by the humanitarian sector in disaster relief management.

Relief operations require fast and timely responses from the numerous members involved in a humanitarian supply chain. The continuous improvement in the performance of humanitarian operations entails mutual understanding and alignment of their objectives, sharing of information

and undertaking of joint planning (L'Hermitte, 2016). The effective exploitation of the core competences of both sectors can contribute to the improvement of disaster preparedness (Van Wassenhove et al., 2008). The combined knowledge of partners can affect the achievement of mutual goals (Murphy et al., 2012).

The purpose of this paper is to investigate the contribution of LSPs' CSR initiatives to humanitarian relief. It is one of the first attempts to research the topic. This is of interest to the academic community that needs to learn more on trends in business logistics and explore types of cooperation between stakeholders (Leiras et al., 2014, p. 112) and also to the LSP industry that can "improve its impact on society through responsible actions" (Tomasini and van Wassenhove, 2009, p. 131). This research may encourage humanitarian actors to consider the potential benefits of partnerships with the private logistics sector, while the latter could find untapped business opportunities.

Thus, it is of interest in this research to explore the actual engagement of the main LSPs in the humanitarian sector. Through analysis of the case studies, the CSR initiatives promoted by the main LSPs are collected and classified as explained in the next paragraph.

2. Case studies

2.1. Methodology

We conducted an empirical investigation based on multiple case studies. The methodology of the case study is well recognized as a valid approach through which to deepen understanding of a phenomenon that is still in development, and/or the dimensions of which have not yet been fully explained (Eisenhardt and Graebner, 2007; Yin, 1994; Harrison, 2002; Voss et al., 2002; Meredith, 1998; Ellram, 1996; Eisenhardt, 1989). The importance of case study research in the social sciences, and management in particular, is broadly recognized (Seuring, 2008; Flyvbjerg, 2006; Yin, 2003; Patton and Appelbaum, 2003; Stuart et al., 2002; Ellram, 1996; Stake, 1995; Hamel, 1993; Eisenhardt, 1989). Additionally, logistics researchers have promoted the use of case study analysis as an approach to scientific inquiry (Aastrup and Halldorsson, 2008; Skipworth and Harrison, 2004; Voss et al., 2002), and Ellram (1996) declares that case studies are excellent for providing detailed explanations of best practices.

To choose the cases, first we mapped those LSPs somehow involved in disaster relief initiatives at the international level and treated in the literature on humanitarian logistics; LSPs were identified through the literature analysis based on the following strings "lsp and humanitarian logistics", "csr and humanitarian logistics" and "disaster and lsp". Subsequently, from January to April 2016, each LSP website found was analysed to understand the activities that the companies are engaged in. The LSPs that did not mention any disaster-related activities were not more deeply analysed. Then, we focused on the types of collaboration that were more strategically oriented and specifically referred to CSR.

The most important LSPs cooperating with the humanitarian sector are leading global logistics companies, such as Agility, AP Moller-Maersk, DHL, FedEx, Panalpina, TNT, Toll and UPS (Thomas and Fritz, 2006; Spring, 2006; Binder and Witte, 2007; Maon *et al.*, 2009; Tomasini and Van Wassenhove, 2009 [b], 2004; Samii, 2008; Van Wassenhove, 2006; Samii and Van Wassenhove, 2004; Quinn, 2010; Stadler and Van Wassenhove, 2012; Oglesby and Burke, 2012; Cozzolino, 2012; 2014; Vega and Roussat, 2015; Abidi et al., 2015; Piecyk and Björklund, 2015). Other LSPs are involved in more project-based initiatives or propose their services in disaster management explicitly for profit. There is no homogeneous method of LSP contribution to humanitarian logistics. In the following paragraphs, we proceed to analyse the single initiatives the LSPs have created in collaboration with the humanitarian sector in disaster management.

2.2. Initiatives

The generic activities that LSPs undertake in humanitarian logistics (arising from the academic literature and checked in each company's website) are reported in Table I.

Academic Source	LSP	Internet source	Specific activities
Abidi et al., 2015; Piecyk and Björklund, 2015; Vega and Roussat, 2015; Cozzolino, 2013; Van Wassenhove, 2006; Tomasini and Van Wassenhove, 2009; Cozzolino, 2012	Agility	www.agility.com http://www.agility.com/EN/csr/pa ges/humanitarian-logistics.aspx	 Partner of Logistics Emergency Teams (LET); Runs a pro bono Humanitarian and Emergency Logistics Programme (HELP) designed to help the humanitarian community bring relief goods into disaster zones; Has a longstanding bilateral partnership to support International Medical Corps (relieve the suffering of those affected by natural disasters, conflict and disease by delivering vital healthcare services and providing training to local medical practitioners); Donates logistics knowledge and expertise, global network, assets, and services; reconstruction and recovery efforts, transportation of food and medical aid as well as offering logistics consultancy.
Abidi et al., 2015; Piecyk and Björklund, 2015; Cozzolino, 2013; Cozzolino, 2012; Stadtler and Van Wassenhove, 2012;	A.P. Moller Maersk	www.maersk.com http://www.maersk.com/en/the- maersk- group/sustainability#Partnerships http://www.maersk.com/en/the- maersk-group/sustainability/fast- effective-assistance	 Partner of LET; Provides risk assessment in the preparedness phase; medicine, food and shelter in the response phase; economic rehabilitation in the affected society in the reconstruction and recovery phase; Maersk Group has nominated a local representative to coordinate the work on the ground and deployed an H&S expert from APM Terminals who assessed the situation and provided needed training for local teams.
Vega and Roussat, 2015	APL Logistics	www.apl.com/press www.apl.com/about us/Sustainability and Corporate Social Responsibility	 Has defined corporate-wide programmes for responsible citizenship based on sustainability, philanthropy and volunteerism; The group concentrates its community relations efforts on five distinct areas of activity: helping youth reach their potential, assisting the disadvantaged and those with disabilities, supporting emergency relief efforts, improving and protecting the oceans and air quality, contributing to improvements in global trade; Helped during Thailand's devastating floods: free containerized transport of relief supplies and rescue boats to outlying Thai provinces, a rescue paddle boat, and a 40-foot container for a barrier to hold back floodwaters; \$20,000 to the Red Cross in Thailand; and more than \$6,000 from employees to relief agencies; APL Logistics said it is taking preventive measures at its warehousing facilities to protect customers' goods and to limit damage from the flood that has broken down supply chains across Thailand. It added that it is working closely with customers to execute contingency plans.

Piecyk and Björklund, 2015	Cargolux	http://cargolux.com/CorpRespons/ ?mid=2	 Has a long-standing tradition of contributing to humanitarian projects and disaster relief efforts throughout the world; Has flown two relief flights to Manila in aid of the Philippines victims of typhoon Haiyan, carrying supplies from various humanitarian aid organizations; Transported tons of clothes, blankets, toys and other urgently needed items.
Vega and Roussat, 2015	CEVA Logistics	http://www.cevalogistics.com/rele ase/25-Oct-2011-1 http://www.cevalogistics.com/our -story/04-september-2015	 Provides logistics support: transportation of goods to a well-known NGO in Turkey responding to an earthquake; Recently shipped over 100 tons of relief materials from Mumbai, India to Yangon, Myanmar. Their local team took the best care of the cargo, ensuring everything went according to plan and arrived on time.
Piecyk and Björklund, 2015	Damco	www.damco.com http://www.damco.com/en/about- damco/sustainability http://www.damco.com/en/about- damco/sustainability/logistics- emergency-teams	 Activities include pro bono logistics expertise and services in Logistics Emergency Teams disaster relief, and volunteering and fundraising for community-focused initiatives; Together with other business units of A.P. Moller-Maersk, pro bono highly trained experts are deployed to the Logistics Emergency Teams' partners Agility, TNT and UPS, when requested by the UN Logistics Cluster; Damco staff also helps by contributing to logistics capacity reports to help humanitarians prepare before a disaster strikes.
Piecyk and Björklund, 2015	DB Schenker	www.dbschenker.com http://www.dbschenker.com/ho- en/sustainability/corporate_volunt eering.html	 Provides among others: Disaster and Humanitarian Relief Response Services, helps victims on site with relief supplies by using logistics competence and actively supports emergency aid for and re-building of the affected areas. DB Schenker took part in rescue and rebuilding initiatives; During the flood in Thailand, they used trucks and boats to rescue people from the flooded areas; DB Schenker trucks transported boats, emergency supplies, and consignments of aid; After the acute disaster relief phase, the management team also set up programmes to help staff whose houses had been damaged by the floods with both direct donations and interest-free loans.

Vega and Roussat, 2015; Piecyk and Björklund, 2015,Cozzolino, 2013; Ferguson, 2011; Kovács and Spens, 2007	DHL	http://www.dpdhl.com/en/respons ibility/corporate_citizenship/disast er_management/ disaster_response_drt.html http://www.dhl.com/en/logistics/fr eight_transportation/aid_and_relie f_services.html http://www.dpdhl.com/en/respons ibility/corporate_citizenship/disast er_management/disaster_prepared ness_gard.html	 DHL DRT (Disaster Response Team) cooperates closely with the UN Office for the Coordination of Humanitarian Affairs (UNOCHA); DRT team members assume various logistics responsibilities all on a volunteer basis: they help manage the logistics of disaster relief goods arriving at the airports, unload air freight palettes and warehouse relief supplies, conduct inventory and make sure that the incoming supplies are received by the appropriate relief organizations in an orderly fashion, and often prepare DHL Speedballs (waterproof bags filled with vital relief supplies that can be airdropped from helicopters as survival kits); "Get Airports Ready for Disaster" (GARD) training programme, launched in 2009 together with the United Nations Development Programme (UNDP), is to prevent bottlenecks in the flow of relief supplies; Is present in disaster preparation and post disaster (has the expertise to make things happen in the most efficient and practical ways, bringing vital and often time sensitive equipment and supplies to the people most in need—whatever the local conditions), and in regeneration and development phase.
Vega and Roussat, 2015	DSV	http://www.dsv.com/About- DSV/media/latest- news/2015/06/Relief-aid-to- Nepal-arrives-before-monsoon- season	 Beat the monsoon rain to deliver 60 tons of relief aid to the earthquake victims in Nepal; Used a Boeing 747 to bring relief aid from Sweden to New Delhi, India where the goods were loaded into smaller planes.
Piecyk and Björklund, 2015; Cozzolino, 2013	Fedex	http://www.fedex.com/fo/about/ci tizenship/philanthropy.html#1 http://fedexcares.com/learn/disast er_readiness_relief_and_recovery www.fedex.com	 FedEx works with a number of international disaster response organizations that bring relief to victims of emergencies or natural disasters (American Red Cross, Direct Relief International, Heart to Heart International and Salvation Army); Teams, pilots, drivers, and countless FedEx team members work to deliver relief supplies, including medicine and food, to communities in need; Provides in-kind shipping and financial support to disaster relief organizations; Accepts applications from organizations that bring relief to victims of emergencies or natural disasters. They direct funds towards the quick and efficient transport of aid and disaster preparedness education initiatives; Delivered 10 tons of disaster relief goods from Germany to Japan to assist victims from last year's tsunami. The in-kind shipment donation involved collaboration with HumanPlus, a humanitarian organization based in Germany;

Vega and Roussat, 2015	Kuehne+Nagel	http://www.kn- portal.com/industry/emergency_re lief/ http://www.kn- portal.com/fileadmin/user_upload /documents/your_industry/Emerg ency_and_Relief/documents/Emer gency_Relief_Logistics_2010.p df	 Express donated two air supply flights to UNICEF in response to the famine in Somalia; Announced the opening of Europe's first humanitarian "Forward Response Centre" (FRC) at the FedEx Roissy-Charles De Gaulle hub that will serve as a secure warehouse where medical and other emergency supplies can be safely stocked and quickly transported by FedEx Express when disaster strikes; Delivered approximately four tons of hygienic aid to refugee camps in southeast Ethiopia. The charitable initiative was organized in collaboration with Heart to Heart International and International Medical Corps; During the aftermath of Superstorm Sandy in the northeastern US, FedEx worked closely with Direct Relief to deliver medical supplies to people in need; Leverages logistics expertise, scale and influence to invest in preparedness initiatives for families and small businesses; Publishes report on Global Programmes in Disaster Readiness, Relief and Recovery and the FedEx Global Citizenship Report. Has extensive experience in handling long-term projects and unforeseen humanitarian crises; Provides: transport arrangements as necessary, including sea, air and overland, partial or full charter; 24/7 warehouse services and logistics handling capabilities at emergency sites; local field specialists in Africa, Afghanistan, Iraq, the Caucasus, Central and Latin America, and Southeast Asia; strategically located storage and warehousing, allowing immediate dispatch of emergency medical items, water purification kits, food and housing materials; After Haiti earthquake provided transport services free of charge in cooperation with the American logistics company UPS.
Piecyk and Björklund, 2015	Mol Group	https://molgroup.info/en/sustainab ility/communities/social- investment/talent-support-and- child-healing-programs https://molgroup.info/en/media- centre/press-releases/578-mol- kalegran-donates-to-refugee-	 Provided food and medicine for over 1500 refugee families in the Kurdistan Region of Iraq; Was again in the forefront to assist the Kurdistan Regional Government (KRG) in providing food, shelter and daily necessities to the refugees.

		families-in-the-kurdistan-region- of-iraq	
Piecyk and Björklund, 2015	Nippon Express	http://www.nipponexpress.com/ab out/csr/contribution/unicef.html) http://www.nipponexpress.com/ir/ pdf/library/report/FY15-110th- Interim-term.pdf	 Delivered relief supplies to the area affected by the earthquake in Nepal; Joined the "UNICEF Foreign Coins Collection Programme" as part of its social contribution; Supports the programme by receiving, collecting, transporting, and handing over to airlines coins that are brought from Group companies. Engages in fundraising and public relations to help broaden the programme's reach.
Piecyk and Björklund, 2015	Nyk group	https://www.nyk.com/english/csr/social/action/disaster/jpf.html	 Has launched the NYK Group-JPF Joint Aid Supplies Transportation Project in cooperation with Japan Platform (JPF) to promote activities that provide support to victims of large natural disasters; Jointly provided emergency relief to victims of the immense earthquake that occurred off the northern tip of Sumatra, Indonesia, and the tremendous damage in Southeast and South Asia that resulted from the subsequent tsunami; NYK transports emergency aid commodities free of charge on its containerships to a port nearby the disaster site.
Vega and Roussat, 2015	Panalpina	http://www.panalpina.com/www/global/en/home/news_media/news_2013/13_12_18.html	 Provides ad-hoc Charter and Emergency Services; Has used one of its Boeing 747-8 Freighters to fly desperately needed relief goods to Central African Republic; Organized a 100 ton load in partnership with UNICEF, delivering relief goods including hospital supplies and equipment, medicines, clothes, tents, sleeping mats, bed nets, blankets, water containers, soap and cooking sets.
Piecyk and Björklund, 2015, Vega and Roussat, 2015	Ryder system	http://www.ryder.com/about- us/sustainability/~/media/Ryder/F iles/AboutUs/Sustainability/corp_ resp_rpt10.pdf	 Partners with the American Red Cross as a member of its Annual Disaster Giving Programme; Supports national and local disaster preparedness and response efforts.
Abidi et al., 2015; Piecyk and Björklund, 2015; Cozzolino, 2013; Cozzolino 2012; Ramesch, 2012; Pettit and Beresford, 2009; Maon et al. 2009; Tomasini and Van Wassenhove 2009b; Kovács and Spens, 2007; Samii and Van	TNT	http://www.tnt.com/dam/corporat e/pdfs/Archive/Quarterly%20repo rts/2016/AR2015/tnt-express- annual-report-2015-ch3- corporate-responsibility.pdf http://www.tnt.com/corporate/en/ data/press/2005/01/400477TNT_s upport_for_disaster_relief_efforts _in_Asia.html www.tnt.com	 Established a partnership with WFP called "Moving the World" (providing its knowledge, skills and resources to support WFP during emergencies); Supported WFP in fighting world hunger and optimizing the relief operations in sharing knowledge and skills, emergency response, advocacy and engagement, warehouse and transportation capacity; In April 2015, after the earthquake in Nepal, TNT deployed resources including co-operation with local aid organizations to provide victims with food, water, medicines and relief supplies.

Vega and Roussat, 2015	Toll	http://www.tollgroup.com/conting ency-emergency-response http://www.tollgroup.com/case- study/supporting-disaster-relief- efforts-in-the-philippines	 Provides crisis, disaster and emergency management planning; Services: Rapid Response Logistics (helps establish emergency camps, supply chains and manage the movement of aid and essential supplies to where they are needed most); emergency support and aeromedical evacuation (AME) services (as part of integrated logistics operation in remote location such as the Solomon Islands); movement control MOVCON (This involves large-scale air and sea movements from contributing countries to conflict and disaster zones around the world); Supported disaster relief efforts after Typhoon Haiyan (Philippines), provided port services and vessel husbandry to ships while in the Philippines and ground support wherever necessary, delivered fleet of trucks to the WFP.
Abidi et al., 2015; Piecyk and Björklund, 2015, Vega and Roussat, 2015; Cozzolino, 2013; Cozzolino, 2012	UPS	WWW.UPS.COM https://www.ups.com/content/us/e n/bussol/browse/industries/govern ment-shipping/state- local/humanitarian-relief.html	 Partner of LET; Partnered with the American Red Cross to establish Logistics Action Teams (LATs): distribution of clean-up supplies, pickup and delivery of meals to feeding sites, transportation of shipments from warehouses to service delivery sites, consultation on warehouse design to optimize space and improve distribution; Humanitarian Relief Programme: coordinates shipments of food, water and medical supplies from relief agencies around the world; The UPS foundation empowers local business units to engage relief organizations, contributes through leadership in humanitarian logistics, provides first-responder personnel to rebuild the supply chain, partners with leading relief organizations worldwide.
Vega and Roussat, 2015	UTI	http://www.utihungary.eu/news/docs/s_utiw_uti_worldwide_responds_0105_v6.pdf http://www.utihungary.eu/news/news.html http://www.go2uti.com/search?p_auth=ZRNqQqi3&p_p_id=20&p_p_lifecycle=1&p_p_state=exclusive&p_p_mode=view&_20_struts_action=%2Fdocument_library%	 Has responded in a myriad of ways to the devastating South Asia earthquake and tsunami; Medical supplies destined for diabetic specialists in Ghana; Gathered donations of blankets and other vital supplies from around the world; UTi's India offices donate pay for a day; Sri Lanka team donates \$20,000; In Sri Lanka, has contributed \$20,000 USD. Many UTi offices are working with air carriers to assure shipments free of charge and to facilitate the process of helping so many; UTi as a company has donated services and is working closely with airfreight carriers to help organize and manage many of the shipments going into South Asia.

		2Fget_file&_20_fileEntryId=251 24	
Vega and Roussat, 2015	Yusen Logistics	http://www.yusen- logistics.com/en/resources/press- and-media/1879 http://www.yusen- logistics.com/en/south- asia/australia/news/yusen- logistics-cooperates-transport- emergency-relief-supplies-united	 Cooperates in Transport of Emergency Relief Supplies from the United States; Transports vital resources to Japan Disaster Relief (JDR); Supported in the aftermath of the devastating Nepal earthquake; Transported relief supplies that absorb radioactive substances, solidifying after they are sprayed on contaminated facilities and fixtures.

Table I – The LSP's engagement in humanitarian supply chain

Source: Our elaboration

Other LSPs are cited in the analysed literature review, but their websites lack sufficient information referring to the research question, or their initiatives do not constitute the aim of this study (as for example, the pure charity projects). They are reported separately, in Table II.

Academic Source	LSP	Internet source	Specific activities
Vega and Roussat, 2015	CHR Robinson	https://www.chrobinson.c om/en/us/About- Us/CHRobinson/Corporat e- Responsibility/Foundation /	- Provides humanitarian assistance from providing shelter after natural disaster strikes, to helping with costs associated with an unexpected illness, particularly for employees.
	Expeditors	http://www.expeditors.co m/sustainability/social- responsibility/index.asp http://www.expeditors.co m/news-media/featured- information/2014/giving- back.asp	 Gives back to their communities by supporting local charities, children's programmes and volunteering; After the devastating earthquake in Haiti, relief efforts changed from basic food and shelter to the only proven path to breaking the cycle of poverty: education.
	GEODIS SNCF	http://www.geodis.com/ge odis-renews-its- commitment-with- handical-international- @/en/view-8435- article.html/1944	- After the Nepal earthquake, Geodis donated €5,000 to Handicap International to help it send out emergency kits including cooking utensils, hygiene products, tents and survival blankets.
Piecyk and Björklund, 2015	Crown worldwide logistics	http://www.prnewswire.c o.uk/news- releases/crown- worldwide-group-aids- hiv-positive-children- 155728805.html	- Sponsors a Second School in Cambodia and Proa Chum School building project, promotes health and educational programmes to help children.

Table II – Remaining LSPs that promote socially oriented initiatives strictly related to humanitarian logistics.

Source: Our elaboration

Of all the previously cited LSPs, Table III shows the specific LSPs that have created strategic partnerships with humanitarian organizations in the field of emergency operations.

Academic Source	Logistics services providers					
readefile boaree	Agility	AP Moller-Maersk	DHL	TNT	UPS	
Abidi et al., 2015	UN WFP	UN WFP	UN OCHA	UN WFP	UN WFP	
Piecyk and Björklund, 2015	*	*	*	*	*	
Vega and Roussat, 2015	UN WFP	UN WFP		UN WFP	UN WFP	
Cozzolino, 2014	UN WFP	UN WFP		UN WFP	UN WFP	
Cozzolino, 2012	UN WFP	UN WFP	UN OCHA	UN WFP	UN WFP	
Oglesby and Burke, 2012	UN WFP	UN WFP		UN WFP	UN WFP	
Stadler and Van Wassenhove, 2012	UN WFP	UN WFP		UN WFP	UN WFP	
Quinn, 2010	UN WFP			UN WFP	UN WFP	
Maon et al., 2009			UN OCHA	UN WFP		
Tomasini and Van Wassenhove, 2009 (a)				UN WFP		
Tomasini and Van Wassenhove, 2009 (b)				UN WFP		
Samii, 2008				UN WFP		
Binder and Witte, 2007			UN OCHA	UN WFP		
Spring, 2006			UN OCHA	UN WFP		
Thomas and Fritz, 2006				UN WFP		
Van Wassenhove, 2006				UN WFP		
Samii and Van Wassenhove, 2004				UN WFP		
Tomasini and Van Wassenhove, 2004				UN WFP		

^{*} Partner not specified

 $Table\ III-Long\text{-}term\ partnerships\ with\ LSPs\ in\ humanitarian\ logistics.$

Source: Our elaboration

The following paragraph provides a more detailed description of the results of this analysis.

2.3. Discussion

The number of logistics companies that engage in humanitarian supply chain activities is rising every year. However, as Piecyk and Björklund (2015) state in their paper, approximately 60% of analysed companies are involved directly in humanitarian logistics. Tables I and II show how 31 of the international LSPs promote their approaches towards humanitarian efforts. In particular, it appears that 20 of LSPs focus their investments on humanitarian logistics and are present during different phases of disaster management, including preparation management, and post disaster activities. Other LSPs promote humanitarian activities in the literature and web sites very generally (e.g., "supporting emergency relief efforts" – APL or "assistance for disaster victims" – Geodis), such that it is difficult to define them as partnerships, but rather collaborations based on specific projects. Table III represents these LSPs that are trying to go beyond pure business principles and promote long-term partnership with pro bono support.

However, not all of the companies found in the literature review are still involved (or publish their engagement) in humanitarian and emergency relief efforts. There are several examples of companies (Norbert Dentressangle, OOIL, Royal Arctic Line, Fesco transportation group, Hellmann, Kline, Worldwide logistics, Lufthansa Cargo) whose websites did not explicitly mention anything in the CSR section or did not have a CSR section (KLine). To some extent, this may be because websites are constantly updated, and information might have been recently modified. Undoubtedly, more information about LSPs' engagement in humanitarian relief efforts could be found by analysing their sustainability reports that are published every year and present a more complete image of reality. Nevertheless, as this study focuses on CSR programmes currently undertaken by LSPs, sustainability reports were not analysed.

Not all the LSPs that declare their involvement in humanitarian logistics concentrate their actions in disaster relief services (Expeditors, for example, is more focused on health and children aid).

Some LSPs receive particular attention from researchers. For example, the LSPs like: Agility, A.P. Moller Maersk, DHL, TNT and UPS were predominantly analysed in the literature, whereas Damco or Nippon Express were mentioned only by one author (Piecyk and Björklund, 2015). From the strategic perspective, the first-mover advantage gives more visibility to LSPs that have been committed to the humanitarian sector for a long time. That may partially originate from their early and long-lasting partnerships with international nonprofit organizations that have humanitarian aid and relief as a core competence and activity. The LSPs belonging in particular to Logistics Emergency Teams (Agility, A.P. Moller Maersk, and UPS) collaborating with United Nations Logistics Cluster / WFP represent an example of best practices and a unique partnership between profit and nonprofit sectors in CSR.

Conversely, there are the two extreme conditions of pure business and pure philanthropic positions. The Kuehne + Nagel Group, for example, works on the basis of long-term "contracts" for several United Nation agencies; in addition, it is engaged "in business" with select major humanitarian organizations including the International Red Cross and the Red Crescent, as well as a number of non-governmental organizations and suppliers for the humanitarian sector. Yusen Logistics offers specific "business continuity services" to its clients. Toll and Kuhne + Nagel propose humanitarian logistics in the area of the services/industries they serve. On the contrary, other companies such as Ryder System focus on charity actions.

Our analysis suggests that there are at least three classes of behaviour among these international LSPs. Some of them operate with philanthropic actions; others mainly focus on a purely commercial approach, and only few are really working to propose their logistics services overlapping philanthropic and commercial intentions in the CSR area in humanitarian logistics, and especially in disaster relief.

3. Final considerations

The contribution of this paper is to extend and question the existing literature on humanitarian logistics and the engagement of LSPs in this context.

Our research suggests that there are many opportunities for LSPs to improve their CSR initiatives, especially in the direction of a deeper engagement in disaster relief management. However, it appears that few have the capabilities and tools to deploy strategic collaboration with the humanitarian sector. LSPs that aspire to join a strategic partnership with humanitarians in disaster relief need to be able to offer comprehensive strategic solutions (advisory and services) for complex logistics challenges. Specifically, they should be able to provide a "differentiated" outsourcing engagement with a high degree of personalization: they can utilize their worldwide presence and exploit their intangible assets (organizational and managerial skills), exercising greater strategic responsibility and taking over the management and even direction of an entire operation or process on behalf of their customers.

This research may be of interest to academics and practitioners, in both the profit and nonprofit sectors because its results may outline best outcomes for the logistics of humanitarian aid benefiting people in need and support the creation of an agenda for the realization of CSR goals.

This exploratory study, despite having provided unprecedented findings on the topic, needs to be deepened in its theoretical and especially empirical investigation. The selected methodology permits thorough exploration of a phenomenon that is still at an early stage but requires further analysis with an in-depth field approach.

References

- Aastrup, J. and Halldorsson, A., (2008), "Epistemological role of case studies in logistics", International Journal of Physical Distribution & Logistics Management, 38(10), pp. 746-63.
- Abidi, H., de Leeuw, S. and Klumpp, M., (2015), "The value of fourth-party logistics services in the humanitarian supply chain", *Journal of Humanitarian Logistics & Supply Chain Management*, 5(1), pp. 35-60.
- Akhtar, P., Marr, N.E. and Garnevska, E.V., (2012), "Coordination in humanitarian relief chains: chain coordinators", *Journal of Humanitarian Logistics and Supply Chain Management*, 2(1), pp. 85-103.
- Altay, N. and Green, W.G., (2006), "OR/MS research in disaster operations management", *European Journal of Operational Research*, 175(1), pp. 475-493.
- Andonova, L.B. and Carbonnier, G., (2014), "Business–Humanitarian Partnerships: Processes of Normative Legitimation", *Globalizations*, 11(3), pp. 349-367.
- Andonova, L.B., (2010), "Public-private partnerships for the Earth: Politics and patterns of hybrid authority in the multilateral system", *Global Environmental Politics*, 10(2), pp. 25–53.
- Binder, A. and Witte, J.M., (2007), *Business Engagement in Humanitarian Relief: Key trends and policy implications*, Global Public Policy Institute (GPPi).
- Blecken, A., Hellingrath, B., Dangelmeier, W. and Schulz, S.F., (2009), "A humanitarian supply chain process reference model", *International Journal Services Technology and Management*, 12(4), pp. 391-413.
- Cozzolino, A., (2012), Humanitarian logistics. Cross-Sector Cooperation in Disaster Relief Management, SpringerBriefs in Business Series, Springer.

- Cozzolino, A., (2014), "Agilità nella logistica delle emergenze. Le imprese apprendono dalle organizzazioni umanitarie", *Sinergie*, 32 (95).
- Eisenhardt, K.M., (1989), "Building theories from case study research", *Academy of Management Review*, 14(4), pp. 532-50.
- Eisenhardt, K.M. and Graebner, M.E., (2007), "Theory building from cases: opportunities and challenges", *Academy of Management Journal*, 50(1), pp. 25-32.
- Ellram, L.M., (1996), "The use of the case study method in logistics research", *Journal of Business Logistics*, 17(2), pp. 93-138.
- Elsig, M. and Amalric, F., (2008). "Business and public-private partnerships for sustainability: Beyond corporate social responsibility?", *Global Society*, 22(3), pp. 387–404.
- Ferguson, D., (2011), "CSR in Asian logistics: operationalisation within DHL (Thailand)", *Journal of Management Development*, 30(10) pp. 985 999.
- Flyvbjerg, B., (2006), "Five misunderstandings about case-study research", *Qualitative Inquiry*, 12(2), pp. 219-45.
- Hamel, J., (1993), Case Study Methods, Sage Publication, Newbury Park, CA.
- Harrison, A.S., (2002), "Case study research", in Partington, D. (Ed.), *Essential Skills for Management Research*, Sage, Beverley Hills, CA, pp. 158-80.
- Jahre, M. and Jensen, L.M., (2010), "Coordination in humanitarian logistics through clusters", International Journal of Physical Distribution & Logistics Management, 40(8/9), pp. 657-674.
- Jensen, L.M., (2012), "Humanitarian cluster leads: lessons from 4PLs", Journal of Humanitarian Logistics and Supply Chain Management, 2(2), pp. 148-160
- John, L. and Ramesh, A., (2012), "Humanitarian supply chain management in India: a SAP-LAP framework", *Journal of Advances in Management Research*, 9(2), pp. 217 235.
- Kanter, R.M., (1999), "From spare change to real change. The social sector as beta site for business innovation", *Harvard Business Review*, 77(3), pp. 122-132.
- Kovács, G., (2011), "So where next? Developments in humanitarian logistics", in *Christopher, M. and Tatham, P. (Eds), Humanitarian Logistics: Meeting the Challenge of Preparing for and Responding to Disasters*, Kogan Page, Philadelphia, PA and London, pp. 249-263.
- Kovács, G. and Spens, K.M., (2007), "Humanitarian logistics in disaster relief operations", International Journal of Physical Distribution & Logistics Management, 37(2), pp. 99 – 114.
- Leiras, A., de Brito Jr, I., Queiroz Peres, E., Rejane Bertazzo, T. and Tsugunobu Yoshida Yoshizaki, H., (2014), "Literature review of humanitarian logistics research: trends and challenges", *Journal of Humanitarian Logistics and Supply Chain Management*, 4(1), pp.95-130.
- L'Hermitte, C., Tatham, P., Bowles, M. and Brooks, B., (2016), "Developing organisational capabilities to support agility in humanitarian logistics: An exploratory study", *Journal of Humanitarian Logistics and Supply Chain Management*, 6(1), pp.72 99
- Majewski, B., Navangul, K.A. and Heigh, I., (2010), "A Peek into the Future of Humanitarian Logistics: Forewarned Is Forearmed", *Supply Chain Forum: An International Journal*, 11(3), pp. 4-19.
- Maon, F., Lindgreen, A. and Vanhamme, J., (2009), "Developing supply chains in disaster relief operations through cross-sector socially oriented collaborations: a theoretical model", *Supply chain Management: An International Journal*, 14(2), pp. 149-164.

- Meredith, J., (1998), "Building operations management theory through case and field research", *Journal of Operations Management*, 16(4), pp. 441-54.
- Murphy, M., Perrot, F. and Rivera-Santos, M., (2012), "New perspectives on learning and innovation in cross-sector collaborations", *Journal of Business Research*, 65(12), pp. 1700-1709.
- Oglesby, R. and Burke, J., (2012), *Platforms for private sector-humanitarian collaboration*, King's College London, London.
- Patton, E. and Appelbaum, S. H., (2003), "The case for case studies in management research", *Management Research News*, 26(5), pp. 60-71.
- Pettit, S. and Beresford, A., (2009), "Critical success factors in the context of humanitarian aid supply chains", International Journal of Physical Distribution & Logistics Management, 39(6), pp. 450 468.
- Piecyk, M. I., and Björklund, M., (2015), "Logistics service providers and corporate social responsibility: sustainability reporting in the logistics industry", *International Journal of Physical Distribution & Logistics Management*, 45(5), pp. 459-485.
- Porter, M. E. and Kramer, M. R., (2002), "The Competitive Advantage of Corporate Philanthropy", *Harvard Business Review*, 80(12), pp. 56-68.
- Quinn, E., (2010), "Logistics for food assistance: delivering innovations in complex environments", in *Omamo S.W., Gentilini U., Sandström S. (Eds.), Revolution: from food aid to food assistance. Innovations in overcoming hunger, World Food Programme*, pp. 307-328 (http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp225973.pdf).
- Samii, R., (2008), Leveraging logistics partnerships. Lessons from humanitarian organizations, Doctorate Thesis, Erasmus University Rotterdam, December.
- Samii, R. and Van Wassenhove, L.N., (2004), *Moving the World: TNT-WFP partnership-learning to dance*, INSEAD Case study n. 2004-5194.
- Schulz, S.F. and Blecken, A., (2010), "Horizontal cooperation in disaster relief logistics: benefits and impediments", *International Journal of Physical Distribution & Logistics Management*, 40(8/9), pp. 636-656.
- Seuring, S.A., (2008), "Assessing the rigor of case study research in supply chain management", *Supply Chain Management: An International Journal*, 13(2), pp. 128-37.
- Skipworth, H. and Harrison, A., (2004), "Implications of form postponement to manufacturing: a case study", *International Journal of Production Research*, 42(10), pp. 2063-81.
- Spring, S., (2006), "Relief when you need it. Can FedEx, DHL and TNT bring the delivery of emergency aid into the 21st century?", *Newsweek International Edition*, 11 Sept. 2006 (http://www.fritzinstitute.org/PDFs/InTheNews/2006/newsweek-I-091106.pdf).
- Stadtler, L. and Van Wassenhove, L.N., (2012), "The Logistics Emergency Teams Pioneering a new partnership model", Case Study, INSEAD, European Case Clearing House, ECCH (Ref. No. 712-033-1), pp. 1-20.
- Stake, R.E., (1995), *The Art of Case Study Research*, Sage Publications, London.
- Stuart, I., McCutcheon, D., Handfield, R., McLachlin, R. and Samson, D., (2002), "Effective case research in operations management: a process perspective", *Journal of Operations Management*, 20(5), pp. 419-33.
- Thomas, A. and Fritz, L., (2006), "Disaster relief, Inc.", Harvard Business Review, 84(11), pp. 114-26.

- Tomasini, R.M. and Van Wassenhove, L.N., (2009a), "From preparedness to partnerships: case study research on humanitarian logistics", *International Transactions in Operational Research*, 16(5), pp. 549-559.
- Tomasini, R.M. and Van Wassenhove, L.N., (2009b), *Humanitarian Logistics*, Palgrave Macmillan. Van Wassenhove, L.N., (2006), "Blackett Memorial Lecture. Humanitarian aid logistics: supply chain management in high gear", *Journal of the Operational Research Society*, 57(5), pp. 475-489.
- Van Wassenhove, L.N., Tomasini, R.M. and Stapleton, O., (2008), *Corporate Responses to Humanitarian Disasters: The Mutual Benefits of Private-Humanitarian Cooperation*, The Conference Board, Research Report (R-1415-08-WG).
- Vega, D. and Roussat, C., (2015), "Humanitarian logistics: the role of logistics service providers", *International Journal of Physical Distribution & Logistics Management*, 45(4), pp. 352-375.
- Voss, C., Tsikriktsis, N. and Frohlich, M., (2002), "Case research in operations management", *International Journal of Operations and Production Management*, 22(2), pp. 195-219.
- Yin, R.K., (1994), *Case Study Research: Design and Methods*, 2nd edition, Sage Publications, Thousand Oaks, IL.