Humanitarian Supply Chain Management in Refugee Camps – A Qualitative Comparative Analysis of short-term camps in Turkey and long-term camps in Jordan

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Abstract

The purpose of this study is to investigate the challenges and trade-offs in humanitarian supply chain management for refugee camps while taking into account comprehensive sustainability performance objectives. Using case study research, we compare short-term refugee reception centres in Turkey with long-term refugee cities in Jordan. We expect to find insights into how the supply chain(s) of both camps are managed (differently) and how the management approaches affect operational, economic, ecological and social performance of the humanitarian operations. From a normative point of view, humanitarian operations management strives for aligning economic, environmental and social considerations of refugees with those of host populations in order to be sustainable.

Keywords: Humanitarian sustainable supply chain management, refugee camps, case study

Introduction

The awareness of sustainable-oriented supply chain processes has substantially increased in the private industry and academia within the last years (Carter & Rogers, 2008; Seuring & Müller, 2008). Meanwhile, only a small group of academics in humanitarian Supply Chain Management (SCM) has pursued research on sustainability in the humanitarian field (Kunz & Gold, 2015) and even less in the context of refugees (Seifert, Kunz, & Gold, 2018). This can be attributed to the prioritisation of actions in the field and the unique circumstances humanitarian organisations are facing. After a disaster occurred, actors of emergency relief operations have to react within the shortest time possible to different interventions by aiming to save as many lives as possible (Van Wassenhove, 2006), with limited consideration of the socio-economic context (Kunz & Gold, 2015). This perspective changes for development aid operations that aim to rebuild the living space of affected communities, e.g. by providing food security or reconstructing the local infrastructure, as well as help them and their economy to recover (Kunz & Gold, 2015).

Given the high uncertainty and complexity that characterise disasters (Day, Melnyk, Larson, Davis, & Whybark, 2012; Holguín-Veras, Jaller, Wassenhove, Pérez, & Wachtendorf, 2012; Kovács & Spens, 2007), efficient management and usage of resources as well as prioritisation of needs are crucial to mitigate the suffering of affected people (Jahre & Heigh, 2008; Kovács & Spens, 2011; Leiras, Brito Jr, Peres, Bertazzo, & Yoshizaki, 2014; Thomas & Kopczak, 2005; Van Wassenhove, 2006). In other words, successful humanitarian aid strongly requires effective and sustainable humanitarian SCM (Beamon & Kotleba, 2006; Kunz & Gold, 2015).

Due to the intertwined impacts of climate change, unemployment, food insecurity, corruption and repression (EJF, 2017), the armed conflict in Syria started with widespread anti-government protests in March 2011 in the most impoverished Syrian neighbourhoods (Azmeh, 2014). Since the 'Arab Spring', a full-scale civil war has impelled around 13 million people to flee the country or to be forcefully displaced within the country (OCHA, 2017; UNHCR, 2017). To date, the Syrian war is already in its eighth year and has resulted in more than 500.000 deaths (IamSyria, 2016), 6.6 million people have been internally displaced (IDMC, 2017), 5.5 million people are residing in camps in neighbouring countries and 1.2 million people seek refuge in Europe (IRC, 2017).

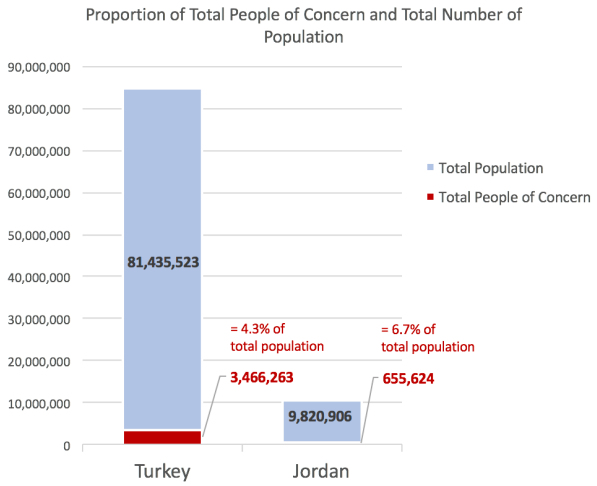

Figure 1-Total registered Syrian refugees in Turkey and Jordan (source: UNHCR, 2018)

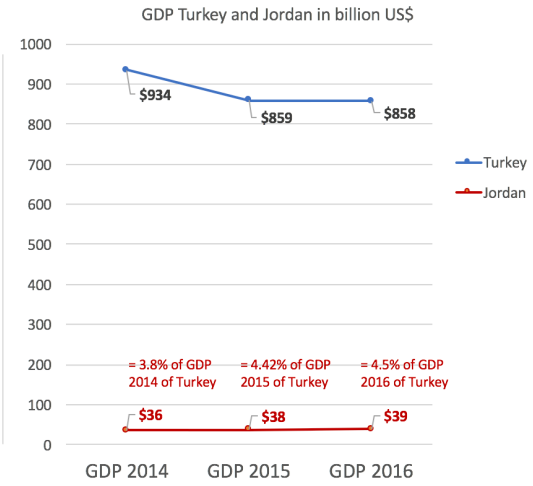

Figure 2-Gross Domestic Product of Turkey and Jordan 2014-2016

We selected two short-term (temporary) refugee reception centre in Turkey and two long-term refugee cities in Jordan for our comparative study. These two countries follow different strategies in responding to the extraordinary humanitarian disaster in their neighbouring country Syria. While Jordan built up large long-term refugee camps over the years, Turkey has received more than three million refugees in refugee reception centres (UNHCR, 2016). Figure 1 illustrates the number of refugees as a part of the whole population. Figure 2 compares the Gross Domestic Product (GDP) of Jordan and Turkey during the years 2014-2016. The different situations of both countries make clear that the economic burden in Jordan is more incisive compared to Turkey. In general, as one of the largest refugee exoduses in recent history, the number of Syrian refugees is higher than neighbouring countries are able to integrate into their host communities. Instead, dedicated camps have been built up by humanitarian organisation to provide refugees a safe space. Depending on the type of the camp and form of response, humanitarian SCM in refugee

camps comprises the challenging management of different principles and functions, such as the provision of shelter, health care, food and water, sanitation and hygiene as well as personal safety and protection. Although the importance of research on sustainable SCM in the humanitarian sector has been acknowledged (Kunz & Gold, 2015), a recent literature review has confirmed a dearth of research focused on sustainable humanitarian SCM in refugee camps (Seifert et al., 2018). Due to political instability in such disaster-affected areas, studies are hampered by difficult access to empirical data. According to (Seifert et al., 2018) there is a high proportion of conceptual research on this topic. Therefore, more empirical studies are needed to test existing theoretical frameworks and assumptions. Based on these facts, the purpose of this paper is to investigate the challenges and trade-offs in humanitarian supply chain management (SCM) for refugee camps, while taking comprehensive sustainability performance objectives into account. We complement previous studies that do not distinguish between short-term and long-term camps, although this difference has substantial implications on logistics and supply chain processes of humanitarian operations. Consequently, we aim to answer the following research questions:

Q1. What are the key challenges and trade-offs of sustainable humanitarian SCM in two different refugee camps in Turkey and Jordan?
Q2. Which solutions can help to make supply chains in refugee camps sustainable?
Q3. What are the performance implications of these solutions on the economic, environmental and social performance dimension?

This paper is structured as follows. In order to answer above-mentioned research questions, we develop a framework of sustainable SCM from key literature and adapt it to the specific features of humanitarian SCM. We compile main analytical constructs addressing challenges and trade-offs of sustainable humanitarian SCM in refugee camps, and formulate initial deductively derived research propositions. Then, we apply the conceptual framework by validating the previously developed hypotheses based on the empirical data. The academic and managerial implications are discussed in the paper's final section. We will provide recommendations on how to improve layout, processes and supply chains of crucial goods in order to achieve sustainable performance in refugee camps.

Literature Review

Sustainable Supply Chain Management

As the basis for our research, the concept of SCM incorporates all activities that are connected with up and down flows of material and information from the raw material stage to the final customer. It aims to achieve a sustainable competitive advantage through improved supply chain relationships (Handfield, Nichols, & Nichols, 1999).

According to the Brundtland Commission (1987) sustainable development is defined as "a development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The sustainable development of a supply chain targets not to harm nature or society while making profits. Although true sustainability does not exist in reality, it gives us a goal post to aim for (Pagell & Wu, 2009). It explicitly builds on the three pillars of the triple bottom line (TBL) by incorporating principles, such as social equity, economic growth, and environmental protection (Behrends, Lindholm, & Woxenius, 2008; Elkington, 2004) and measures the degree of sustainability of an organisation. In order to operationalise sustainability, Seuring & Müller (2008) merged and translated the concepts of SCM and sustainability for the business context: sustainable

SCM is "the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental and social, into account which are derived from customer and stakeholder requirements" (pp.1700).
Carter & Rogers (2008) conceptualised the integration of environmental, economic and social dimensions, and supporting facets of sustainability - Risk Management, Transparency, Strategy and Culture (Figure 3).

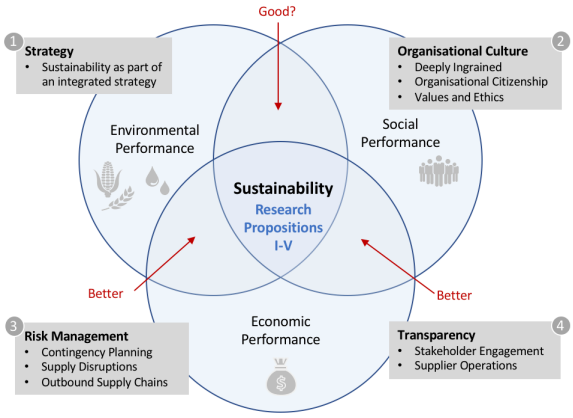

Figure 3 - Framework of sustainable SCM based on Carter and Rogers (2008)

"True sustainability occurs at the intersection of all three areas […] and includes multiple activities where an organisation explicitly and comprehensively incorporates social, environmental, and economic goals by developing strategic vision and long-term strategic objectives", as shown in Figure 3 (Carter & Rogers, 2008, p. 371)). Moreover, organisations that incorporate sustainable SCM goals in their corporate strategy and hence, trying to maximise performance of economic, social and environmental dimensions concurrently, will achieve higher levels of efficiency compared to their competitors that only focus on one or two layers of the TBL. Beyond that, sustainability has to be part of an integrated strategy by connecting the organisation's sustainability initiatives with its corporate behaviour, deeply ingrained culture, values and ethics (Carter & Rogers, 2008) to facilitate organisational learning. The access and control over limited resources are key to organisational success (Pfeffer & Salancik, 1978). For this reason, Carter & Rogers (2008) argue that "firms that are dependent upon key, external resources (…) [and] face uncertainty surrounding the acquisition of these resources can improve their economic sustainability through vertical coordination" (pp.372-373). Vertical coordination with other members of the supply network provide access to essential technologies and knowhow, assure the continuity of supply as well as has been specified as a key factor for assessing and managing supply chain risks in terms of uncertainty or resource dependence (Carter & Rogers, 2008). Supply chains that integrate environmentally and socially sustainable goals along the end-to-end supply chain are more difficult to replicate by competitors (Carbone, Wood, & Moatti, 2012; Gold, Seuring, & Beske, 2010) and strengthen the whole supply network. An involved supply chain actor shares extensive information, sensitive data and realise higher levels of trust with their supply chain stakeholders (Carter & Rogers, 2008). Such close collaborations positively impact the transparency of the supply chain and the supplier's performance, as well as can lead to reduced operating costs, eliminate opportunistic behaviour and finally, economic sustainability for all partners (Carter & Rogers, 2008).

While Carter & Rogers (2008) have examined traditional SCM with the main focus on the economic dimension of the TBL, other frameworks, such as from Pagell & Wu (2009) or Beske & Seuring (2014) differentiate between traditional SCM and sustainable SCM organisations. The latter treat all dimensions of the TBL as equally important. Moreover, sustainability is embedded in nature and society and interlink multidisciplinary aspects (moral, sociological, psychological, ethical and political) that require "a significant extension of the phenomena covered" (Lüdeke-Freund, Gold, & Bocken, 2016).

Sustainable Humanitarian Supply Chain Management

"Essentially for humanitarians, logistics is the processes and systems involved in mobilizing people, resources, skills and knowledge to help vulnerable people affected by disaster" (Van Wassenhove, 2006, p.476).

The essential precautions and actions of humanitarian SCM depend on the type(s) and magnitude of the arising disaster. The different types of humanitarian catastrophes can be categorised by the cause of disaster and the speed of start (Kovács & Spens, 2009; Kunz & Reiner, 2012; Pettit & Beresford, 2009; Van Wassenhove, 2006). Although the literature differentiates between natural (e.g. hurricanes and floods) and man-made (e.g. armed conflict) disaster (Kunz & Reiner, 2012), a combination of both forms can trigger the occurrence of complex emergencies (Kovács & Spens, 2009). The speed of start (warning time) of a disaster can be distinguished between sudden onset, such as earthquakes, and slow onset catastrophes, such as famines or droughts (Kunz & Reiner, 2012). However, this trait does not imply the final duration of a disaster. It can vary from an hourly disruption to days, weeks, months and years of ongoing destruction. The "life-cycle of a disaster" includes four different phases: mitigation, preparedness, response and rehabilitation according to Van Wassenhove (2006). The first two phases emphasise the need to take the necessary precautions and deal with mitigation strategies of negative effects prior to the emergence of a potential disaster. After a catastrophe occurred, the latter two phases respond to beneficiary needs with appropriate humanitarian SCM actions. These actions are classified into emergency relief and development aid operations. Emergency relief operations follow sudden onset disasters, and will not endure longer than five years after the disaster has emerged. In contrast, development aid operations are long-term-oriented recovery activities which start during the reconstruction phase (Kovács & Spens, 2011; Kunz & Reiner, 2012). The so-called Linking Relief, Rehabilitation and Development (LRRD) is needed to manage the transition from emergency relief to development aid operations (Kunz & Gold, 2015). Researchers in the 1980s found a dearth of coordination between relief, rehabilitation and development activities and insufficient exit strategies (Kunz & Gold, 2015). Therefore, an appropriate supply chain design has to be set up to make such a transition from relief to development aid operations possible (Besiou, Stapleton, & Van Wassenhove, 2011).

Kunz & Gold (2015) conceptualised a framework of sustainable humanitarian SCM (Figure 4). This framework aligns the supply chain design with the relief organisations' enabler, the long-term requirements of beneficiaries and entire host community as well as the socio-economic and governmental contingency factors. Hereby, relief organisations' enablers are defined as facilitators (attitudes, policies, capabilities) for the supply chain design which in turn leads to sustainable performance of the TBL. The supply chain design covers the development and the management of actors and processes. The contingency factors include socio-economic and governmental situational factors that are strongly impacting the relief operation. Consequently, sustainable performance results from a good

fit between contingency factors, relief organisations' enablers and long-term requirements of the population (Kunz & Gold, 2015).

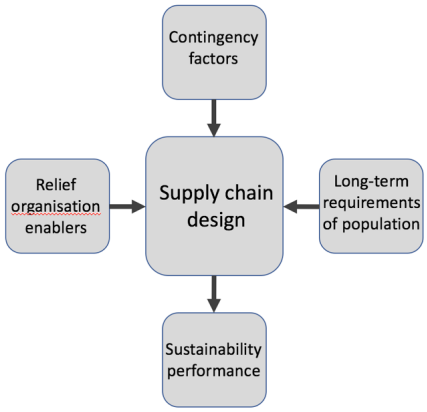

Figure 4 - Framework of sustainable humanitarian SCM by Kunz and Gold (2015)

Challenges and Trade-offs of Sustainable Humanitarian Supply Chain Management

Given the ever-shrinking budgets and uncertainties humanitarian organisations are facing, more research on economic sustainability, in particular on cost effectiveness (Kovács, Matopoulos, & Hayes, 2010), the efficient usage and sharing of resources for both disaster relief and development aid operations as well as the stimulation of the regional economy (Kovács et al., 2010; Perry, 2007; Salehin et al., 2011), is required. Social sustainability is needed, inter alia, for health equity, social responsibility, community development and resilience. Refugees are confronted with different challenges that hinder their access to essential health services triggered by circumstances of extraordinary instability following a man-made and natural disaster: violence, displacement, disruption of family and community, dislocation to unfamiliar and often overcrowded surroundings, lack of infrastructure and access to basic survival needs (Krause, Jones, & Purdin, 2000). Alike, the host community is facing diverse social challenges. A peaceful co-existence with refugees strongly depends on the integration of all services in a humanitarian space, for instance, when refugee camps are established in predominantly rural communities with poor living conditions and the assistance to refugees is perceived to be above average living conditions in the host communities (Agblorti, 2011; Orach & De Brouwere, 2006; Hilhorst & Jansen, 2010). Finally, environmental sustainability combats the negative effects of climate change and urbanisation (Kovács & Spens, 2011). It is, in fact, climate change and its effects on natural resources that may force people to flee, in particular from or within the countries of the global south. According to UNHCR (2014), refugees enter into conflicts with host communities if they compete for limited resources. The world's population residing in urban areas will increase from 54% in 2014 to 66% by 2050 (UNDESA, 2014). This increasing urbanisation creates additional challenges for the humanitarian supply chain by fostering higher susceptibility of populations and reducing their mitigation and coping strategies. (Seifert et al., 2018)

Sustainable Humanitarian Supply Chain Management for Refugee Camps

Until now, studies on the intersection of sustainability and humanitarian SCM in refugee camps do not exist.

A refugee camp is defined as a safe space where refugees reside and humanitarian actors provide assistance in a centralized manner (UNHCR, 2014). The refugee camps worldwide vary in size, quality, type of equipment and location. Schön, Al-saadi, Grubmueller, & Schumann-Bölsche (2018) distinguish between traditional (short-term) and urban (long-

term) refugee camps. Whereas traditional camps address the basic (survival) needs, urban camps offer a fixed infrastructure, like pre-fabricated houses (instead of tents), schools, hospitals, supermarkets and a working security system, water, sanitation and hygiene (WASH), sewage, garbage, as well as electricity systems (Schön et al., 2018). For our research, we focus on emergency relief and development aid processes within these two types of refugee camps and their associated challenges regarding sustainability – in the context of a combined man-made and natural slow-onset disaster.
Combining the literature streams and models of sustainable SCM (Figure 3) and humanitarian SCM (Figure 4), we developed a framework of sustainable humanitarian SCM for refugee camps (Figure 5).

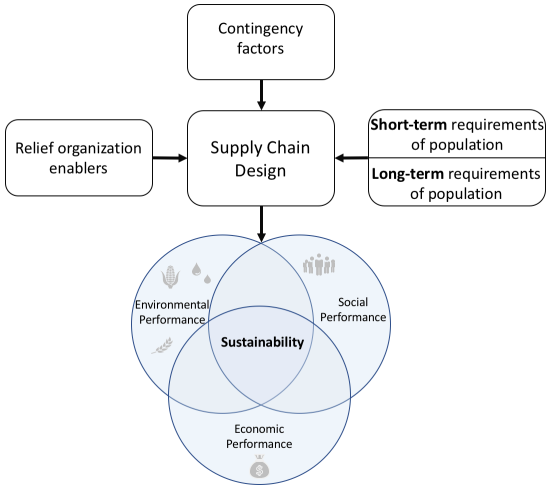

Figure 5 - Framework of sustainable humanitarian SCM for refugee camps

As visualised in Figure 5, the supply chain design of a camp depends on the short-term and long-term needs and economic, environmental and social objectives of refugees and host communities as well as the relief organisations enablers and socio-economic and governmental contingency factors. Based on the models of Kunz & Gold (2015) and Carter & Rogers (2008), a good fit of the different parameters and the equal alignment of economic, environmental and social goals will lead to sustainable humanitarian SCM. To understand the existing challenges and trade-offs in both type of camps and identify solutions for sustainable SCM, we derived the following research propositions RP1 to RP5.

Refugee camps vary in size, quality, type of equipment and location. Depending on the characteristics of the camp (short-term/long-term) and provided services, both types of camps address different needs of refugees. **RP1:** The stronger the needs of refugees are aligned with the supply chain design in short-term vs. long-term camps, the higher the overall sustainability performance.

According to Haavisto & Goentzel (2015) the process of gathering accurate empirical data can interrupt, and hence impact lifesaving actions. **RP2**: Due to the "urgency" of emergency relief operations, performance measurements on sustainability are more difficult to conduct in short-term camps compared to long-term camps.

Supply chain efficiency and cost effectiveness to increase aid for beneficiaries represent important objectives for humanitarian organisations, but are also set as requirements by donors (Kovács & Spens, 2007; Schön et al., 2018). **RP3:** The better supply chain actors of a certain (type of) camp are able to collaborate and hence, efficiently use and share key (external) resources the higher their economic sustainability performance.

Climate change and its effects on natural resources forces people to flee. Refugees enter into conflicts with host communities if they compete for limited resources and living space. **RP4:** The greater the efforts in refugee camps to conserve, restore and save environmental resources, the higher their environmental performance.

Refugees and host communities are confronted with different social challenges and trade-offs. Assistance could create resentment against refugees, especially in poor host communities where the living standard is below the provided aid to refugees. **RP5:** The better the integration of refugees in host communities the higher the social sustainability performance and their peaceful co-existence.

Methods

As a basis for the empirical analysis, we developed a theoretical framework of sustainable SCM from key literature (e.g., Pagell and Wu, 2009; Carter and Rogers, 2008, Seuring and Müller, 2008) and adapted it to the specific features of humanitarian SCM. Based on an extensive literature review, we compiled main analytical constructs addressing challenges and trade-offs of sustainable humanitarian SCM in refugee camps, and formulated initial deductively derived research propositions. We selected the refugee camps of our study following a theoretical sampling approach. Through various iterations of analytical induction, we will verify and refine the research propositions through analysis of case study data (Eisenhardt & Graebner, 2007; Yin, 2009). In the course of the field work, data is collected through participatory observations and semi-structured interviews with selected beneficiaries, refugee camp staff, logistics and supply chain managers, and government officials, following a key informant approach. In addition, secondary data are gathered from global institutions in order to realise an appropriate supply chain mapping and to facilitate data triangulation (Denzin, 2006).

Expected Findings

From the comparison of the challenges and trade-offs of long-term and short-term camps, we expect to find insights into how the supply chain(s) of both camps are managed (differently) and into the repercussions for operational, economic, ecological and social performance of the humanitarian operations. More precisely, we strengthen insights in: how supply chain processes of a camp respond to basic needs of beneficiaries, facilitate their empowerment, recovery and protection; the efficient use and sharing of resources; the preconditions of implementing continuous improvement of supply chain processes; the degree of integration of refugees and host communities into camp management strategies; types of regulatory framework that may foster supply networks, local economy and the wellbeing of the population alike.

Limitations

The conceptual framework includes a number of elements that influence the supply chain design, e.g. contingency factors and relief organisation enablers, which we are not testing, however, since we focus on the distinction between long-term versus short-term camps.

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