

Business Model Canvas for Humanitarian Operations of Logistics Service Providers*

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Abstract

For years, humankind has been facing various disasters of which logistics has a crucial role for alleviating sufferings of vulnerable people, who are isolated and in need of basic supplies. Owing to the increasing importance of logistics in humanitarian operations, logistics service providers (LSPs) have recently become more prominent. Yet, only a few LSPs have the capabilities and mechanisms to offer operational solutions for humanitarian relief. Also, the conducted extensive literature review makes evident that the existence of a limited number of normative research reveals a barrier about what LSPs can bring into the humanitarian field. Accordingly, why LSPs are particularly important in the humanitarian supply chain and how LSPs manage their activities and resources in humanitarian operations become the main questions to be addressed. Thus, this study seeks to explore humanitarian operations of LSPs from different dimensions, enabled by Business Model Canvas (BMC). In this sense, the obtained findings clarify both similar and different viewpoints of diverse LSPs when mapped against the BMC. Consequently, the categorised interrelated information presented through the cross-case synthesis provide novelty to advance insights both on strategic missions of LSPs in humanitarian relief operations and on the usage of BMC beyond its common commercial implementations.

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1. Introduction

Despite all technological developments, humankind has been facing different disasters as a major and inescapable problem over the past years and, this issue has come to the fore more due to the increase in disasters around the world (Swanson and Smith, 2013; Bealt et al., 2016). Although humans have usually been centred on the focal point in disasters, the negative impacts of disasters have been massive not only for humans, but also for economies (Bölsche et al., 2013) and social orders (Bhattacharya et al., 2014) of the affected regions. In this regard, the constant rise in the frequency and impacts of disasters cause growing demand for disaster relief operations (Thomas and Kopczak, 2005; Moe et al., 2007). Yet, in meeting this demand, the existence of multiple supply chains and stakeholders, which are different in terms of their size, structure, and knowledge (Argollo da Costa et al., 2012; Schiffling and Piecyk, 2014), and the difficulty of estimating exact timing, location, and necessities for recovery (Swanson and Smith, 2013) as well as facilitating efficient coordination between stakeholders make supply chain management in disaster relief operations more challenging (Chandes and Pache, 2010; Schiffling, 2013; Li et al., 2019).

Under the constraints of these compelling circumstances, the twenty-first century notwithstanding has been witnessed to substantial advances on providing better humanitarian relief services, especially through specialised and value added logistics activities (Vega and Roussat, 2015). As evidenced from recent incidents, the requirement of prompt responses on reaching to the success in humanitarian aid activities reveals the critical share of transportation (Baharmand et al., 2017) and the crucial role of logistics in humanitarian relief operations (Swanson and Smith, 2013; Hirschinger et al., 2016). Thus, the humanitarian logistics (HL), as a vital part in logistics management (Cozzolino et al., 2017), has started to

receive increasing attention from researchers (Bealt et al., 2016) and practitioners (Hirschinger et al., 2016) since its baseline, accepted as 2005 (Tatham and Houghton, 2011).

In parallel, the growth in challenge-oriented studies has brought along another focus both on the private sector and on the humanitarian sector owing to the priority of logistics that needs to be maximised in terms of providing goods and services quickly, safely, and reliably (Bölsche et al., 2013). In addition to similarities, idiosyncratic inherent differences of these two sectors (e.g. minimising costs vs. reducing human sufferings) exist (Holguín-Veras et al., 2013; Swanson and Smith, 2013) and, as such can be also seen embodied in the broadly accepted definition of HL, noted by Thomas and Kopczak (2005). In light of these facts, when logistics is pivotal for alleviating sufferings of vulnerable people and for increasing efficiency and effectiveness of delivery timings, as Vega and Roussat (2015) underlined, it is a requisite for logistics service providers (LSPs) to be involved in the humanitarian context.

LSPs have become relatively new actors for providing humanitarian relief services at high-quality (Dufour et al., 2018) and undertaken a critical mission in the uniqueness of this uncertain and dynamic humanitarian supply chain (HSC) environment (Day et al., 2012; Wagner and Thakur-Weigold, 2018). As crucial intermediate players, LSPs contribute to each phase of a relief operation through their core capabilities needed in the humanitarian field and their emerging expanded roles in humanitarian operations are significant for identifying what they can do in relief activities (Cozzolino et al., 2017). However, despite this vital role, the existence of a limited number of studies elicited a barrier and a lack of information about what LSPs can bring into the humanitarian area. In this respect, even though there are very few studies on different roles of LSPs in the HSC domain (Tatham and Houghton, 2011; Baharmand et al., 2017), positioning LSPs on the focal point of a research was inadequately discussed in previous studies (Vega and Roussat, 2015). In addition, there is a general paucity on private sector engagement in fulfilling acute needs (Carland et al., 2018) and, today, only a

few LSPs possess the capabilities and tools to propound extensive strategic solutions in the humanitarian field (Cozzolino et al., 2017). Accordingly, how logistics can be managed remains blurry in humanitarian operations (Anaya-Arenas et al., 2018).

Given these gaps, the unclear, risky, and acute nature of logistics services in the humanitarian domain makes HL a pivotal area of application for supply chain management principles (Gatignon et al., 2010). Therefore, by considering the complex and multi-dimensional logistics structure of humanitarian operations, the necessity of specialised logistics knowledge (Abidi et al., 2015) and a call for further research on the roles of LSPs (Vega and Roussat, 2015) lead to a need for exploring the operations of LSPs from different dimensions in the humanitarian field. Thus, to fill the aforementioned gaps, we seek answers to the following research questions: “why are LSPs important players in the HSC?” and “how do LSPs manage their activities and resources in humanitarian relief operations?”. To this end, the present paper initiates an aim of investigating humanitarian operations of LSPs from different dimensions.

In line with this aim, we first examined the importance and roles of LSPs, among other stakeholders, in the HSC. Afterwards, various multi-dimensional business model frameworks were analysed in order to be guided by a suitable and powerful approach in the exploratory case study strategy and this analysis resulted in the decision of using the Business Model Canvas (BMC), which enables deep understanding and insights for exploring humanitarian operations of LSPs. In this sense, the implementation of the BMC framework for the humanitarian area was proven in this study under favour of the interviewed LSPs operating in the Turkish logistics context.

The remainder of this paper is structured as follows. Section 2 is divided into two subsections, where various stakeholder groups existing in the HSC were initially reviewed and, then, studies regarding LSPs in the humanitarian area were critically examined. In Section 3,

the research method and the approach carried out to meet the aim of this research are explained. Section 4 presents the case study processes applied in the Turkish logistics context while Section 5 highlights the academic and practical implications of this research. Finally, we conclude our research in Section 6.

2. Literature Review of Humanitarian Normative Research

During our structured two-step literature review, three databases; namely ABI/Inform Global, ScienceDirect, and Scopus (similar to Kucukaltan et al., 2016), were used to identify relevant full articles in the peer-reviewed journals while excluding other sources of information (e.g. book chapters) due to the validated knowledge and the impacts of journal papers on a field (Heaslip, 2013). Moreover, with the aim of focusing on similar contextual articles, our literature review was conducted within the abstracts, titles, and keywords of the articles (similar to Becker and Smidt, 2016) written in English. Additionally, in order not to miss any relevant paper made available until the time of this research, we attentively reviewed and revised the studies published by July 2019. Besides, since the keyword selection is a critical stage for the success of a research, we diligently determined our keywords based on previous studies in the domain in order to be guided by a right approach. Meanwhile, it is worth stating that the number of reviewed studies were lesser than the initially emerged numbers from these databases since during the literature searches, several articles were either not accessible by the authors of the present study or had different scopes than this research.

In the structured two-step literature review, we initially started to search for exploring existing stakeholders in the HSC so as to provide substantial answer to our first research question. On this matter, “relief logistics*”; “humanitarian logistics*”; “relief supply chain”; “humanitarian supply chain” keywords were individually searched with the “stakeholder*” keyword, and the articles corresponding to the scope of this research were examined at this step. In this way, due consideration was given to the literature when identifying appropriate stakeholders across

the HSC domain. Subsequently, while addressing the first question but also paving the way for responding to our second research question, we aimed at investigating LSPs-related studies in order to scrutinise to what extent and from which perspectives existing studies discussed the mentioned concepts. The keywords and the revealed studies from the keyword searches are widely explained in Section 2.2 as this step underpins the present research in accordance with the research purpose.

2.1. Discourses on Stakeholders in the Humanitarian Domain

No organisation can survive and succeed alone. Every organisation has a relationship with internal or external groups (e.g. supply chain participants) that both influence their decisions and are influenced by them, i.e. the stakeholders. As it has been used to scrutinise a variety of issues in the literature, the stakeholder theory, put forward by Freeman (1984), becomes critical in logistics operations, particularly in HL of HSC management owing to fact that incorporating stakeholders' interests into decision-making processes would improve the reliability of relief operations (Regis-Hernández et al., 2017). Since stakeholders influence the processes and outcomes (Jones and Wicks, 1999), organisations should recognise their interdependencies with different stakeholders and include stakeholder interests in their strategies in order to be successful (e.g. Schilling, 2000; John et. al., 2018), especially when they have social aims rather than commercial (Pullman et al., 2018). Yet, as similarly underlined by Amideo et al. (2018), there is no common agreement for the certain types, numbers, and offers of stakeholders involved in HL operations.

As its nature, HL operations involve complex interactions with various individuals, organisations, agencies, and even countries (Heaslip et al., 2012) and, therefore, require improved knowledge of each other's mandates, capacities, and shortcomings (Whiting and Ayala-Öström, 2009) to understand this complexity. Fundamentally, for assessing salience of stakeholders, Mitchell et al. (1997) developed the first popular framework, based on

stakeholders' power, urgency, legitimacy, and it was applied to exhibit the complexities of stakeholder interactions in HSCs. With a similar attempt, Kovács and Spens (2007) provided a comprehensive framework with the inclusion of regional (e.g. governments, local firms) and extra-regional (international actors, LSPs) stakeholders. To date, researchers have put forward insights for management of HSC and have pointed out different research aspects in the HSC, such as identification of stakeholders as a part of performance management, and the pivotal role of transportation of goods and services that is largely provided by LSPs.

In terms of the stakeholders and performance measurement notions, several researchers focused on identifying stakeholders in a framework structure. For instance, de Leeuw (2010) attempted to develop a performance measurement framework by constructing a reference mission map through cause-and-effect links of three stakeholders. In another study, Sauer et al. (2016) tried to propose a comprehensive framework hinged upon the balanced scorecard tool to embrace diverse stakeholders. In a similar vein, Schiffing and Piecyk (2014) developed a framework of the key stakeholders in HL, based on their salience, and presented a broader view, compared to these two previous studies, by considering 11 stakeholders, which are: (1) logistics providers, (2) suppliers, (3) volunteers, (4) other non-governmental organisations (NGOs), (5) governments, (6) military, (7) media, (8) beneficiaries, (9) field staff, (10) donors and (11) headquarters. At this point, it is evident that, although different stakeholders were identified in the humanitarian domain, majority of the studies either tackled the issue without strictly following a particular methodological application (e.g. Amideo et al. 2018; Prasad et al., 2018; Pullman et al., 2018; Chong et al., 2019; Shafiq and Soratana, 2019) or approached inadequately (e.g. Kovács and Spens, 2009; Tatham and Houghton, 2011; Green et al., 2013; Das and Hanaoka, 2014; Kunz, 2019).

In other performance measurement-related studies, Beamon and Balcik (2008) compared performance measurement characteristics between humanitarian and commercial areas while

Schulz and Heigh (2009) studied on internal performance measurement within a humanitarian organisation (HO). Najjar et al. (2018) performed a field survey on 276 refugees with the aim of measuring performance of HSC from the beneficiaries' perspective. Their findings revealed the impact of information sharing and information quality on the performance of HSC from refugees' viewpoint and, social capital appeared as a critical notion.

On the other hand, in order to overcome disaster relief challenges and to create a sustainable environment in the HSC, Li et al. (2019) emphasised the indispensable role of a strong coordination among various stakeholders. For a successful coordination in HSC management, in a broad sense, Wilson et al. (2018) discussed the challenges that are inherent in the phases of planning and responding to encountered disasters in a multi-agency environment, where a large number of state and non-government actors as well as agencies are involved. At the end of their research, evidenced from Australia, they offered 11 practical recommendations on the discussed matters. In a more specific approach, Dube and Broekhuis (2018) studied how humanitarian mission can be developed as a distinguished profession for field workers as they have increasingly experienced pressure to professionalise their services.

For developing a humanitarian mission, not only the professionalisation of field workers, but also the ability of responding to the group of people in need is important. In this complex environment, numerous activities requiring logistics expertise and competency need to be carried out in coordination, such as the consolidation of transportation (Çetinkaya, 2005), the consolidation and control of inventories (Wanke and Saliby, 2009), the management of performance-related decisions (e.g. warehouse location selection) in HL operations (Barsing et al., 2018), and the consolidation of purchasing (Monczka et al., 1993). In parallel, few studies (e.g. John et al., 2018; Liu and Suzuki, 2018) particularly emphasised the importance of using LSPs in logistics services for establishing strong relationships and/or communications so as to achieve success in relief operations.

In a similar vein, among these LSP-related studies, Vaillancourt (2016) studied conceptually on consolidation activities of LSPs, in regard to inventory, transportation, and purchasing, by providing a theoretical framework that helps to better comprehend the significance of incentives and barriers to consolidation of materials in HL. Lately, Sigala and Wakolbinger (2019) emphasised that stakeholder agendas and requirements play a crucial role for outsourcing decisions of humanitarian activities to LSPs and, therefore, their qualitative research highlighted the main reasons and activities to be outsourced to LSPs in the humanitarian domain.

Thus, the literature review conducted at the first-step of this research revealed that, although logistics has such vital impacts on humanitarian relief and aid operations (Van Wassenhove, 2006; Li et al., 2019), surprisingly, only a handful of stakeholder-related studies (e.g. Kovács and Spens, 2007; Schiffling, 2013, Kabra and Ramesh, 2015; Vaillancourt, 2016; Sigala and Wakolbinger, 2019) incorporated LSPs as a stakeholder and a considerable part of the literature adopted certain typologies (e.g. Banomyong, and Julagasigorn, 2017; Venkatesh et al., 2018; Shafiq and Soratana, 2019). That is to say, in the extant stakeholder-oriented literature, taking LSPs on a focal point of a research remained largely limited.

Furthermore, there are few detailed field studies, most of which focused largely on reviewing previous studies from different aspects (e.g. inventory management, relationships in humanitarian operations) of HL (e.g. Schiffling and Piecyk, 2014; Balcik et al., 2016; Bag, 2016; Jabbour et al., 2017; Fontainha et al., 2017) and offered conceptual models (e.g. Heaslip et al., 2012; Kovács et al., 2012; Bhattacharya et al., 2014; Anparasan and Lejeune, 2017). In order to advance the extant knowledge in the humanitarian domain, as Schiffling and Piecyk (2014) stressed, standard business tools need to be appropriately adapted first to the humanitarian environment in order to provide useful approach. In addition, since transportation within logistics is conceived as the costliest activity in humanitarian operations

(Nagurney et al., 2019), reducing such cost is of great importance for valuing the beneficiaries' time (Rancourt et al., 2015).

Consequently, the indispensable requisite of using business tools for the humanitarian environment lead this research to utilise a realistic and powerful approach, such as the BMC due to its practical applicability and scientifically-supported interrelated dimensions. Furthermore, the findings of our first-step review unfold the non-negligible importance, but under-appreciated, of LSPs among other stakeholders in humanitarian operations owing to the cruciality of transportation at the right time and place.

2.2. Emergence of LSPs in Humanitarian Relief Operations

Conceptually, the term of LSP refers to a company that supports other organisations through its logistics services (Lieb et al., 1993; Baharmand et al., 2017) consisting of several activities, such as procurement, transportation, warehousing, and inventory management (Dufour et al., 2018). In numerous studies, LSPs are pointed out as crucial players for making deliveries at the right time, at the right place, at the right quality, and at the right quantity. Yet, this mission of LSPs becomes even much harder for operating in the humanitarian context since the intensity, location, and type of disaster may vary (Khan et al., 2019). Due to the multiplicity of stakeholders in the HSC, it is worthwhile to highlight the essential roles, activities, and resources of LSPs in humanitarian relief operations and, therefore, previous studies focusing on LSPs in the humanitarian context were examined at this step. Accordingly, in order to visit the whole picture of existing research in this domain, several keyword pairs in different variations, as presented in Table 1, were used in order to capture relevant LSPs-related studies made available by July 2019. Our findings from these searches showed that only a small number of studies incorporated activities that somehow related to LSPs in the HSC domain. More specifically, among these handful studies, the studies taking roles and activities of LSPs on a focal point remained even more limited.

Table 1. The number of LSPs-related studies revealed from three databases

<u>Keywords</u>	<u>ABI/INFORM Global</u>	<u>ScienceDirect</u>	<u>Scopus</u>	<u>TOTAL</u>
“humanitarian supply chain” ; “service provider*”	3	2	9	17
“relief supply chain” ; “service provider*”	0	0	1	
“humanitarian” ; “logistics*” ; “service provider*”	9	4	16	
“relief logistics*” ; “service provider*”	1	0	1	

With regard to the papers shown in Table 1, it can be expressed that LSPs were investigated from slightly different aspects and, hence, diverse topics can be observed in the extant literature. For instance, Dufour et al. (2018) evaluated the potential cost benefits of adding a distribution centre in Kampala to the network of the United Nations Humanitarian Response Depot, as a humanitarian LSP, in order to provide better response to humanitarian problems in East Africa. In the same way, Green et al. (2013) adopted a cost-effective approach to expose desludging operations, of which logistics and transportation holds a great potential for dealing with sanitation issues in Senegal. In other cost-related studies, Nagurney et al. (2019) constructed an integrated financial and logistical game theory model for HOs under several constraints, such as selection of multiple freight service providers by HOs, whereas Gossler et al.’s (2019) game-theoretic model set out to explore the impact of transportation rates and framework agreements on distribution decisions in humanitarian operations. As can be seen from these studies, transportation activities and costs of these activities for HOs were mainly discussed and, as such, caused a limited insight for understanding, from different angles, the vast range of humanitarian operations managed by LSPs.

In another aspect, Jahre and Jensen (2010) focused on the cluster system for coordination in HL, along with some interviews and evaluation reports obtained in a case study of the Logistics Cluster. However, their study remained largely conceptual and this elicited the main limitation of the study. Regarding the collaboration, Dubey et al. (2019) aimed at analysing the application of information processing capabilities, particularly the big data analytics, in

building swift trust and improving collaborative performance among organisations (e.g. LSPs) engaged in the HSC area.

In terms of the partnerships between HOs and LSPs, Bealt et al. (2016) studied on the challenges and barriers in disaster relief operations by conducting a triangulation approach, consisting of the survey technique and follow-up interviews, and explored reasons about why collaboration have not yet flourished. Regarding the close connection between HOs and LSPs, Heaslip and Kovács (2019) explored contractual agreements between the actors of service triads in HL where LSPs, United Nations agencies, and international HOs were indicated as the service providers operating between the buyers (e.g. government) and the end customers (e.g. an implementing partner). Likewise, but in a broader manner for advancing the service operations management spectrum by academics, four areas, namely, servitisation, service developments, service standardisation, and the role of humanitarian aid organisations as LSPs were highlighted by Heaslip (2013) as opportunities to be examined.

In the HL literature, these four areas are also tackled by some other researchers either with a slightly different outlook (e.g. educational development role) or with a similar perspective (e.g. roles of HOs as LSPs). To illustrate, the role of education as a service development activity was discussed in Kumar et al.'s (2009) and Bölsche et al.'s (2013) research. In the former one, Kumar et al. (2009) focused on an NGO as an example case and highlighted both the position and the importance of LSPs during the humanitarian efforts. In the latter research, Bölsche et al. (2013) aimed at filling the gap in professionalisation of the logistics function in the HSC in terms of education and training, skills, and competences and, ultimately, offered several suggestions for theory and practice.

In relation to the research concentrating on the roles of HOs as LSPs, Schulz and Blecken (2010) investigated benefits and impediments of horizontal logistics cooperation between HOs through a cross-case analysis of three HOs which undertake tasks in the areas of

procurement, warehousing, and transportation management. In a similar vein, Baharmand et al. (2017) focused on transportation risks for HOs and revealed the importance of using LSPs not only for the performance improvements of HOs and HSCs, but also for reducing in-country transportation risks. Thus, it can be deduced from these studies that the solution of using HOs as LSPs in relief operations does not present the optimal solution and, therefore, LSPs need to be considered on a focal point, independently from HOs, to be investigated as an important, efficient, and effective actor operating in the HSC domain.

In contrast to various aspects of the discussed research until here, only a handful studies appeared from our search remained relevant with the scope of this paper. Among these, Abidi et al. (2015) aimed at examining the role of fourth-party logistics services in the HSC. In line with this aim, they applied the Analytic Hierarchy Process method to prioritise four components and the sub-categories of their framework. Their findings highlighted that managing third-party LSPs and stakeholders along the supply chain is a need and essential task in fourth-party logistics services. Concerning the discussion of the roles of LSPs, Vega and Roussat (2015) focused on the roles that LSPs play or could play in HSCs, if they take part. Their two-stage exploratory research revealed the identification of three main roles (member, operator, actor) and several sub-roles of LSPs in various phases of relief operations.

In another study related to the scope of this paper, Cozzolino et al. (2017) discussed how LSPs are engaged in the HSC and provided a general investigation over several major LSPs through secondary sources (e.g. websites) in addition to the literature review analysis. Their findings presented potentials and contributions of LSPs in disaster relief operations. In a more recent research, Sigala and Wakolbinger (2019) explored the outsourcing decision of HL activities to commercial LSPs throughout different disaster phases. Their cross-comparative field research results, which depend on 24 semi-structured interviews from both HOs and LSPs, showed that the motivations for outsourcing engagements, the partner selection factors,

the activities to be outsourced, and the risks or challenges differ in disaster phases. As a result of these relevant studies, it is clear that previous researchers discussed, to a large extent, the roles and activities of LSPs conceptually rather than thoroughly exploring how and with which resources LSPs perform their activities in the humanitarian area and add values.

All in all, the LSPs-oriented studies scrutinised in this section uncover that more basic LSP concepts and their stakeholders need to be preliminarily examined, prior to the more complex LSP structures (e.g. the fourth-party logistics), in order to provide both a robust foundation for a powerful collaboration between different actors in a supply chain and novelty about what LSPs can fundamentally offer into the humanitarian field. Indeed, although LSPs may appear with different roles at different stages of relief operations, it was highlighted in the aforementioned studies that they hold a great potential to contribute to humanitarian relief operations as an intermediary actor. Therefore, with the aim of increasing the efficiency and effectiveness of the entire HSC, it is indispensable to comprehensively investigate the roles, activities, resources, and values of a crucial player in humanitarian relief operations-LSPs- in relation to their stakeholder connections.

3. Methodology

The methodological process of this research is composed of three phases. In accordance with the research aim and questions, first, the reasons of selecting the case study strategy and the semi-structured interview technique are explained stemming from their appropriate theoretical basis. Then, in order to implement a robust and applicable multi-dimensional framework in the humanitarian domain, the motivations of choosing the BMC are discussed while, in the last sub-section, the rationales of deciding on the Turkish context are elucidated in detail since applying a research in a realistic domain has a substantial potential of advancing the knowledge and insights in a field. In order to clarify the processes and sequences followed in the present study, the research design is illustrated in Figure 1.

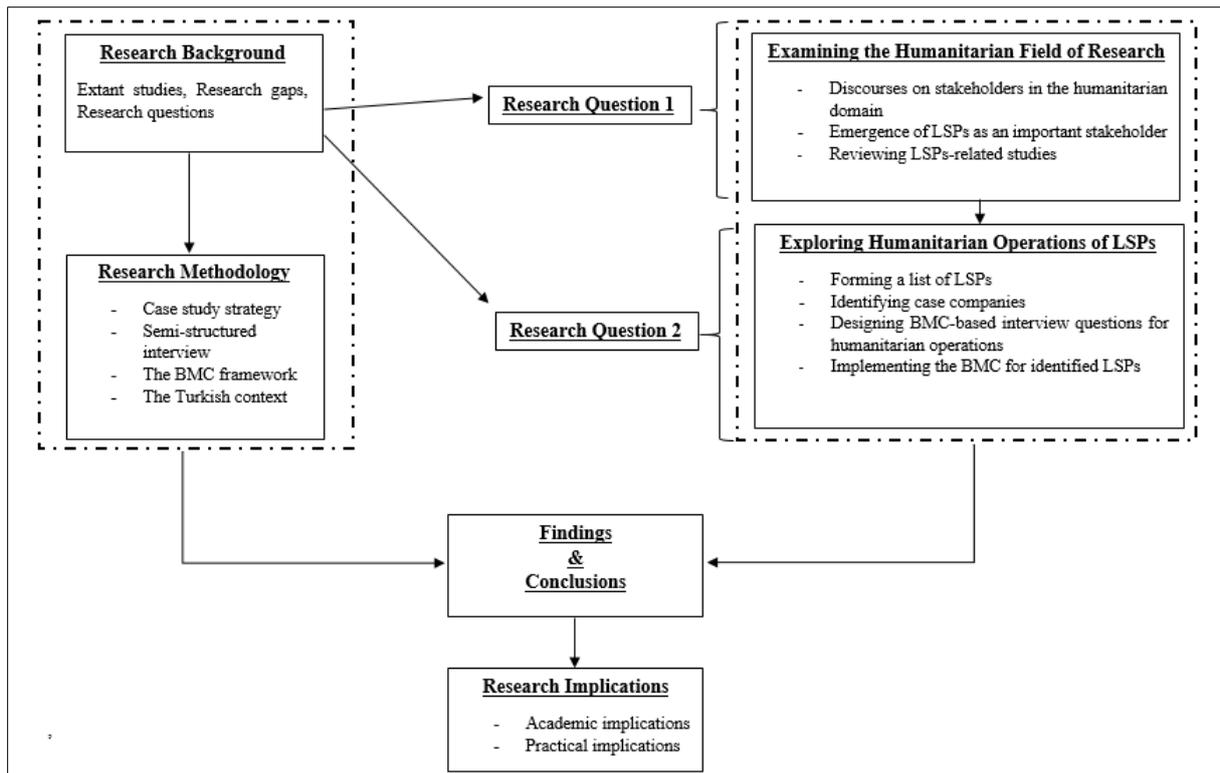


Figure 1. The research design

3.1. Selecting an Appropriate Interview Type for the Case Study Strategy

As distinct from the commercial logistics operations, due to limited empirical access in the humanitarian context (Heaslip et al., 2018), obtaining reliable data contains some difficulties in itself (Dufour et al., 2018) and, this being the case, the nature of research questions requires an exploratory outlook. In parallel to this argument and given the limited normative research in HL, as Childe (2011) underlined, the exploratory purpose can be adopted when a new knowledge is needed. On such an occasion, the case study application is rigorously accepted and implemented as a valid strategy both for providing in-depth understanding of a phenomenon (Cozzolino et al., 2017) and for flourishing the content (Kościelniak et al., 2019), especially in cases when incomplete information exists (Jahre and Jensen, 2010). Therefore, the case study strategy is widely used by researchers (e.g. Kovács and Spens,

2009; Kabra, and Ramesh, 2015; Banomyong and Julagasigorn, 2017; Prasad et al., 2018) in the HSC field.

In a similar vein, by advancing the discussion of Siggelkow's (2007) arguments, Vega (2018) underlined that employing a real-life example, i.e. case, tends to become more appealing than a theoretical stimulation, especially in the HL field due to its unique feature, and to become more prevailing by virtue of illustrating causal relationships compared to different empirical strategies. Indeed, Agarwal et al. (2019) remarked that conducting the case study strategy is the most notable methodological approach for the framework development in the HSC domain. Consequently, this study exploits the advantages of implementing the case study strategy owing to the inherent exploratory nature of the stated research questions for the HL area.

In the case study strategy, "how" and "why" questions are typically being posed due to its qualitative nature (Schulz and Blecken, 2010) and are broadly preferred by the researchers who have the motivation for offering detailed clarification of best practices. In this respect, Vega (2018) emphasised that, based on Watson's (1994) study, the "why" type of question is particularly paramount for conceptual, practical, and purpose-oriented aspects of a research in social sciences. More specifically, in addition to the widely recognised coverage of the case study strategy in social sciences, researchers in the logistics field have also encouraged the use of case studies for any inquiries since the strategy allows a comprehensive investigation of a phenomenon at an early stage but calling for further knowledge through an in-depth field analysis (Cozzolino et al., 2017).

Regarding the field analysis in case studies, interview techniques are usually carried out to gather potential data (Saunders et al., 2009). In the interview techniques, three types are commonly followed by researchers, namely: structured, semi-structured, and unstructured (or non-structured). The former type, structured interviews, are preferred to collect quantifiable

data as a part of quantitative research while semi-structured and unstructured interviews are non-standardised types constituting the basis of a qualitative research (Saunders et al., 2009). From this point forth, the latter two types match with the scope of this study due to being exploratory in terms of investigating humanitarian operations of LSPs in the HSC, through “how” and “why” types of questions. Furthermore, surpassing advantages of semi-structured interviews over other types, such as including open-ended questions to achieve comprehensive information (Zhang and Babar, 2013), allowing to prepare a list of questions and themes prior to an interview (Saunders et al., 2009), and enabling to ask further probing questions (e.g. what, how, why) to obtain more insights (Pandey and Chawla, 2016) became the main motives to choose the semi-structured interview type for this research.

After deciding on the interview type, the validity and reliability of the collected data become critical in an interview. In this study, as suggested by Saunders et al. (2009), the questions revealed from the literature and other practical sources were pre-assessed by several professionals (as explicated in Section 4.2.) and, then, relevant information about the themes incorporated in the interviews was provided to the participants prior to the meetings in order to enhance awareness for obtaining correct data. All in all, by considering both ideally suggested number of questions (i.e. between 10 and 15) to be asked in semi-structured interviews (WorldBank, 2016) and the nine components of the BMC framework, 13 questions were prepared for the semi-structured interview carried out in this study.

3.2. Choosing the BMC as a Suitable Framework

Every organisation, including social businesses, has a business model, even if the word “business” is not noted as a descriptor (Osterwalder and Pigneur, 2011). This mutual denominator motivates scholars to focus on the business model subject and, as such, leads to receiving particular attention lately by academics on business model research (Joyce and Paquin, 2016). Essentially, a business model is a conceptual outlook of a business that helps

understanding the strategy of a business (Martikainen et al., 2014) and articulates the logic, the data as well as the feasible structure of revenues and costs for delivering the intended value (Beh et al., 2016). Additionally, business models hold a potential for receiving innovations (Nielsen et al., 2017) in accordance with the latest challenges occurred in the external environment (Pandza, 2011), and, recently, more diffused concepts, such as business excellence have been incorporated within the business model development frontiers (Nielsen et al., 2017).

Business excellence is generally conceived as a blend of strategy and application, which has had a rise in its usage by means of frameworks and criteria in organisations. Over the years, organisations have used various business model frameworks (e.g. balanced scorecard, performance prism, BMC) to analyse their activities from different angles. Among these frameworks, the BMC, developed by Osterwalder and Pigneur as a modern strategic management tool, holds a promising potential as well as a powerful structure to be employed by practitioners and academics due to its different advantages over other multi-dimensional frameworks. For instance, the generic balanced scorecard framework, which is a commonly used tool, remains insufficient for evaluating various stakeholders, such as employees, alliance partners, regulators, and community (Atkinson et al., 1997; Neely et al., 2001), and such inadequate stakeholder evaluation may cause a failure of developing strategies (Shaik and Abdul-Kader, 2014). Another well-known framework, the performance prism, has also drawbacks in terms of partially presenting strategy alignment (Garengo et al., 2005) and not being a perspective-based framework (Shaik and Abdul-Kader, 2014).

On the other hand, the BMC framework depicts an overview for an organisation to indicate how to operate and how to outline their strategies (Frick and Ali, 2013). Moreover, the BMC is a theoretical and practical concept that merges key elements evaluated under external and internal activities in a balanced system manner (Dudin et al., 2015). Besides, the visual

representation of the BMC, with its ease of use, allows both to exhibit potential interrelations between actions and to analyse effects on value creation (Joyce and Paquin, 2016), through its nine interconnected building blocks, which are: *value propositions*, *customer segments*, *customer relationships*, *channels*, *key resources*, *key activities*, *key partners*, *cost structure*, and *revenue streams* (Osterwalder, 2013).

Apart from its conceptual structure, in terms of its practicality, the BMC are not only used by global companies (e.g. Nestlé) for managing their strategies, but also by start-ups, especially when they are in quest of a suitable business model (Osterwalder, 2013). In addition, as a coverage given in Osterwalder and Pigneur's (2010) study, the BMC is also preferred by non-profit organisations as a useful framework for clarifying true value propositions. What is more is that, as Quak et al. (2014) underlined, the qualitative information obtained through the BMC holds a significant value for quantitative analyses in case scenarios. Based on these advantages and the suitability of the BMC approach in line with our research aim and concept, we used the generic framework of BMC for guiding our data collection from LSPs in the humanitarian area. In this way, we took a role on advancing the use of BMC beyond the information technology-related global businesses and start-ups.

3.3. Deciding on the Turkish Context

In order to investigate humanitarian operations of LSPs, we draw our observations from Turkey and the rationales for conducting the application of this study in the Turkish context are fourfold. Firstly, Turkey is a vulnerable country prone to different natural disasters (Kılıcı et al., 2015; Ozkapıcı et al., 2016), such as earthquakes, landslide, flood (Kınay et al., 2018), and humanitarian relief is lately gaining prominence in the country. Accordingly, Turkey has the experience, capability, resources, and solutions regarding what needs to be done in disaster responsiveness. Secondly, pertaining to humanitarian aid responsiveness, Turkey hosted the largest number of refugees worldwide in 2018 for the fifth consecutive year

(UNHCR, 2018) and has recently played a crucial role in managing refugee crisis in the Middle East and Mediterranean region (EESC, 2018). Thirdly, on the website of the Logistics Cluster, a well-known humanitarian emergency response cluster, Turkey is shown among the 20 of 140 countries that currently has active operations (i.e. in Syria), regardless of preparedness projects (Logistics Cluster, 2019), and stays in contact with various agencies in the humanitarian relief domain during several aid transshipments (e.g. food, health, nutrition, shelter) (Logistics Cluster, 2018). Lastly, regarding humanitarian assistance, Turkey was indicated in the Global Humanitarian Assistance Report 2018 as the largest donor among 20 contributors including governments, EU institutions (Development Initiatives, 2018). Thus, both being applicable among the limited number of actively operating countries and the contribution being made to the humanitarian relief operations make Turkey an important realistic context for this study to investigate humanitarian relief operations of LSPs.

4. Implementing the BMC in HL: The Case of Turkish Logistics Context

4.1. Forming a List of LSPs to be Examined

In recent years, there have been an emergence of large LSPs offering sophisticated solutions and providing both a good examination of repositioning and new business models in HL (Heaslip, 2013). Despite this rise, since not all companies are involved in HL operations (Cozzolino et al., 2017), a small number of LSPs undertake different types of roles in humanitarian relief operations (Vega and Roussat, 2015). This being the case, some LSPs receive particular interest, compared to others, from researchers due to their concentrations on relief services (Cozzolino et al., 2017). Therefore, in this research, we specifically focused on the LSPs that provide active humanitarian relief operations, especially being involved in the Turkish logistics context.

In order to determine the applicable LSPs for this research, we searched for information on public reports and newspapers regarding humanitarian operations of LSPs in Turkey; however, we found out that only a few LSPs take part in HL operations. Starting from this point, we, then, added the names of LSPs included in the Logistics Emergency Teams into our initial list. Subsequently, with the aim of expanding the number of LSPs noted in this list, we also approached to several key institutional HOs in Turkey for obtaining information on actively operating LSPs in the humanitarian field. During these processes, we were careful about not adding overlapping names of LSPs to our list. In addition, since the research aim was set to provide practical and realistic information about actively operating LSPs, we also applied several elimination criteria to the listed LSPs, such as:

- Holding their headquarters in Istanbul or managing their operations majorly from Istanbul, where the headquarters of a larger number of leading LSPs in Turkey are located,
- For a multinational company, having a branch or an office in Istanbul,
- Providing transportation services with a high operational weight, rather than focusing on some other particular services, such as warehousing or customs.

After these elimination processes, in a three-week time period, we tried to contact with all LSPs in the list; however, we either could not reach to an authorised staff in some companies or, even if reached, could not get a response to our follow-up requests. At the end, only three LSPs responded positively for participating in our research and these three LSPs became the sample of our case study. Considering the limited number of capable LSPs operating up to the mark, the LSPs involved in humanitarian operations are even more scarce in Turkey and work on demand while responding to disasters. In addition, they may not actively or lately conduct services in humanitarian operations. This being the case, forming a sample of three LSPs being active in the humanitarian field remains sufficient for this research as the investigators

sought to establish consistency and idiosyncrasy in process and outcome rather than generality. Indeed, Yin (2018) argued that the sampling logic applied in case studies, just as in statistics, would be misleading. Likewise, Guest et al. (2006) remarked that data saturation typically relies on researcher qualities and has no boundaries. Due to the confidentiality reasons, we named these companies as Company A, Company B, and Company C.

4.2. Designing BMC-based Interview Questions

The original BMC framework unfolds various relationships and presents a snapshot of a case company from different perspectives. In order to advance the original BMC framework with the current operational necessities, we designed our questions by considering basics and fundamentals of humanitarian operations. In this regard, we first started with examining several studies that use the generic BMC concept in different areas and, then, we probed business model-related research in the HL area, in addition to the articles focusing on the usage of the BMC framework in logistics. After extensive analyses of these previous studies, we diligently adapted our interview questions in conformance with both the purpose of this research and the principles of the BMC dimensions.

Meanwhile, reliability and validity are also the matters to be considered for the credibility of the interview. In addition to the interview-related reliability and validity explained in Section 3.1., the same matters were also attentively addressed concerning the design of interview. In this regard, as similarly conducted by Schulz and Blecken (2010), reliability is ensured by comprehensive formation of both the questions, based on previous studies, company websites, and field notes (before the interview) and the given answers (after the interview). For the validity, four professionals (similar to Baharmand et al., 2017), of whom three are academics whilst the fourth is a practitioner in the logistics area checked suitability and clarity of the interview questions. What is more is that, after the interviews, the BMC-based questions and

the transcribed answers were read to the interviewees for their confirmation and for providing clear information in this research.

4.3. Using the BMC Approach for Interviews

In the interviews, our questions first started with the roles of interviewees and the organisational information. Afterwards, the designed questions within the BMC approach were asked to the interviewed executives. Accordingly, this sub-section begins with brief information about the case companies, followed by the presentation of given answers in Table 2, with respect to the nine dimensions of the BMC approach. Interviewed questions prepared for this research are also provided in Appendix A.

Company A is an LSP that manages its operations through different transportation modes, such as road, air, and sea in various countries, although the air transportation has the highest weight for this company among other two modes. It is a medium sized company operating over 15 years in the logistics industry. The interviewed high-level manager of the company positions their activities at the immediate response stage of humanitarian operations by aiming for responding in the first three hours, if a disaster occurs out of working hours. The recent humanitarian relief services delivered by Company A were in an African country.

Company B is an LSP that manages its operations through various transportation modes; however, sea freight is the main mode for this company. It is a large-scale company operating over 25 years in the logistics industry. The interviewed high-level manager of the company remarks that their humanitarian activities fall into the immediate response stage in relief operations, of which the company provides its humanitarian aid services, at times. According to the manager, the company was very recently involved in humanitarian relief operations by transporting medical devices to a Middle East country.

In contrast to other two companies, the road operations, as a transportation mode, has the highest weight in Company C operations. It is a large-scale company operating over 25 years in the logistics industry. The interviewed high-level representative of the company expresses that they largely provide services at the preparation stage and slightly take part in the immediate response stage of humanitarian relief operations. The recent humanitarian activity carried out by the company was the transportation of wheat to a Middle East country.

Table 2. Humanitarian operations of three case companies with respect to the BMC dimensions

	Company A	Company B	Company C
Key partners	<ul style="list-style-type: none"> - Airline companies and charter firms, as suppliers, - Government authorities and institutions, - Insurance companies, - Company owners and shareholders, - Partner agencies (including network members), - NGOs 	<ul style="list-style-type: none"> - Ship owners and shipping companies, as suppliers, - Government authorities and institutions, - Insurance companies, - Company owners and shareholders, - Partner agencies (including network members), - NGOs 	<ul style="list-style-type: none"> - Mainly road transportation companies, as suppliers, - Government authorities and institutions, - Insurance companies, - Company owners and shareholders, - Partner agencies (including cooperatives, vehicle owners), - NGOs
Key activities	<p><u>Preparation Stage:</u> Not involved for the reasons stated in Section 4.3.</p> <p><u>Immediate Response Stage:</u></p> <ul style="list-style-type: none"> - Preparing documents for operations (e.g. flight permit) and providing transportation services from warehouses of senders to airports, through partner agencies, - Managing transportation (including customs activities-documents, if needed-), - Managing transportation after the arrival airport (if needed). 	<p><u>Preparation Stage:</u> Not involved for the reasons stated in Section 4.3.</p> <p><u>Immediate Response Stage:</u></p> <ul style="list-style-type: none"> - Preparing documents for operations (e.g. bill of lading) and providing transportation services from warehouses of senders to ports, through partner agencies, - Managing transportation (including customs activities-documents, if needed-), - Managing transportation after the arrival port (if needed). 	<p><u>Preparation Stage:</u> - Managing transportation from the warehouse of a sender (usually HOs) to the predetermined domestic destination point (usually a place of HOs).</p> <p><u>Immediate Response Stage:</u></p> <ul style="list-style-type: none"> - Preparing documents for operations (e.g. delivery note) and providing transportation services from warehouses of senders to customs, - Managing transportation (including customs activities-documents, if needed-), - Managing transportation after the arrival delivery point (if needed).
Key resources	<ul style="list-style-type: none"> - Organising vehicles, as resources, from other affiliated companies both in Turkey and around the world, - Holding own software and IT infrastructures, - Human resources. 	<ul style="list-style-type: none"> - Organising vehicles, as resources, from other affiliated companies both in Turkey and around the world, - Holding own software and IT infrastructures, - Human resources. 	<ul style="list-style-type: none"> - Organising vehicles, as resources, from other affiliated companies both in Turkey and around the world, - Holding own software and IT infrastructures, - Human resources, - A large number of self-owned vehicles and warehouses.
Customer segments	<ul style="list-style-type: none"> - Government authorised HOs and intergovernmental organisations (e.g. UN). 	<ul style="list-style-type: none"> - Government authorised HOs and intergovernmental organisations (e.g. UN). 	<ul style="list-style-type: none"> - Government authorised HOs and intergovernmental organisations (e.g. UN).

Value proposition	<ul style="list-style-type: none"> - Providing high quality services, - Conducting fast delivery for needies, - Holding experience on providing flexible solutions, - Transporting dangerous goods, - Delivering perishable goods hassle-free, - Rearranging aircrafts, with suppliers, based on demanded volume and contents, - Taking part as a livestock carrier. 	<ul style="list-style-type: none"> - Providing high quality services, - Conducting fast delivery for needies, - Holding experience on providing flexible solutions, - Transporting dangerous goods, - Delivering perishable goods hassle-free, - Taking part for carrying art objects - Offering cargo and container tracking - Taking a relatively less role for the carriage of livestock. 	<ul style="list-style-type: none"> - Providing high quality services, - Conducting relatively fast delivery for needies, - Holding experience on providing flexible solutions, - Transporting dangerous and commodity goods, - Providing cleaning services for local areas, - Offering cargo and container tracking, - Serving fuel to work places, - Using modern technologies (e.g. solar panels) at the warehouses.
Customer relationships	<ul style="list-style-type: none"> - Providing dedicated personal assistance, - Maintaining personal contacts, - Calling routines, - Evaluating received e-mails. 	<ul style="list-style-type: none"> - Providing dedicated personal assistance, - Maintaining personal contacts, - Calling routines, - Evaluating received e-mails, - Sending satisfaction surveys. 	<ul style="list-style-type: none"> - Providing dedicated personal assistance, - Maintaining personal contacts, - Calling routines, - Evaluating received e-mails, - Sending satisfaction surveys (for particular customers).
Channels	<ul style="list-style-type: none"> - Other affiliated member companies in different locations, - Using e-mails and phone calls (occasionally social media) as communication tools. 	<ul style="list-style-type: none"> - Other affiliated member companies in different locations, - Using e-mails and phone calls (occasionally social media) as communication tools. 	<ul style="list-style-type: none"> - Other affiliated member companies in different locations, - Using e-mails and phone calls (occasionally social media) as communication tools.
Revenue streams	<ul style="list-style-type: none"> - Investments by shareholders and owners, - Freight incomes or invoices, - Other operational incomes. <p><u>Contribution of humanitarian operations to the overall revenue:</u> Less than 5%.</p> <p><u>As a social responsibility:</u> Making positive contributions to social impact of humankind.</p>	<ul style="list-style-type: none"> - Investments by shareholders and owners, - Freight incomes or invoices, - Other operational incomes, - Long-term contracts. <p><u>Contribution of humanitarian operations to the overall revenue:</u> Less than 1%.</p> <p><u>As a social responsibility:</u> Making positive contributions to social impact of humankind.</p>	<ul style="list-style-type: none"> - Investments by shareholders and owners, - Freight incomes or invoices, - Other operational incomes, - Incomes obtained from warehousing. <p><u>Contribution of humanitarian operations to the overall revenue:</u> Less than 5%.</p> <p><u>As a social responsibility:</u> Making positive contributions to social impact of humankind.</p>
Cost structure	<ul style="list-style-type: none"> - Insurance payments, - Freight fees (embedded fuel costs), 	<ul style="list-style-type: none"> - Insurance payments, - Freight fees (embedded fuel costs), 	<ul style="list-style-type: none"> - Insurance payments, - Freight fees,

	<ul style="list-style-type: none"> - Positioning costs, - IT and software costs. 	<ul style="list-style-type: none"> - Management expenditures, - IT and software costs, - Storage payments on arrival ports (if needed). 	<ul style="list-style-type: none"> - Transportation costs (embedded sub-items), - Management expenditures, - IT and software costs.
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As can be seen from Table 2, the conducted cross-case synthesis presents both similar and different viewpoints for the case companies when mapped against the BMC. For instance, from the perspective of these LSPs, the definition of customers is mutually remarked and, therefore, their customer segments in humanitarian operations are similar. Besides, most partner groups, the way of approaching to customers, channels, and even several revenue streams and cost items show similarities.

In terms of the differences, the remarkable variety can be observed in value propositions and in key activities as well as some resources, although these also include several similarities. In addition, the obtained information from these companies indicated that LSPs take part mostly in the immediate response stage while their roles are relatively less at the stage of preparedness. Particularly, our interview findings illuminated that road transportation is mainly preferred at the preparedness stage of humanitarian operations whereas air and sea transportations are largely utilised at the immediate response stage due to delivery speed of these two modes. In fact, the relief purpose of these two stages, rather than a development purpose, was also highlighted by several previous studies (e.g. Rancourt et al., 2015) and, in this respect, these outcomes of this research reinforced this argument. All in all, as a response to our second research question, fundamental information obtained from the case companies regarding their roles, activities, and resources is provided in this sub-section.

Consequently, despite various business model frameworks are utilised by academics and practitioners for different purposes, the BMC was initially selected in this study, due to the previously mentioned advantages, and its appropriateness was thereby established for the humanitarian context, beyond its traditional usage for start-ups. From this point forth, we demonstrated the applicability of the nine interrelated dimensions of the BMC for comprehensively investigating humanitarian operations of LSPs.

5. Academic and Practical Implications

5.1. Implications for Research

First, the reviewed extant literature in the HSC domain indicated that there is a paucity of research on demonstrating how and with which resources and activities LSPs engage in humanitarian operations. For instance, among the limited number of related studies, the potential roles of LSPs in humanitarian operations were contextually explored by Vega and Roussat (2015) and, at the end, three main roles to be adopted by LSPs in different humanitarian stages were presented while Abidi et al. (2015) specifically examined the role of fourth-party logistics services in the HSC, which, ultimately, revealed the essentiality of managing third-party LSPs in humanitarian operations. In a similar manner, Cozzolino et al.'s (2017) qualitative study, which relied on websites and reports of LSPs as well as academic sources, discussed the types of contribution that LSPs could provide during the humanitarian relief efforts whilst Sigala and Wakolbinger (2019) investigated the incentives, activities, and criteria that caused outsourcing decisions of HL to LSPs. Thus, compared to previous studies in the field of HL, we distinctly and thoroughly took the LSPs on the focal point of our research and position our practical and academic implications with respect to this perspective. In this sense, the main contribution of this paper lies in the understudied area of humanitarian operations of LSPs. In this way, this study makes a significant contribution to a nascent knowledge and understanding on the roles, activities, resources, and values of LSPs in humanitarian relief operations.

Second, it is worthy of stating that this study does not offer the pretence of developing or testing a theory. Rather, it strives for providing a significant discernment into the HL domain when seen through the lens of distinctive cases regarding LSPs. Indeed, Childe (2011) underlined that cases can also be used to develop concepts that enable researchers and managers to understand or deal with a situation. In this sense, the administered case study in the present research was composed of three companies, of which transportation mode weights

differ. In this respect, the drawn concept in this research, by exploring varied LSPs with their unlike operational orientations (e.g. road, air, and sea), holds significant insights for the HL field. Thus, the performed cross-case synthesis indicated in Table 2 propounds depth and breadth of understanding in respect of how HL operations are managed by different LSPs, through assessing constants in process and outcome to be extrapolated. Concordantly, the conducted approach and the findings of this study have fundamentally advanced the existing knowledge in the humanitarian area, particularly by tackling different LSPs on the focal point.

Third, regarding the applicability of the BMC approach in research and practice, we scrutinised previous articles in the logistics domain. In these studies, Martikainen et al. (2014) worked on establishing potential business models for LSPs operating in a local food supply chain and presented two business models, based on two service offering options, by using the BMC. In another studies, Beh et al. (2016) examined the role of entrepreneurial business models in the reverse supply chain of apparel/fashion retailers whereas city logistics solutions were tackled by Quak et al. (2014) with the help of the BMC tool and several BMC applications were indicated in their field test. Accordingly, based on the limited literature on the use of BMC in logistics, it becomes evident that there is a dearth of research on the usage of BMC in the HL field. Thus, another contribution of this paper in respect of using the BMC for LSPs in the humanitarian domain appears from this gap. On this wise, by adopting the BMC in the humanitarian area, we have also demonstrated both the suitability and the adaptability of the BMC approach in different operations, especially for the services provided by LSPs, rather than only for start-up entrepreneurial models as usually emphasised in the literature. By doing so, we advanced the usage of BMC beyond its common applications.

5.2. Implications for Practice

In line with the contribution of using the BMC in the HL area, the proposed questions implemented in the BMC-based interviews become a prototype and a reference model for

different organisations to be used practically both for-profit and not-for-profit operational purposes. Especially, concerning the contextual implementation, the difficulty underlined by Hirschinger et al. (2016), in terms of transferring business models from developed countries into developing countries is overcome. In this respect, as a response to the potential risk of being “left high and dry”, emphasised by Heaslip (2013, p.45), the need of concentrating on HL in emerging economies is addressed through the case study strategy applied in a strategically important developing country, Turkey.

In addition, for the research context, it is also worth noting that every humanitarian operation is different and faces with its own challenges (e.g. culture, geography, responsiveness, resources, local capability). Yet, when several matters, such as geographical location, possessed capability and resources, and the responsiveness to relief operations are considered, the Turkish logistics context holds a remarkable potential to provide practical and realistic information about humanitarian operations of LSPs.

Finally, the obtained cross-case information from the companies with respect to nine interrelated dimensions and the discussed findings attempt to enrich the extant practical knowledge in use since humanitarian operations have idiosyncratic characteristics. In this regard, both the LSPs being involved in the humanitarian area and the policy-makers that organise humanitarian operations with the LSPs can be extensively aware of how the entire system work and take due precautions against possible challenges. For instance, dealing with potential bureaucratic challenges (e.g. customs activities, as pointed out during the interviews) and supporting the need for vulnerable people with more responsive and secure access in different geographical territories can be the prominent lessons learnt. In this way, more beneficiaries can emerge from allowing such interventions in people, process and/or policy.

6. Conclusions

There has been an increase in natural disasters and the negative impacts of different disasters affect both humans and economies of the affected regions. For finding an effective management strategy in the event of a disaster, it is required to provide a prompt response to the people who are in need of basic supplies. In this regard, a major strategic mission falls into LSPs owing to being intermediate players in a supply chain and playing a role on prompt delivery. When it is the case, the crucial role of LSPs in the humanitarian relief operations comes in sight more since they have a responsibility to deliver services at the right time and place with the right quality and quantity. Despite this important role, the existence of limited research focusing on LSPs in the humanitarian area and the shortage of particularly targeted research on humanitarian operations of LSPs cause a notable barrier about what LSPs can offer into the humanitarian domain. To address this void by providing applicable knowledge, we investigated humanitarian operations of LSPs from different dimensions. The research followed the following phases:

- Initially, in order to explore why LSPs are important stakeholders in the HSC, we set out to review stakeholder-related papers in the HL area, as part of the HSC, and to probe the critical role of LSPs based on these studies,
- Second, following the first phase, we examined LSP-related papers in the humanitarian field and, the outcome of these papers led us to investigate how LSPs manage their activities and resources in humanitarian relief operations. While exploring these, we exploited the BMC approach, due to its nine interconnected dimensions, to structure our questions in the implemented case study strategy, consisting of the semi-structured interviews with three LSPs in Turkey.

The findings of our multi-dimensional comprehensive case study strategy demonstrated that LSPs hold significant similarities in their humanitarian operations, even if their main transportation modes are different. Especially, several particular dimensions, such as key

partners, customer segments, customer relationships, channels, and main revenue streams indicate high similarities whereas there are also some differences in other dimensions, such as key activities, key resources, main cost items, and value propositions. More particularly, what we can conclude as an important finding in this research is that the stages of being involved in humanitarian operations are relatively different for road operations-oriented LSPs compared to sea and air operations-focused LSPs.

In light of these, both the proposed approach and the obtained findings from the cross-case synthesis provide novelty to the HL field. However, there are several limitations that should be noted in this research. First, the keyword pairs were examined in three databases and were predominantly searched within abstracts, titles, and keywords of the articles written in English. Second, finding a case company that has recent operations in the humanitarian domain is usually quite difficult. More particularly, since Istanbul is a city where majority of logistics operations are managed in Turkey, we included the LSPs managing their operations mainly from Istanbul into our sample. Afterwards, we could only receive a positive response from three LSPs for our research. Third, due to the lack of research on the usage of BMC by LSPs in the humanitarian field, the design of the interview questions in accordance with the humanitarian context and the suitability of the research required intensive efforts. Lastly, due to the inherent nature of using an interview technique, the possibility of existence of further information that was not shared during the interviews (e.g. value added activities, resources) should not be ignored.

Despite the presence of these limitations and difficulties, this research overcomes these barriers to a considerable extent and provides significant information and perspectives to be followed by other researchers. Concordantly, the present research sheds light on future research as a potential reference study in the direction of focusing on operations of LSPs in the HSC area.

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Appendix A. CANVAS INTERVIEW QUESTIONS

Questions about the interviewee and the organisation

- What is your role/position in the humanitarian relief operations of your organisation?
- What are the types and weights of the transportation modes in your organisation's operations?
- At which stage of humanitarian relief operations do you provide your services and activities (Preparation, Immediate response, Recovery)?
- What was the recent humanitarian relief operation that your organisation engaged with?

Questions about the organisation regarding the dimensions of the business model canvas

1. Who are the key partners in your humanitarian operations network that make your business model work?
2. What are your key activities (or actions) that you must do in humanitarian relief to operate successfully, to propose a value, and to make your business model work?
3. What are your key resources and assets (e.g. physical, financial, intellectual, human) required to make your business model work in humanitarian relief operations?
4. Who are the groups of people or organisations does your organisation serve in humanitarian operations?
5. What is the bundle of your services and products (if applicable) that create value, solve a problem and satisfy a need for each customer segment in relief operations?
6. In humanitarian operations, what types of relationships does your organisation establish with each customer segment and how do you maintain your relationships?
7. How (or through which channel- e.g. communication, distribution, sales-) does your organisation communicate with and reach the customer segments to deliver a value in relief operations?
8. In relief operations, who/what are the income resources/streams for your organisation and how much (or to what extent) do humanitarian operations contribute to the overall revenue?

9. What are the most important costs for your organisation's business model in humanitarian relief operations?