Competition in Upstream Humanitarian Supply Chain: Investigation of Food Banks

Iana Shaheen
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Competition in Upstream Humanitarian Supply Chain: Investigation of Food Banks

by

Iana Shaheen

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy
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DEDICATION

To my grandfather, father, and brother. Thank you for teaching me about past, present, and future.

I love you.
ACKNOWLEDGMENTS

First, I am thankful to Muma College of Business and to all people with whom I have had the pleasure to work during this program. I am extremely grateful to my advisor Dr. Davis for the extensive personal and professional guidance and for being an ultimate role model. Without her persistent help and direction, the goal of this project would not have been realized. Thank you to Dr. Stock for introducing me to supply chain management and constantly educating me about both scientific research and academic life in general. Thank you to Jeannette and Rob for your encouragement and inspiration. Thank you to Wendy, Jackie, and Megan for always being willing to help. This work would not have been possible without the collaborative effort and support from Feeding America.

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I would like to thank my parents, brother, aunt, uncle, and grannies for constant love and guidance. Most importantly, I wish to thank my dad for supporting me with anything I needed, being my strongest motivator, and continuously setting an example of hard work and dedication.
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</table>
ABSTRACT

Global hunger is not about a shortage of food. Currently, the world generates enough food to sustain every man, woman, and child on the planet. However, in 2018, about 815 million people, or almost 11% of the population, were hungry worldwide (World Hunger Report, 2018). To respond to the problems in ways more adapted to the requirements of people in need, humanitarian organizations (HOs) are dedicated to becoming more effective and efficient (Weiss, 2013). With the boost in the number of people that require humanitarian assistance, the number of HOs is increasing each year. As a result, there is unanimity among academics, policy planners, and practitioners that HOs operate in an increasingly competitive environment (Heyes and Martin, 2017; Aldashev & Verdier, 2010; Tuckman, 1998).

Much of what we know about nonprofit competition is based on studies of commercial nonprofits (Topaloglu et al., 2018; Ly & Mason, 2012; Tuckman, 1998; Hansmann, 1980). Commercial nonprofits resemble for-profit firms and substantially depend on operational performance to achieve their goals (e.g., credit unions, universities). In contrast, HOs are donative nonprofits that largely depend on donations to survive (e.g., food banks, medical relief organizations). Those involved in humanitarian assistance are influenced by factors different from those in commercial nonprofits. Similar to for-profits, commercial nonprofits are involved in a market-based, downstream competition for customers; whereas the humanitarian aid sector does not behave like a free market, and humanitarians are faced with upstream competition for donors.
and resources (Schwenger et al., 2014). Instead of revenue generation, the objective in humanitarian organizations is to diminish social suffering by saving lives, preserving property, and improving the social and economic foundations of communities (Van Wassenhove, 2006). In this dissertation, I investigate nonprofit competition as a driver of humanitarian organizations’ performance. I rely on resource-advantage theory (Hunt, 2000) to offer a theoretical framework to differentiate how parties view competition in humanitarian supply chains (SCs).

To address the research question, this dissertation adopts a mixed methods research design with the data collected in two studies. By adopting the mixed methods design, I combine qualitative and quantitative research approaches to expand and strengthen the dissertation’s results through the triangulation of multiple methods and sources of information (Davis & Golicic, 2012; Tashakkori & Teddlie, 2010). Following the developmental mixed methods research design, the dissertation is conducted so that the results of the first study guide the development of the second study (Davis & Golicic, 2012; Tashakkori & Teddlie, 2010). I employ a grounded theory analysis to data collected through a multiple case study (Yin, 2010). Since the study of competition in the humanitarian supply chain context represents a relatively unexplored area, an exploratory multiple case study methodological approach offers more comprehensive insights on the competition phenomenon (Golicic & Davis, 2012). Following the developmental mixed methods research design procedures, Study II conceptualizes and empirically tests hypotheses developed based on the results of the qualitative phase (Essay I). Overall, the purpose of the mixed methods research design is development, so that the findings from the multiple case study (Essay I) inform the subsequent empirical assessment of proposed relationships (Essay II) (Davis & Golicic, 2012; Tashakkori & Teddlie, 2010).
CHAPTER I: INTRODUCTION

Global hunger is not about a shortage of food. Currently, the world generates enough food to sustain every man, woman, and child on the planet. However, in 2018, about 815 million people, or 11% of the population, were hungry worldwide (World Hunger Report, 2018). In the same year, nearly three million children under the age of five died because of poor nutrition (World Hunger Report, 2018). According to Feeding America, the largest hunger-relief organization in the United States, nearly one-third of the world’s food produced is lost or wasted each year. In 2019, in the U.S. alone, one in eight households were faced with the problem of providing enough nutrition for all the household members throughout the year to (Feeding America Annual Report, 2019). The latest data from the United States Department of Agriculture (USDA) shows that annually approximately 264 million pounds of “excess, edible, and nutritious food” is wasted in all sectors of the food industry; that amount is enough to deliver closely to 1.5 tons of food to every hungry person in the U.S. throughout a year (Couture, 2019). Humanitarian organizations (HOs) all over the world partner with communities and industries to find ways to salvage more food that would have otherwise been wasted to supply to people in need. For example, in 2017, Feeding America rescued 3.5 billion pounds of food and provided meals to more than 46 million people. Overall, hunger is a global problem and the humanitarian impact is enormous; but this is also a large business sector, albeit a peculiar one (Fisher, 2017).

To respond to the problems in ways more adapted to the needs of the people they are trying to assist, HOs are dedicated to becoming more effective and efficient (Weiss, 2013). With the
Boost in the number of people that require humanitarian assistance, there has been an increase in the number of HOs each year. As a result, there is unanimity among academics, policy planners, and practitioners that HOs operate in an increasingly competitive environment (Heyes & Martin, 2017; Aldashev & Verdier, 2010; Tuckman, 1998). In such a competitive environment, the scrutiny of humanitarian organizations’ performance has increased. If they cannot do well in the eyes of the media, donors, and government, HOs will lose their reputation and donors (Davidson, 2006). In addition to the common problems in the nonprofit sector, such as performance criteria ambiguity, the inherently unique characteristics of the humanitarian environment make humanitarian performance measurement even more challenging.

In this dissertation, I investigate upstream supply chain competition as a driver of humanitarian organizations’ performance. I rely on resource-advantage theory to offer a theoretical framework to explain how parties may view competition in humanitarian supply chains. According to resource-advantage theory (R-A theory), the firm’s main goal is to achieve superior financial performance in order to reach a position of sustainable competitive advantage. S.D. Hunt suggests that corporations are looking to achieve a level of financial performance that exceeds that of some referent. Overall, prolonged mediocre performance jeopardizes the organization’s survival and prevents the achievement of secondary objectives (Hunt, 1999). In addition, such a prolonged, mediocre performance not only threatens a humanitarian organization’s survival but also stops an HO from completing its key, mission-driven purpose to deliver social benefit. Therefore, without implying the revenue-generation rationale of for-profit organizations, superior financial performance is as essential to an HO’s sustainability as it is to businesses (McDonald et al., 2015). In fact, HOs need to achieve fiscal sustainability to support the assets they require to effectively carry out their missions (Grabowski et al., 2015).
Some researchers argue that, in order to survive within a competitive environment, nonprofit organizations (NPO) began to resemble for-profit firms (Weiss, 2013; Castaneda et al., 2007; Tuckman, 1998). Overall, several studies stress the efficiency-enhancing effects of increased competition through improved service (Sharp, 2018), decreased administrative costs (Nunnenkamp & Ohler, 2012), increase in the need of professionalized and skilled employees (Smillie, 1995), and diversification of activities and specialization in different areas (Balboa, 2017). While the handful of studies discussed above emphasized the importance of competition, most of the studies argue that nonprofit organizations are often involved in counterproductive competition. Negative outcomes of increased competition directly affect the productivity and efficiency of humanitarian organizations (Aldashev & Navarra, 2018; Moshtari, 2016; Aldashev & Verdier, 2010; Fowler, 1991) as well as indirectly impact beneficiaries through the higher need for visibility and maximizing the probability of project success (Dreher et al., 2010; Fruttero & Gauri, 2005; Smillie, 1995). However, despite the interest, empirical evidence regarding the effects of competition on overall nonprofits’ performance seems absent.

Much of what we know about nonprofit competition is based on studies of commercial nonprofits (e.g., Topaloglu et al., 2018; Ly & Mason 2012; Tuckman, 1998; Hansmann, 1980). According to Hansmann (1980), nonprofit organizations can be divided into commercial nonprofits and donative nonprofits. Commercial nonprofits resemble for-profit firms and substantially depend on operational performance (e.g., credit unions). In contrast, HOs represent donative nonprofits that largely depend on donations to survive (e.g., food banks). Unlike actors in commercial nonprofits, those involved in humanitarian assistance are influenced by factors different from those in commercial nonprofits. Similar to for-profits, commercial nonprofits are involved in a market-based, downstream competition for customers; whereas the aid sector does
not behave like a free market, and humanitarians are faced with upstream competition for donors and resources (Schwenger et al., 2014). Instead of revenue generation, the objective in HOs is to diminish social suffering by saving lives, preserving property, and improving the social and economic foundations of communities (Van Wassenhove, 2006). For example, food banks measure their success in terms of the volume of food provided to the communities in need (Ataseven et al., 2018). Generosity.org measures their performance in terms of the number of gallons of clean water delivered and Doctors Without Borders reports the number of successful procedures performed and a number of lives saved. Such diversity in organizational performance indicators can indeed affect the competitive environment (Kovacs & Tatham, 2009).

I investigate nonprofit competition using a developmental mixed methods approach. First, using a multiple case study, I employ a grounded theory analysis of interviews from CEOs and executive directors alongside related documents from eight U.S. food banks. Then, using secondary data, I develop an understanding of nonprofit competition by testing the relationships proposed in the multiple case study. The dissertation is organized as follows: First, the literature on humanitarian supply chain and nonprofit competition is reviewed. Then, an overview of the theoretical basis of the R-A theory is provided. Based on data from eight cases, Essay I presents the propositions that describe and define nonprofit competition. Next, in Essay II, hypotheses are empirically tested using secondary data. I conclude by outlining theoretical and managerial implications, commenting on the dissertation’s limitations, and providing avenues for future research.

**Research Purpose**

The primary objective of the current research is to understand the nature of nonprofit competition in humanitarian supply chains. Competition research within the humanitarian supply...
chain management and logistics literature is rare (Oloruntoba, 2018). Topaloglu et al. (2018) took a notable first step by introducing R-A theory to commercial nonprofits with the development of a theoretical model explaining how commercial nonprofits can leverage their various resources to successfully compete in the marketplace. However, to the best of my knowledge, the competition in humanitarian supply chain literature has not been defined. While there is a consensus of the overall positive nature of competition within the for-profit firms (i.e., driving quality upward and costs downward), the nature of competition in the humanitarian sector has either been avoided (Kovacs & Tatham, 2009) or discussed in a negative light (Moshtari, 2016). Failure to define and understand the competition among HOs can negatively affect the performance of the entire humanitarian supply chain and be detrimental for humanitarian organizations. Therefore, the current research will adopt a R-A theory perspective to better understand the competition among humanitarian organizations with the ultimate goal of understanding how competition impacts the financial performance of the humanitarian supply chain.

The second objective of the current research is to empirically examine the influence of nonprofit competition on financial performance and mission performance of an HO. Empirical testing of the components of nonprofit competition, that were developed using grounded theory analysis, characterizes a way to confirm the theoretical insights acquired (Davis & Golicic, 2012). Essay II introduces empirical tests for elements of nonprofit competition presented in Essay I. The empirical evaluation of the elements of nonprofit competition is based on analysis of secondary data obtained through Feeding America and a nonprofit financial database.

In addition to these two main objectives, the current research will help to fill a gap in the operations and supply chain management literature by applying multiple methods of data
collection and analysis, or mixed method research design. Mixed method research design provides an essential way to study multifaceted research problems, and the need of the application of mixed method research design to humanitarian supply chain and operations management research has been indicated in the literature (Akhtar, 2018; Golicic & Davis, 2012). Second, the current research will also help to fill a known gap in the humanitarian supply chain literature by measuring financial and mission performance for HOs. Presently, various performance measurement frameworks exist in humanitarian supply chain literature (Beamon & Balcik, 2008; Schulz & Heigh, 2009; de Leeuw, 2010) that have not been tested nor used in practice.

**Research Questions**

To address the above objectives and expand the stream of research centered around the complex nature of competition within the humanitarian supply chain, the following research questions (RQs) are proposed:

**Essay I:**

RQ1: What is the nature of competition in humanitarian supply chains?

RQ2: What factors influence competition in humanitarian supply chains?

**Essay II:**

RQ3: Does a humanitarian organization’s comparative advantage affect financial and mission performance?
RQ4: Does the level of resource scarcity in a service area moderate the effect of comparative resource advantage on a humanitarian organization’s comparative advantage?

RQ5: Do geodemographic factors of the service area moderate the effect of comparative resource advantage on a humanitarian organization’s comparative advantage?

Research Overview

In order to address the research question, this dissertation adopts a developmental mixed methods research approach with research gathered in two stages. The results of the first study provide guidance for the development of the second study (Davis & Golicic, 2012; Tashakkori & Teddlie, 2010). In Chapter III (Essay I), the first stage of the research, that includes in-depth, semi-structured interview findings, is presented. Chapter IV (Essay II) contains the second stage of the research, introducing a quantitative analysis of secondary data. By adopting the developmental mixed methods design, I combine qualitative and quantitative research approaches to expand and strengthen the dissertation’s results through the triangulation of multiple methods and sources of information (Davis & Golicic, 2012; Sanders & Wagner, 2011). Overall, the purpose of the mixed methods research design is development so that the findings from the multiple case study (Essay I) inform the empirical assessment of relationships proposed (Essay II) (Davis & Golicic, 2012; Tashakkori & Teddlie, 2010). Furthermore, humanitarian research requires a diverse and complementary combination of qualitative and quantitative research methods (Akhtar, 2018).
Essay I (Chapter III) employs a grounded theory analysis of data collected through a multiple case study. Since the study of competition in the humanitarian supply chain context represents a relatively unexplored phenomenon, an exploratory multiple case study methodological approach offers more comprehensive insights on the competition phenomenon (Golicic & Davis, 2012). The exploratory nature of this research renders an interpretivist research paradigm based on qualitative (Eisenhardt, 1989). Specifically, given the relatively scant literature about competition in humanitarian efforts, as well as the unique aspects of humanitarian supply chains, a theory-building case study approach with an inductive focus is adopted (Eisenhardt & Graebner, 2007).

Following the developmental mixed methods research design procedures, Essay II (Chapter IV) conceptualizes and empirically tests hypotheses developed based on the results of the qualitative phase (Essay I). As Akhtar (2018) notes, case study research coupled with analytical methods can be a “heavenly combination” to address humanitarian problems.

In summary, this dissertation applies a developmental mixed methods approach consisting of two complementary methodologies (multiple case study and quantitative secondary data analysis), two sources of data (primary qualitative data collected from eight food banks and secondary quantitative data provided by Feeding America), and utilizes two different analysis techniques (grounded theory and generalized linear modeling).
CHAPTER II: LITERATURE REVIEW

In this chapter, previous research in humanitarian supply chain and nonprofit competition will be reviewed before moving on to a more thorough examination of nonprofit competition and the factors affecting it.

Nonprofit Competition

Traditionally, much of the business and economic research on nonprofit organizations (NPOs) has concentrated on the distinctive nature of NPOs compared to the for-profit firms (Hancock, 1989). NPO’s business model is mainly mission-driven; therefore, they depend on private sources, government sources, and individual contributions as major sources of revenue (McKeever, 2015). Some nonprofits mainly depend on contributions to operate (e.g., food banks), while others substantially rely on their operational performance (e.g., universities). Hansmann (1980) identifies the former as donative nonprofits and the latter as commercial nonprofits.

Nonprofit agencies are dedicated to becoming more effective (e.g., respond to disasters faster) and more efficient (e.g., adapted to the demands of clients they are trying to support). As a result, there is a consensus among scholars, policy planners, and practitioners that NPOs operate in an increasingly competitive environment (Fathalikhan et al., 2018; Heyes & Martin, 2017; Schwenger et al., 2014; Tuckman, 1998). During the past two decades, literature has offered increasingly persuasive arguments alongside some data on the significance of studying nonprofit
competition (Aldashev & Navarra 2018; Nunnenkamp & Ohler, 2012, Barman, 2002). As can be noted from Table 1, much of this evidence is attributable to the emphasis placed on the topic by researchers in commercial nonprofits (e.g., Topaloglu et al., 2018; Tuckman, 1998). Indeed, highly cited publications in this discipline are that of Aldashev and Verdier (2010), who justify the need for nonprofit competition research, and Tuckman (1998), who explains how the commercialization of nonprofit can be financially and professionally beneficial as it demonstrates the ability to operate in mixed-mode market settings.

Several observations can be made from the review of this literature. Competition can have various effects. To start, among the expected benefits of competition is the ability to better recognize, prioritize, and marshal resources (Topaloglu et al., 2018; Barman, 2002; Smillie, 1995). Effective humanitarian response hinges on rapid deployment, alignment, and adapting resource efforts from multiple organizations (Van Wassenhove, 2006). A competitive environment is suggested to make humanitarian response efforts more effective by offering higher quality services to beneficiaries (Smillie, 1995). Furthermore, competition has efficiency-enhancing effects by reduced management and administrative costs for humanitarian organizations that are subject to greater competition (Nunnenkamp & Ohler, 2012). An additional feature of the funding environment is the competition for scarce resources. It can encourage agencies to become more effective at existing tasks (Tuckman, 1998); to specialize in different areas, such as sanitation, shelter, and medicine (Barman, 2002); to compete for market share by expanding into new areas, such as democracy promotion and peacebuilding (Herrold & Atia, 2016); to stress public relations and attempt to develop and protect their brand (Heyes & Martin, 2017); to move into high profile areas, such as advocacy, and deemphasize less-captivating areas, such as building latrines (Barman, 2002); and to change their principles, procedures, and guidelines so that they are more
attuned to the demands of their stakeholders (Sharp, 2018). These countervailing pressures are present in nearly every high-profile emergency.

One observation from Table 1 indicates that there is a prevailing opinion of the overall negative nature of competition. While a handful of studies discussed above emphasized the importance of competition, the majority of the studies argue that nonprofit competition is counterproductive because nonprofit, especially humanitarian aid, sectors do not act like a “free market,” and HOs are often faced with multiple challenges to their mission and financial performance. Facing these challenges, many HOs are not able to utilize the best practices from business as well as the nonprofit sector that potentially leads to negative outcomes for the population they are trying to help. Hancock (1992) highlights that the competition for donors is a well-established challenge for humanitarian organizations. Castaneda et al. (2008) offer a conceptual model of how an increase in competition (a) reduces the portion of donations allocated to perquisite consumption and (b) expands the portion of donations allocated to promotional expenditures. Aldashev and Verdier (2010) conceptually detail how increased competition decreases marginal benefits of fundraising between horizontally differentiated humanitarian organizations. Several other publications highlight organizations that compete for funding and agenda space cannot fully satisfy other actors’ demands and achieve “balanced accountability” (Balboa, 2017; Aldashev & Navarra, 2018). However, despite the interest, empirical evidence regarding the effects of competitive environment on overall nonprofit performance seems absent.

A second observation from Table 1 is the absence of theoretical lenses. Applying theory offers a foundation for exploring relations between concepts and it provides researchers an opportunity to define the concept in detail, clarify its implications, recognize its managerial relevance, and foresee how it influences the related phenomena (Mentzer et al., 2004). I found
only a handful of studies that use theory (Table 1). Tuckman (1998) introduces Porter’s five competitive forces and uses the theory to investigate competition in nonprofit marketplaces. Using the same theoretical framework, Schwenger et al. (2014) empirically examine competition within the NPO sector and introduce several strategic tactics to coping with competition. I found only one study that conceptually applies R-A theory, a dynamic theory of competition adapted from the for-profit business literature to commercial nonprofits. Topaloglu et al. (2018) explain how commercial nonprofits can leverage their various resources to successfully compete and deliver social value. Overall, the application of theories is essential for a deeper understanding of the concept of nonprofit competition. Another observation from Table 1 is the limited empirical evidence about nonprofit competition. Even though several studies use qualitative and quantitative methods to study the phenomena, the majority of studies are conceptual and are not supported by empirical evidence.

The relevant literature offers some arguments about the existence of competition among nonprofit organizations (e.g., Fathalikhani et al., 2018; Heyes & Martin, 2017; Schwenger et al., 2014; Tuckman, 1998). However, the discussion of competition does not indicate that collaboration within the NPO sector and across the nonprofit, government, and for-profit sectors does not exist. NPOs are competing and collaborating at the same time and occasionally with the same units (Moshtari, 2016). As research by Lammers (1990) highlights, competition happens, but “it is a complex phenomenon that is tied up with cooperation.”

The above literature review highlights the impressive strides made in nonprofit literature on the topic of competition. It also pinpoints areas in need of further investigation. In this dissertation, I offer further nuances about competition among humanitarian organizations. While nonprofit organizations and humanitarian organizations generally work toward benefiting society
and human welfare, humanitarian organizations are substantially different from other nonprofit organizations (Van Wassenhove, 2006). The nonprofit classification includes any organization that works on any issue other than generating profit. Humanitarian organizations function in extreme uncertainty and a dynamic operating environment that offers unique management challenges (Day et al., 2012). The lack of chain of command, consistency and congeniality among the supply chain agencies, weak operating systems, “life and death vs. profit and loss” as working philosophy, high levels of ambiguity, and resource scarcity are among the issues that make humanitarian supply chain management a unique area (Kovacs & Spens, 2007). Therefore, these factors affect the competitive environment in which humanitarian organizations operate. In the next section, I explain the starting assumptions of the research, based on justifications provided by R-A theory.

**Humanitarian Supply Chain Financial Performance Management**

In order to respond to those in effectively and efficiently, HOs need to measure and manage their performances. The performance measurement is defined as a process that quantifies two main objectives of any organization: the efficiency and effectiveness of operations (Neely et al., 1995). Extensive research in corporate logistics and supply chain has indicated that performance measurement enhances the decision maker’s ability to operate at the strategic, tactical, and operational levels (Gunasekaran & Kobu, 2007). Overall, performance indicators enable effective control and modification (Melnyk et al., 2013), stimulate improvement (Kaplan & Norton, 1992), simplify communication among supply chain actors, and enhance the transparency of the supply chain (Gunasekaran & Kobu, 2007). Overall, evaluating actual performance in the supply chain is critical to understand whether an organization is achieving supply chain goals.
Table 1. Competition Among Nonprofit Organizations

<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Findings</th>
<th>Type</th>
<th>Impact of competition</th>
<th>Use of theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamers, 1990</td>
<td>Nonprofit executives perceived their environment to be both cooperative and competitive; most had adopted rational management procedures. No significant effect of competition on management was found.</td>
<td>Qualitative</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Fowler, 1991</td>
<td>HOs look for “ideal partners” that are both similar and different to/from them. HOs with similar backgrounds compete to find the same partner.</td>
<td>Qualitative</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Hancock, 1992; Smilie, 1995</td>
<td>HOs compete for donations. The competition for donors is a long-standing and well-known problem for HOs. Competition for funds affects the selection of workers. Increased competition for funds pushed HOs to professionalize and thus to call for skilled employees.</td>
<td>Conceptual</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Tuckman, 1998</td>
<td>Commercialization of HOs is driven by a quest for revenues; HOs that discover that commercialization can be financially and professionally rewarding, demonstrating an ability to compete in mixed-mode market settings.</td>
<td>Conceptual</td>
<td>Positive</td>
<td>Porter 5 forces</td>
</tr>
<tr>
<td>Barman, 2002</td>
<td>HOs differentiate themselves when facing a crowded market to convince other actors that they rather their competitors, deserve resources. They seek to assert uniqueness and superiority over their rivals by constructing a hierarchical relationship.</td>
<td>Qualitative</td>
<td>Positive</td>
<td>No</td>
</tr>
<tr>
<td>Castaneda et al., 2008</td>
<td>Increased competition (i) decreases the fraction of donations allocated to perquisite consumption and (ii) increases the fraction of donations allocated to promotional expenditures.</td>
<td>Qualitative</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Aldashev &amp; Verdier, 2009;</td>
<td>The tougher competition and reduction in HO variety implies higher total fundraising efforts and decreases the mismatch between donors and their preferred varieties.</td>
<td>Conceptual</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Soelakson, 2009;</td>
<td>Competition for programs results in the lack of HO or donor coordination as well as the quality and delivery schedule of another program.</td>
<td>Conceptual</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Aldashev &amp; Verdier, 2010;</td>
<td>Increased competition decreases the marginal benefits of fundraising. This paper builds a model of competition through fundraising between horizontally differentiated HO.</td>
<td>Conceptual</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Prufer, 2010</td>
<td>The paper challenges previous results, promoting that competition among HOs is socially valuable regardless of the objectives of producers.</td>
<td>Conceptual</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Ly &amp; Mason, 2012;</td>
<td>The paper finds that competition has a sizable negative impact on projects’ funding speed and that the effect is stronger between close substitutes.</td>
<td>Qualitative</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Nunneman &amp; Ohler, 2012</td>
<td>The paper stresses the efficiency-enhancing effects of competition by finding that management and administrative costs are relatively lower for HOs that are subject to greater competition.</td>
<td>Empirical</td>
<td>Positive</td>
<td>No</td>
</tr>
<tr>
<td>Source</td>
<td>Description</td>
<td>Type</td>
<td>Method</td>
<td>Model</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Aldashe et al., 2014</td>
<td>Factors (e.g., alliance formation rule, group, substitutes) jointly affect the extent to which a deviation from a cooperative agreement influences the intensity of competition for donations, which, in turn, determines the relative benefits of deviation.</td>
<td>Conceptual</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Schwenker et al., 2014</td>
<td>Results indicate that competition in the HOs sector has increased. Thus, setting up cooperation and strategic alliances with other HOs is crucial to improving efficiency.</td>
<td>Empirical</td>
<td>Negative</td>
<td>Porter 5 forces</td>
</tr>
<tr>
<td>Bose, 2015</td>
<td>The paper finds that an increase in nonprofit competition causes a decline in the average donations received by an organization as well as increased fundraising expenses.</td>
<td>Empirical</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Derrick-Mills, 2015</td>
<td>The paper posits that there are five dimensions of competition: (1) relationships between nonprofits and government, (2) resource types, (3) beneficiary types, (4) types of organizations competing, and (5) scope of competition.</td>
<td>Conceptual</td>
<td>No relationship</td>
<td>No</td>
</tr>
<tr>
<td>Herrold &amp; Atia, 2016</td>
<td>The ultimate consequence of competition for HOs was that, instead of building upon diverse comparative advantages to create sector-wide strength, they belittled each other and failed to coalesce.</td>
<td>Qualitative</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Heyes &amp; Martin, 2017</td>
<td>Introduces a model of competition between HOs in the provision of labeling services. Competition between a fixed number of HOs features a “race to the top” in labeling standards, but the entry of HOs offering new labels pushes standards down.</td>
<td>Conceptual</td>
<td>Positive</td>
<td>No</td>
</tr>
<tr>
<td>Gayle et al., 2017; Balboa, 2017</td>
<td>The authors find that our sample markets generally reach competitive levels once five or more nonprofits in each nonprofit sector are observed. Organizations that compete for funding and agenda space cannot fully satisfy other actors’ demands and achieve “balanced accountability.”</td>
<td>Quantitative</td>
<td>No relationship</td>
<td>No</td>
</tr>
<tr>
<td>Aldashe &amp; Navarra, 2018</td>
<td>HOs increasingly compete for funding. The effect of competition on efficiency and labor composition of HOs is ambiguous. Most funds are collected by relatively few HOs.</td>
<td>Conceptual</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Fatulikhan et al., 2018</td>
<td>The paper examines the competitive and cooperative behavior of HOs to model their interactions. The results show that competition negatively affects behavior.</td>
<td>Quantitative</td>
<td>Negative</td>
<td>No</td>
</tr>
<tr>
<td>Topaloglu et al., 2018; Sharp, 2018</td>
<td>The authors apply R-A theory to commercial nonprofits and explain how commercial nonprofits can leverage their various resources to successfully compete. Contrary to the view that the encounter with competition harbors risk, such encounters may trigger a process that eventually reasserts and strengthens social identity.</td>
<td>Conceptual</td>
<td>Positive</td>
<td>R-A theory</td>
</tr>
<tr>
<td>Qualitative</td>
<td>No relationship</td>
<td>Negative</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>R-A theory</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
Nonprofit sector research, while limited in quantity and rigorous research methods, indicates that companies that utilize complex performance indicators generally perform better than those that do not (Abidi et al., 2014). Due to the high number of HOs that compete for donor funding, media attention, and government support, performance measurement is essential for the humanitarian sector (Davidson, 2006). Previous research in humanitarian logistics and supply chain management recognized a range of methods to measure the performance of HOs. The main performance approaches are reviewed in Table 2. One observation from Table 2 suggests is that few indicators have been empirically tested. For example, Beamon and Balcik (2008) report a total of three indicators (response time, annual cost, and maximum proportion of emergency orders cycle) and provide a new theoretical framework but not an overall empirical validation. Similarly, the indicators proposed by Schulz and Heigh (2009) and de Leeuw (2010), while based on actual input from practice, are not empirically tested yet. Furthermore, relatively few HOs have actively contributed to different research studies that have been conducted in the field of performance measurement in humanitarian logistics and supply chains (Abidi et al., 2014). For example, IFRC participated in the study conducted by Schulz and Heigh (2009), organizations from Southeast-Asia joined in the studies conducted by Maghsoudi et al. (2018) and Pazirandeh and Maghsoudi (2018), and the international nonprofit humanitarian organization has contributed to the study conducted by Davidson (2006).

Overall, creating a set of appropriate performance measurement indicators can facilitate HOs in calculating the impacts of disasters, improving preparedness as well as efficiently managing donor resources to maximize mission performance.
Humanitarian Supply Chain

Supply chain management is crucial for humanitarian operations because efficacy, productivity, and quickness in supplying beneficiaries with food, shelter, water, medications, psychological support, and health are critical (Thomas & Kopczak, 2005). Tomasin & Van Wassenhove (2009) highlight that around 80% of the expenses for humanitarian assistance comprising of logistics costs in the form of purchasing and delivery. Essentially for HOs, the
supply chain is the practice and systems involved in organizing stakeholder funds, talents, and knowledge to assist vulnerable individuals influenced by disasters.

“Disaster” is defined as “a disruption that physically affects a system as a whole and threatens its priorities and goals.” Prior studies have categorized disasters into “slow onset” and “sudden onset” as well as natural or man-made (Van Wassenhove 2006). A slow-onset disaster is defined as an emergency that does not happen due to a single, distinctive incident, but one that occurs progressively over time, often based on a convergence of different incidents (Center for Disaster Philanthropy, 2014). Van Wassenhove (2006) highlights that natural disasters, accounting for only 3% of humanitarian relief operations, consist of both “slow-onset” disasters, such as poverty and hunger, and “sudden-onset,” such as earthquakes, tornadoes, or hurricanes. Furthermore, Van Wassenhove indicates that from 1982–1994, an astonishing 97% of all humanitarian efforts were dedicated to assistance during man-made disasters, specifically sudden-onset disasters. Figure 1 below presents the disaster classification matrix as well as provides examples.

<table>
<thead>
<tr>
<th>Natural</th>
<th>Man-made</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sudden-onset</td>
<td>Earthquake</td>
</tr>
<tr>
<td></td>
<td>Hurricane</td>
</tr>
<tr>
<td></td>
<td>Tornado</td>
</tr>
<tr>
<td></td>
<td>Terrorist Attack</td>
</tr>
<tr>
<td></td>
<td>Coup d'État</td>
</tr>
<tr>
<td></td>
<td>Chemical leak</td>
</tr>
<tr>
<td>Slow-onset</td>
<td>Drought</td>
</tr>
<tr>
<td></td>
<td>Poverty</td>
</tr>
<tr>
<td></td>
<td>Hunger</td>
</tr>
<tr>
<td></td>
<td>Political Crises</td>
</tr>
<tr>
<td></td>
<td>Refugee Crises</td>
</tr>
</tbody>
</table>

Figure 1. Disaster Classification Matrix (adopted from Van Wassenhove, 2006)
Several observations can be made from this review of the literature. To start, the majority of research has concentrated on disaster relief, including the effects of resource uncertainties during disaster stages on humanitarian supply chain performance (e.g., Heaslip, 2012; Day et al., 2012). Overall, collaborations and resource coordination are essential during disaster response and vary in strength, depending on the phase of disaster in its cycle (Kim et al., 2018). Kovacs and Tatham (2009) describe how resource patterns shift from being cost-effective and lean in the preparation stage to becoming effective and agile in the response stage of disasters. Furthermore, Tatham and Houghton (2011) conceptually detail that, as disaster response evolves over time, the resource uncertainty related to disasters involves distinct leadership strategies. However, only a few papers have focused on the continuous aid aspect. Humanitarian organizations often compete for contributions with benefactors generally more supportive of “sudden-onset” disasters than to “slow-onset” emergencies that require longer-term aid and development, leading to large discrepancies in levels of resources (Munslow, 1999; Bookstein, 2003).

Another observation is that only a few papers specifically concentrate on “slow-onset” emergencies as most publications are concentrated on “sudden-onset” emergencies (Kunz & Reiner, 2012). “Slow-onset” emergencies, such as hunger, poverty, and floods, normally allow for more time to respond; nevertheless, they can bring more severe consequences for residents because of their enormous magnitude (Wood et al., 1995; Majewski et al., 2010). Furthermore, contributions are often allocated for a specific crisis, and Van Wassenhove (2006) emphasizes that “sudden-onset,” specifically natural disasters, such as the earthquakes and tsunamis, tend to attract more media interest and are often over-financed, while “slow-onset” disasters, such as hunger, tend to be overlooked and underfinanced. Therefore, the current research explores the competition
phenomenon in more depth during “slow-onset” disasters since they have received only very limited attention so far (Kunz & Reiner, 2012).

**Resource-advantage Theory in Humanitarian Context**

R-A theory characterizes competition phenomenon as the continuous struggle among organizations for comparative advantages in resources that will produce marketplace positions of competitive advantage for some market segments and thus superior financial performance (Topaloglu et al., 2018; Hunt, 1999). According to R-A theory, in order to achieve a marketplace position of competitive advantage, organizations involved in a competition that provoke disequilibrium and competitive advantage arises from the firms’ resource variety that (i) allows it to produce a product or service that is perceived to be of superior value by customers in that market (effectiveness) and/or (ii) is manufactured with lower expenses than those of competitors (efficiency) (Hunt, 1999). R-A theory generally views competition as a positive force that contributes to social prosperity and economic growth by encouraging companies to acquire knowledge, be innovative, and utilize existing resources to be leaner and more agile (Hunt, 1999). Therefore, competition phenomenon is advantageous for society because it leads to transformation (both positive and negative) that, in turn, enhances the effectiveness and efficiency of the resources that companies utilize to generate and distribute products and services.

While there is a consensus of overall positive nature of competition within the for-profit firms, the nature of competition in the nonprofit sector has either been avoided or discussed in a negative light (Fathalikhan et al., 2018; Heyes & Martin, 2017; Schwenger et al., 2014; Tuckman, 1998). Hunt (1999) states that the main objective for an organization is to accomplish superior financial performance that exceeds the performance of some referent (e.g., competitor’s
performance, companies’ past performance indicators, and objectives). R-A theory also views an organization’s “prolonged inferior performance” as ineffective since it negatively influences the company’s existence and precludes achieving other goals. For humanitarian organizations, a “prolonged inferior financial performance” not only endangers the HO’s existence but also precludes it from achieving its fundamental, mission-driven purpose: to deliver social value (Topaloglu et al., 2018). Hence, in order to be proactive and respond to complex emergencies, superior financial performance is as essential to HO’s sustainability as it is to for-profit organizations (Topaloglu et al., 2018; Burt, 2012). To effectively respond to emergencies and to deliver much-needed aid to beneficiaries, HOs need to be fiscally sustainable (Aflaki et al., 2016; Tomasini et al., 2010).

Essentially, Topolunglu et al. (2018) propose that HOs can leverage their resources to deliver superior social value, which they describe as the value of the organization’s goods or services as perceived by all relevant stakeholders, such as patrons, benefactors, government and private businesses, volunteers, administrators, and personnel. Hence, similar to for-profits, humanitarian organizations focus on achieving positions of competitive advantage by delivering products and/or services that are perceived to have superior social value relative to competitors’ contributions and by delivering comparably valued aids at a lower cost (Kummitha, 2018). For example, Abebe (2016) highlights that HOs in Kenya accelerate knowledge management to subsequently build a competitive advantage. Furthermore, Barman (2002) notes that HOs adopt a differentiation strategy when facing a crowded market to convince donors that they, rather their competitors, deserve resources. Overall, Topolunglu et al. (2018) suggest the outcome of providing a superior social value is the superior financial performance by acquiring donations, grants, and volunteers.
In the recent decades, HOs are faced with constant problems, such as pressure to show effectiveness, demands for larger accountability, and intense competition for sources of assistance (Wilson & Jumbert, 2018; Haavisto & Kovács, 2015; Van Wassenhove & Pedraza Martinez, 2012). Therefore, to efficiently meet their social goals through superior financial performance and to stay competitive by delivering the social value and supporting the social welfare, HOs were forced to become more business-like (Bessant et al., 2015; Heaslip et al., 2018).

Table 3 presents a summary of the nine foundational premises of R-A theory and their proposed adjustment to the humanitarian sector. Below, I offer a discussion of the foundation premises of R-A theory in the humanitarian context.

Table 3. Foundational Premises of an R-A Theory of Nonprofit Competition

<table>
<thead>
<tr>
<th>Premises</th>
<th>R-A Theory</th>
<th>Humanitarian Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demand is</td>
<td>Heterogeneous across industries, heterogeneous within industries, and dynamic</td>
<td>Demand for social need is heterogeneous across humanitarian industries, and dynamic</td>
</tr>
<tr>
<td>2. Consumer information</td>
<td>Imperfect and costly</td>
<td>Donor information is imperfect and costly</td>
</tr>
<tr>
<td>3. Human motivation</td>
<td>Constrained self-interest seeking</td>
<td>Constrained self-interest seeking coexists with altruistic motivation</td>
</tr>
<tr>
<td>4. The firm’s objective</td>
<td>Superior financial performance</td>
<td>Superior delivery of social value through achieving superior financial performance</td>
</tr>
<tr>
<td>5. The firm’s information</td>
<td>Imperfect and costly</td>
<td>Imperfect and costly</td>
</tr>
<tr>
<td>6. The firm’s resource</td>
<td>Financial, psychical, legal, human, organizational, informational, and relational</td>
<td>Financial, psychical, legal, human, organizational, informational, and relational</td>
</tr>
<tr>
<td>7. Resource characteristics</td>
<td>Heterogeneous and imperfectly mobile</td>
<td>Mostly heterogeneous and imperfectly mobile; some resources are homogenies across all humanitarian organizations (e.g., tax-exempt status)</td>
</tr>
<tr>
<td>8. The role of management</td>
<td>To recognize, understand, create, select, implement, and modify strategies</td>
<td>To recognize, understand, create, select, implement, and modify strategies</td>
</tr>
<tr>
<td>9. Competitive dynamics</td>
<td>Dis-equilibrium provoking with innovation endogenous</td>
<td>Dis-equilibrium provoking with innovation endogenous</td>
</tr>
</tbody>
</table>

Source: Adapted from Topaloglu et al., 2018; Hunt, 1999
**Customer Demand**

Customer demand in the for-profit sector is dynamic and heterogeneous, both across and within industries (Hunt, 1999). Similarly, demand for the products and services delivered by HOs is also heterogeneous (Corbin, 1999). This heterogeneity of demand may result from unique beneficiary need or preference (Topaloglu et al., 2018). For example, according to United Nations, during the Haiti earthquake in 2010, those wounded and affected required different services, including food security, education, shelter, and health (United Nations Report, 2010). Furthermore, during Hurricane Maria in 2017, some evacuees pursued the option of a staying at hotel provided by Red Cross and FEMA, while others choose to stay at a shelter or with a family member and received monetary compensation.

Moreover, in addition to being heterogeneous, demand is also volatile. According to the Global Humanitarian Assistant Report (2018), demand for humanitarian services has increased in some sectors, including health care, food donations, and shelter; meanwhile, it has declined in some others, such as child care services. Additionally, demand volatility is highly dependent on the type of crisis. For example, during a refugee crisis, the need for measles vaccination is like to increase, while during hurricanes, the need for immunization services is fairly steady (McGuire, 2015). Overall, due to the unpredictable nature of the humanitarian crisis, the demand for social needs is dynamic and heterogeneous, both across and within sectors.

**Customer and Firm Information**

R-A theory proposes that customer information is imperfect and costly (Hunt, 1999). Similarly, HOs are involved with stakeholders whose roles are similar to customers in the for-profit sector; those who provide resources, such as benefactors and volunteers; and those who
utilize the outcomes of the resources (i.e., constituents), such as beneficiaries, clients, and patrons (Topaloglu et al., 2018; Chetkovich & Frumkin, 2003). The victims of natural disasters are primary stakeholders because disaster relief organizations first and foremost operate to address their needs. Donors are also primary stakeholders because they demand accountability and transparency from disaster relief organizations regarding how their donations have been used to improve the livelihood of the victims of natural disasters (Starr & Van Wassenhove, 2014; Van Wassenhove, 2006).

Secondary stakeholders are defined as those individuals or groups who influence, affect, or are influenced by the organization, but are not involved in transactions with the organization and are not critical for its survival (Savage et al., 1991). According to this definition, the media, governments, and world governing bodies, such as the United Nations, are considered secondary stakeholders (Van Wassenhove, 2006).

Due to imperfect and costly information, the relationship between humanitarian organizations and their stakeholder’s changes over time because contingent factors emerge and the material interests of either party alters (Friedman & Miles, 2002). As in the for-profit sector, the stakeholders in HOs try to acquire imperfect and costly information. For instance, an individual willing to contribute funds to a humanitarian organization may not hold perfect information about all potential humanitarian organizations or the potential effect of a contribution on an organization (Topaloglu et al., 2018). Additionally, beneficiaries might not be informed about all products and services accessible to them or the procedures required for them to be eligible to receive those products and services. Frequently, a beneficiary may not have the ability to uncover all of the information relevant to her or his needs, since the essential information requires time, resources, and effort to obtain (Topaloglu et al., 2018).
Human Motivation

According to R-A theory, human motivation is constrained by self-interested behavior and individual ethical codes formed by social, professional, or organizational ethical codes (Hunt, 1999). For for-profit firms, achieving financial performance is constrained by the moral standards of stakeholders (Logsdon & Yuthas, 1997). For humanitarian organizations, self-interested behavior can be demonstrated through the pursuit of a social mission that is also constrained by ethical values (Topaloglu et al., 2018). Previous research on volunteers identified that egoistic goals could coexist with altruistic goals (Laverie & McDonald, 2007). Humanitarian action reflects a value system, but it also is a product; and despite well-deserved accolades for their dedication and selflessness, aid agencies are also producers of service for hire. In the tussle for resources, nonprofit aid agencies have felt pressure to cater to donor interests in the pursuit of contracts that could be awarded to competitors or even to for-profit firms (Topaloglu et al., 2018).

Because of complex motivations, humanitarian staff may be much more productive than the staff in the for-profit organizations (Steinberg, 1990). For example, past research highlighted that self-interest-seeking behaviors and altruism stimulate volunteer firefighters (Thompson & Bono, 1993). Furthermore, because of the uncertain nature of natural disasters, employees and volunteers might prioritize the minimization of the suffering of victims over their well-being (Jahre, 2017; Maon et al., 2009). For example, field workers will travel to the affected area to tend to the immediate needs of victims, including carrying out rescue operations and addressing life-threatening injuries. Field workers may have to enter an unstable building or dig through the rubble to reach those affected by the disaster (Jahre, 2017). Moreover, relief workers may need to reach victims while the disaster is still occurring, such as during the aftershocks of an earthquake or
flooding that follows a tsunami or hurricane. Field workers will prioritize the provision of food, water, shelter, and medial suppliers and will make efforts to stop the spread of disease (Holguín-Veras et al., 2012). These examples suggest that human motivation must balance self-interest-seeking behaviors with ethical standards and altruism.

The Firm’s Objective

Hunt (1999) suggests that the main objective of any organization is superior financial performance, which follows from attaining marketplace positions of competitive advantage. The humanitarian research identifies nonprofit objectives as creating superior social value (Weerawardena et al., 2015; Chakravarty, 2014). Some scholars believe that the for-profit revenue generation objective may not be suitable for assessing the performance of HOs. Instead of profit maximization, the goals for those involved in the disaster response is to minimize the social impact of disasters by delivering aid, saving lives, and restoring the overall community welfare (Van Wassenhove, 2006). Therefore, the success of humanitarian operations should be assessed by how effectively and efficiently they meet the requirements of their stakeholders rather than by financial indicators (Topaloglu et al., 2018; Frumkin & Andre-Clark, 2000; Kaplan & Norton, 1992). However, other scholars propose an alternative viewpoint on the humanitarian organization’s objective.

Hunt (1991) argues that under circumstances of imperfect and costly information about potential customer segments, rivals, stakeholders, and operation technologies, for-profit firms seek their main goal, which is revenue-generation or achieving superior financial performance. Similarly, Topaloglu et al. (2018) argue that rather than pursuing two seemingly opposing objectives (mission and funds), HOs should concentrate on achieving financial and mission
performance as balancing objectives, striving to accomplish cost-effective social performance. Like all ventures and all organizational, those in the humanitarian marketplace require resources to carry out desirable activities in a particular area of operations as well as to pay salaries, rents, equipment, transportation, and overheads. Survival is a minimum goal; prosperity is a real objective. As Doctor’s Without Borders’ Fabrice Weissman straightforwardly tells us: “Aid agencies are ever sensitive to the preservation and growth of their budgets” (Weiss, 2013).

Past research indicated that the key driver of humanitarian growth is mission fulfillment rather than achieving financial self-interests (James, 1983). Largely, humanitarian executives pursue goals based on the missions of their organizations and then they accumulate resources to achieve their missions (Schnurbein & Fritz, 2017). Therefore, humanitarian organizations evolve in relation to resource improvement and expansion of activities to accomplish their humanitarian missions. Frumkin and Andre-Clark (2000) adopt the viewpoint on “complementing money and mission” as one of the primary goals for nonprofit organizations. Topaloglu et al. (2018) argue that stating that nonprofit organizations should concentrate on achieving superior financial performance does not diminish the altruistic motives of those organizations. Rather, superior financial performance is essential for accomplishing a HO’s mission and provide superior social value in terms of disaster relief.

Overall, humanitarian organizations often publicly promote altruistic goals but essentially concentrate on achieving more self-centered objectives to respond to the needs of affected populations as well as to succeed as establishments in a competitive environment (Weiss, 2013). To achieve cost-effective, superior financial performance, humanitarian organizations concentrate on efficiently delivering superior social value. As a result, achieving social performance supports
humanitarian organizations to succeed, improve, and grow when facing a multifaceted and uncertain competitive marketplace.

The Firm’s Resources

Hunt (1999) categorizes resources into tangible and intangible entities that are available to the firm and allow it to efficiently and effectively produce a product that has value for specific customer segments. Likewise, humanitarian organizations are concentrating on striving to develop or attain resources that will empower them to deliver more goods and services at the same cost as similar organizations. Each successful humanitarian organization has unique resources that are not easily imitated or developed (skillful employees, devoted donors, supplier contracts, etc.) that create a comparative advantage in resources that could lead to positions of competitive advantage in the marketplace. Consequently, those resources can potentially be a foundation of long-term competitive advantage in the market.

R-A theory categorizes resources into financial, physical, legal, human, organizational, informational, and relational (Hunt, 1999). Below, I describe how HOs utilize and develop each of the seven categories of resources.

Financial Resources. Past research indicates the rapid growth in the availability of the financial resources of humanitarian organizations during the first post-Cold War period, from around $800 million in 1989 to $4.4 billion in 1999 (Hammerstad, 2014). The upward trend is continuing, quadrupling to $29.3 billion in 2018 (Global Humanitarian Assistance Report, 2018). As a result, the funds flowing into and circulating within the humanitarian business are substantial. Morgan and Hunt (1999) describe financial resources as mobile because they can be achieved in the market by exchanging other resources.
Financial resources available for humanitarian organizations are donated either by the government or by private donors. Governmental funding (e.g., grants or administrative contracts) denotes the largest percentage of a humanitarian organization’s financial resources (Andreoni & Payne, 2003). Even though the amount of federal aid has increased in recent years, governmental funding has been more difficult to attain for humanitarian organizations (Edwards, 2019). With the increase in the number of natural disasters each year as well as humanitarian organizations, government spending has been reduced and the percentage of government support for each HO has decreased (Global Humanitarian Assistance Report, 2019). Donor governments often expect their funds to be utilized for specific disasters in specific countries, forcing HOs to concentrate on short-term goals (e.g., direct relief and distribution) rather than long-term objectives (e.g., investment in logistics systems and processes) (Oloruntoba & Gray, 2006). Finally, the economic crises that happen occasionally have made governmental funding an unstable source of revenue (Bryson, 2010).

Private charitable contributions constitute another type of financial resources. Funding from private benefactors (e.g., individuals, trusts, foundations, and companies) has been growing in the past few years. Individual contributions are the single largest source of private donations, though donations from trusts and corporations are increasing (Global Humanitarian Assistance Report, 2019). In addition to the decrease in government funding, humanitarian organizations are faced with the increased scrutiny of corporate financial donors. Donors have increasing awareness when it comes to operational expenses and scrutinize the impact of disaster relief operation in greater detail (Van Wassenhove, 2006). Following a natural disaster, private donors expect their money and physical goods to go to the victims of that disaster rather than other disasters around the world. For example, Medicines Sans Frontieres (MSF) decided to stop collecting donations for
the 2004 Asian Tsunami because they had an excess of funds that were specifically earmarked for that disaster. MSF decided to refrain from allocating donor funds to other disasters for fear of putting future donations from the public at risk (Aflaki & Pedraza-Martinez, 2016). This decision negatively affected MSF’s image, as donors expected their funds to be used for specific relief operations in a particular country.

Overall, humanitarian organizations must weigh the requirements of various stakeholders and groups, including victims, government, and private donors when developing strategies.

**Legal Resources.** Alderson (1965) defines legal resources as assets uniquely possessed by an organization due to governmental statute or a legally binding contract between the organization and another party. Ownership and accessibility of some legal resources, such as exclusionary licenses, patents, or trademarks, are controlled by law (Topaloglu et al., 2018). For example, Feeding America has a list of guidelines that each partner is required to comply with in order to use their well-known logo. Furthermore, American Red Cross is developing a strategic brand licensing plan to bring the core principles of the Red Cross into new commercial categories (American Red Cross, 2017). Finally, similar to any nonprofit organizations, HOs possess a tax-exempt status that allows them to function without the additional rate of income taxes.

**Physical resources.** Morgan and Hunt (1999) define physical resources as tangible assets (e.g., raw materials, equipment, property, and facilities) that are necessary to produce and deliver firms’ products and services. For a food pantry, a refrigerated storage facility will permit it to provide fresh produce for beneficiaries in addition to long-shelf food items (Fisher 2017). For a food bank, delivery trucks will allow them to pick up surplus food from manufacturers and retailers. Overall, the international community donates a significant amount of in-kind donations that enable HOs to operate at low costs (Tomasini & Van Wassenhove, 2004).
Human resources. Human resources include the skills, knowledge, vision of the firm’s employees (Hunt, 1999) as well as specific to humanitarian sector board members and volunteers (Topaloglu et al., 2018). Past research has identified intellectual and social capital as one of the competitive advantages in the humanitarian sector (Ataseven et al. 2018; Kong & Prior, 2008). According to R-A theory, human motivation is based on self-interested behavior constrained by individual ethical codes (Morgan & Hunt, 1999). Previous research highlights that managers and personnel of HOs may perform better if they share the organizational mission (McDonald, 2007) or even accept lower pay (Ben-Ner & Ren, 2015). Most HOs use volunteer labor that allows HOs to deliver products and services to beneficiaries without additional financial resources (Salamon et al., 2011). For example, in a typical month, nearly two million volunteers donate more than eight million hours of their time by helping out at a food bank or food pantry served by the Feeding America network (Feeding America, 2019).

Furthermore, the past researcher identified “human resources” as a critical resource that is in constant danger (Darby & Williamson, 2012). The present moment can certainly be distinguished from earlier ones by the risks to aid personnel. For example, Buchanan and Muggah (2005) report that, in 2004, at least 100 civilian United Nation (UN) and non-governmental organization (NGO) workers died due to targeted violence.

Organizational resources. Morgan and Hunt (1999) define organizational resources (e.g, organizational structure, processes, image, and culture) as the assets a firm owns that arise from the organization itself. One of the most critical organizational resources for any humanitarian organization is the branding of the mission (Vestergaard, 2008). In the increasingly competitive area of disaster relief operations, HOs now focus on promoting themselves in the media by using celebrities and creating regionalized and personalized media packages to draw the media attention
(Cottle & Nolan, 2007). The intense media attention that follows a natural disaster can positively or negatively affect the public opinion of an organization’s disaster relief operations (Maon et al., 2009). Some disaster relief organizations may take abnormal risks to appear on camera as a means of gaining financial donations (Van Wassenhove, 2006). At the same time, some disaster relief organizations may be less willing to take risks because of fear of the negative publicity that can tarnish their organization’s image and jeopardize financial donations. Take for example the unfavorable media spotlight shone on Oxfam when aid workers were discovered to be using underage prostitutes during fieldwork in Haiti. The scandal forced the resignation of Oxfam’s Deputy Chief Executive and put at risk funding from the U.K. government, worth $44 million in 2017 alone and about 8% of the aid organization’s overall income (BBC News, 2018).

**Informational resources.** Informational resources include the collective knowledge of the firm and the procedures developed for encouraging organizational learning (Morgan & Hunt, 1999). For both for-profits and nonprofit firms, informational resources comprise of knowledge about customer segments, competitors, innovation, and the absorptive capacity systems used to develop, collect, distribute, and use knowledge. For humanitarian organizations, additional information resources might include relevant government initiatives, available grants, and data regarding social needs (Topaloglu et al., 2018). The well-established value and absorptive capacity systems can help humanitarian organizations better manage these resources by acquiring knowledge from volunteers and benefactors. For example, Feeding America and American Red Cross have donor management software that enables them to connect with benefactors that helps them to achieve a competitive advantage. The focus of any HOs is to increase contributions to fulfill the mission and increase effectiveness, and these goals can be accomplished with the help of informational resources.
Relational resources. Morgan and Hunt (1999) view relational resources as those between the organization and its various external and internal partners. Past research has emphasized the importance of collaborative relationships and building relational resources in humanitarian supply chains (Eftekhar et al., 2017; Van Wassenhove, 2006; Moshtari, 2016). Each humanitarian emergency increases the need to provide assistance, food, protection, and medical support to victims on an enormous scale (Van Wassenhove, 2006). Those needs can only be met through the effective utilization of relational resources among humanitarian organizations (Ergun et al., 2014; Murray, 2005; Thomas, 2003). Indeed, inadequate relational resources constitute a frequent criticism of the disaster relief process because it influences wasted funds, human resources, and supplies (Day et al., 2012; McEntire, 1999; Maon et al., 2009).

Humanitarian relief operations attract a diverse set of organizations who often have a high degree of heterogeneity in terms of culture, purpose, and operating style (Cozzolino, 2012). Relations can be arranged implicitly, often with limited reliance on contracts and with more reliance on mutual understanding. Promises to donate volunteer time, goods, or services can be made verbally. Instead of contracts, memorandums of understanding are commonplace (Joshi, 2010). For instance, over 67% of NGOs in the San Francisco Bay Area have never entered into a formal preparedness or response agreement with other NGOs or with city/county government agencies (Ritchie et al., 2010).

Unlike actors in the for-profit sector that regularly interact, those involved in humanitarian response may only have the opportunity to interact when disasters occur (Day, 2013). Indeed, for a large majority of the time, these entities are in the “dormant” stage of their relationship (Kovacs & Tatham, 2009). In the absence of repeated interactions, relational resources can be problematic to cultivate (Carey et al., 2011).
The Role of Management

The role of management is to identify, understand, generate, implement, and adjust strategies to best position a firm to obtain, develop, transform, and adapt its resources to the rapidly changing environment to compete (Topaloglu et al., 2018; Teece et al., 1997). The role of management consists of strategies to identify customer segments, select suitable products, and allocate necessary resources to produce the goods and services (Hunt, 1999). Relying on these resources to generate comparative advantage, nonprofit managers try to create tactics that will improve the firm’s standing in the competitive marketplace (Topaloglu et al., 2018).

While an earlier era may have made good use of well-intentioned volunteers and trained them on the spot, the top officials in major humanitarian organizations now have MBAs with a good understanding of business economics and are conversant with such topics as client relations, product positioning, human relations, accounting, and proposal writing (Weiss, 2013).

Competitive Dynamics

As the final premise, R-A theory looks at the nature of competition as a dynamic process (Hunt, 1999). Organizations continuously struggle to perform better than they have in the past and better than their competitors (Schumpeter, 1934). For humanitarian organizations, these competitors comprise of other humanitarian organizations or for-profit organizations that deliver similar services to a common segment of beneficiaries or other humanitarian organizations and programs competing for limited funds from contributors, government, and foundations, or volunteers (Topaloglu et al., 2018). In response to increased competition, practitioners, and officials have been concentrating on the activities related to innovation in humanitarian operations.
(Betts & Bloom, 2014; Obrecht & Warner, 2016). Humanitarian researchers define “innovation” as the role of technology, goods, and procedures from other segments in creating novel forms of collaboration and the use of the concepts and coping capacities of disaster-affected victims (Betts & Bloom, 2014). For example, the U.K. government has established the Humanitarian Evidence and Innovation Program, a £48 million program intended to advance research in the humanitarian sector (ITAD, 2014). For HOs, innovation can lead to more organized delivery of goods and services to recipients, thus better achieving the objectives of the organizational mission and nourishing the requirements of humanitarian organizations stakeholders (Perrini & Vurro, 2006). Since nonprofits represent a substantial share of the US economy, competition in this segment can also foster economic growth, as nonprofit organizations are driven to find a more effective and efficient approached to fulfill social needs and contribute to social well-being (Topaloglu et al., 2018).

**Summary**

This chapter brings together insights from the humanitarian supply chain, nonprofit competition, and resource advantage theory literature to set the stage for Essays I and II. From this chapter, the reader has learned that supply chain management is key to humanitarian operations because effectiveness, efficiency, and swiftness in supplying recipients with food, shelter, water, medical supplies, and sanitation are essential (Thomas & Kopczak, 2005). Several observations can be made from this review of the literature. The majority of humanitarian supply chain research has concentrated on disaster relief, including the effects of disaster stages on humanitarian supply chain performance (e.g., Heaslip, 2012; Day et al., 2012). However, only a few papers have focused on the continuous aid aspect or specifically on slow-onset disasters. Humanitarian
organizations often compete with each other for contributions, with benefactors generally more compassionate to emergencies, like “sudden-onset” disaster, than longer-term aid and “slow-onset” disasters (Munslow, 1999; Bookstein, 2003). While slow-onset disasters, including hunger relief and poverty, allow for more time to respond, they can have worse consequences for victims because of their large impact (Wood et al., 1995; Majewski et al., 2010). Furthermore, competition for donations is often severe during slow-onset disasters since generally the majority of donations are earmarked for particular sudden-onset disasters that generate more media interest and are often over-financed. Therefore, current research explores the competition during slow-onset disasters in more depth since they have received only very limited attention so far (Kunz & Reiner, 2012).

Much of what we know about nonprofit competition is based on studies of commercial nonprofits (e.g., Topaloglu et al., 2018; Ly & Mason, 2012; Tuckman, 1998) or, more specifically, of healthcare nonprofit organizations (e.g., Tuckman, 1998; Hirth, 1997). Unlike actors in commercial nonprofits that routinely interact, those involved in humanitarian relief are inspired by aspects different from those in commercial nonprofits. Instead of profit maximization, the goal for humanitarian organizations is to minimize the social suffering by saving lives, preserving property, and improving the social and economic foundations of communities (Van Wassenhove, 2006). Furthermore, humanitarian organizations are operating in a resource constraint environment. Physical resources (e.g., facilities, warehouses, storages, and equipment) are generally inferior compared to physical resources of commercial organizations due to external performance metrics that publish how much of contributions are used to cover overhead expenses of the organization (Ataseven et al., 2017). Although some researchers have begun to study competition among humanitarian organizations (Moshtrani, 2016; Weiss, 2013), these studies focus on the counterproductive role of competition in collaborative relationships. This dissertation takes a
different stance and seeks to understand how a competition phenomenon supports the comparative advantages of humanitarian organizations and affects their financial performance.
CHAPTER III: NONPROFIT COMPETITION

Introduction

The purpose of this study is to describe and define the phenomenon of competition among humanitarian organizations. Specifically, I ask: What is the nature of competition in humanitarian supply chains? And what factors influence competition in humanitarian supply chains? The research applies a grounded-theory analysis to primary data collected from site visits at U.S. food banks. Findings reveal that three main components of nonprofit competition interact to determine comparative advantage for nonprofit organizations: (1) financial resources, (2) physical resources, and (3) relational resources. Besides, the level of resource scarcity and geodemographic factors influence the relationship between financial resources, physical resources, and relational resources and humanitarian organizations’ comparative advantage. This chapter begins with a description of the multiple case study research method. Next, the elements of humanitarian competition are presented, followed by a discussion of the implications and limitations of this research for humanitarian supply chains.

Method

In designing the study, a case study approach is chosen because, as R.K. Yin claims, a case study is a favored empirical inquiry approach when a researcher explores a contemporary phenomenon in-depth and within a real-world setting. This research adopts a multiple case design because the data from several cases are often viewed as more persuasive, and the overall study is
therefore regarded as being more rigorous (Yin, 2006). This methodology has also been utilized by supply chain and humanitarian management researchers (Voss et al., 2002). Specifically, since the competition in the humanitarian supply chain is still not well defined, I have chosen to adopt an exploratory approach. The process followed to design and implement this method has been adopted from Yin (2006).

*Case Selection*

The focus of the research methodology in this study was on collecting empirical evidence on how food banks are involved in competition with other humanitarian agencies. Given the relatively scant literature about how humanitarian aid organizations compete in the marketplace, a multiple case study approach with grounded theory analysis was adopted. I started our case selection by identifying different food banks from different locations. Food banks were chosen based upon the recourse scarcity of the area served (e.g., low and high) and on population characteristics of the area served (e.g., urban and rural) to create variation in supply chain food banks and to provide a stronger foundation for the substantive theory of competition. Following Bose (2015), population characteristics of the area served (e.g., urban and rural) were defined based on the metropolitan statistical area (MSA). According to the U.S. Census Bureau, an area is defined as metropolitan if at least one urban core area has a population of at least 50,000. The U.S. Census identifies a total of 383 metropolitan statistical areas of the United States, with populations ranging from 20 million people (New York, NY; Newark, NJ; Jersey City; PA) to 54,000 people (Carson City, NV). For the current study, the mean and median scores were calculated for all MSAs. As a result, food banks that are above average are considered “urban” and those that are
below average are considered “rural.” For example, the area served by Albany Food Bank has approximately three million people and is ranked in the top 20 MSAs with the highest population. Therefore, Albany Food Bank is classified as “urban.” On the other hand, the area served by Franklin Food Bank has less than 260,000 people with the population below the mean of 730,000 and close to the median of 240,000. Therefore, Franklin Food Bank is classified as “rural.”

The second source of variation on the supply side of food banks that might affect the competition phenomena is “resource scarcity.” Resource scarcity was defined based on the “food richness” of the area in which the food banks operate. Food banks are not equal in their endowments of food: Some are food rich and some are food poor (Prendergast, 2016). For example, Los Angeles Food Bank has tons of different kinds of food in the area, yet West Virginia has very little (Prendergast, 2016). According to Feeding America, some areas have a denser network of food producers and distributors and have more sources of alternative food than those that have few. “Food richness” of the area might affect the competition phenomena since “food poor” food banks have smaller amounts of food and thus might face tougher competition. Moreover, food banks vary, not only in how much food they have but also what kind. Since Feeding America has healthy food standards, food banks that have access to healthier food manufacturing and distribution facilities generally have advantages. Therefore, those food banks that are considered “food rich” by Feeding America are classified under the “low resource scarcity” dimension, while those that are considered “food poor” are classified under the “high resource scarcity” dimension.

Overall, Figure 2 presents the classification of eight cases used in the current study: Albany Food Bank (FB), Barrington FB, Camden FB, Danville FB, Franklin FB, Easton FB, Georgetown FB, and Hamilton FB.
The exploratory case study relies upon theoretical sampling, where the findings guide data collection efforts (Charmaz, 2014; Glaser & Strauss, 1967). The investigator started sampling according to the conceptual categories presented in the case selection section. Once some data was collected, I began to compare the data, and the remaining questions related to the categories, properties, and relations of the phenomenon of competition that remain unexplored suggested whom to sample next (Glaser & Strauss, 1967). After initial interviews, I began to ask new, further questions to sampled respondents. Compared to statistical sampling, theoretical sampling emphasizes the increase in variation, since maximizing variation generates the most extreme
examination of emerging conceptual categories, properties, and relations and consequently strengthens the study (Charmaz, 2014). Hence, the blend of theoretical sampling and the constant comparison technique allowed the triangulation of findings (Charmaz, 2014). Key informants were continued to be asked until a point of theoretical saturation was reached—or a moment when the inclusion of additional information did not generate any novel information about a conceptual category (Charmaz, 2014; Glaser & Strauss, 1967). Thus, the goal of exploratory research to explore the phenomena consistent with the gathered descriptive data, which possibly generate hypotheses for future deductive, confirmatory studies (Charmaz, 2014).

The nonprofit competition presented in this study relies upon descriptive data collected from in-depth interviews with key informants, researcher observations of activities, and company documents provided by key informants or gathered from Feeding America’s website. Perceptions of the competition were collected in in-depth interviews with 16 key informants, including CEOs, an executive director, and chief operating officers. Participants were influential decision-makers responsible for making major business decisions, handling the overall operations and resources of a company. Table 4 describes the profile of each information, including their titles, pseudonyms, and background data. Overall, 124 pages of single-spaced text transcripts of the in-depth interviews, 19 pages of transcribed researcher observations, and published company information collected from participants and websites were used for the systematical coding and analysis using grounded theory.
<table>
<thead>
<tr>
<th>Interview number</th>
<th>Organization name</th>
<th>Informant(s)</th>
<th>Informants’ Details</th>
<th>Interview type</th>
<th>Interview mode</th>
<th>Interview length (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Albany FB</td>
<td>Jacob</td>
<td>Chief Operating Officer, 30 years in for-profit sector, 4 years in nonprofit sector, 4 years in the current position; responsible for overseeing distribution, overseeing purchasing, and developing systems and systems support</td>
<td>Individual</td>
<td>Face-to-face</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>Albany FB</td>
<td>Jacob</td>
<td>President &amp; CEO, about 5 years in for-profit sector, 28 years in nonprofit sector, 15 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; public face of the company</td>
<td>Small group</td>
<td>Face-to-face</td>
<td>70</td>
</tr>
<tr>
<td>3</td>
<td>Barrington FB</td>
<td>John</td>
<td>Executive Director; 16 years in for-profit sector, 17 years in nonprofit sector, 7 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company and being the public face of the company</td>
<td>Individual</td>
<td>Face-to-face</td>
<td>130</td>
</tr>
<tr>
<td>4</td>
<td>Barrington FB</td>
<td>Emma</td>
<td>Director of Development, over 15 years in nonprofit sector, 5 years in the current position, responsible for making strategies to develop new partnerships and contracts</td>
<td>Individual</td>
<td>Face-to-face</td>
<td>65</td>
</tr>
<tr>
<td>5</td>
<td>Barrington FB</td>
<td>Olivia</td>
<td>Assistant Director of Procurement, 2 years in for-profit sector, 3 years in nonprofit sector, 3 years in the current position; responsible for managing procurement team tasked with sourcing and coordinating upwards of donated food</td>
<td>Individual</td>
<td>Face-to-face</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Camden FB</td>
<td>William</td>
<td>Senior Director of Strategic Initiatives; 6 years in for-profit sector, 13 years in nonprofit sector, 1 year in the current position; responsible for media relations, brand management and positioning, integrated campaigns, and project management</td>
<td>Individual</td>
<td>Face-to-face</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>Camden FB</td>
<td>Mary</td>
<td>Chief Operating Officer, 10 years in for-profit sector, 2 years in nonprofit sector, 2 years in the current position; responsible for overseeing distribution, overseeing purchasing, and developing systems and systems support</td>
<td>Individual</td>
<td>Face-to-face</td>
<td>60</td>
</tr>
<tr>
<td>8</td>
<td>Camden FB</td>
<td>Jessica</td>
<td>President &amp; CEO, about 10 years in for-profit sector, 15 years in nonprofit sector, 10 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company</td>
<td>Individual</td>
<td>Phone</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Location</td>
<td>First Name</td>
<td>Last Name</td>
<td>Position and Experience</td>
<td>Group Type</td>
<td>Communication Method</td>
</tr>
<tr>
<td>---</td>
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<td>------------</td>
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</tr>
<tr>
<td>9</td>
<td>Danville FB</td>
<td>Lisa</td>
<td>Matthew</td>
<td>President &amp; CEO, about 4 years in for-profit sector, 10 years in nonprofit sector, 7 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company Chief Operating Officer, 10 years in for-profit sector, 15 years in nonprofit sector, 5 years in the current position; responsible for overseeing distribution, overseeing purchasing, and developing systems and systems support</td>
<td>Small group</td>
<td>Phone</td>
</tr>
<tr>
<td>10</td>
<td>Franklin FB</td>
<td>Nancy</td>
<td></td>
<td>President &amp; CEO, about 5 years in for-profit sector, 18 years in nonprofit sector, 8 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company Executive Director; about 10 years in for-profit sector, 25 years in nonprofit sector, 25 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company</td>
<td>Individual</td>
<td>Face-to-face</td>
</tr>
<tr>
<td>11</td>
<td>Easton FB</td>
<td>Donna</td>
<td></td>
<td>President &amp; CEO, about 5 years in for-profit sector, 18 years in nonprofit sector, 8 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company Director of Finance, about 10 years in for-profit sector, 5 years in nonprofit sector, 2 years in the current position; oversees cost and general accounting, accounts receivable/collection and payroll</td>
<td>Individual</td>
<td>Face-to-face</td>
</tr>
<tr>
<td>12</td>
<td>Easton FB</td>
<td>Emily</td>
<td></td>
<td>President &amp; CEO, about 5 years in for-profit sector, 18 years in nonprofit sector, 8 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company Director of Operations, about 25 years in for-profit sector, 5 years in nonprofit sector, 5 years in the current position; responsible for the day to day logistical operations of the warehouse, coordinating deliveries and distributions, and managing inventory.</td>
<td>Individual</td>
<td>Face-to-face</td>
</tr>
<tr>
<td>13</td>
<td>Georgetown FB</td>
<td>Kevin</td>
<td></td>
<td>President &amp; CEO, about 15 years in for-profit sector, 5 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company Executive Director, about 10 years in for-profit sector, 15 years in nonprofit sector, 5 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company</td>
<td>Individual</td>
<td>Face-to-face</td>
</tr>
<tr>
<td>14</td>
<td>Georgetown FB</td>
<td>Brian</td>
<td></td>
<td>President &amp; CEO, about 15 years in for-profit sector, 5 years in nonprofit sector, 5 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company Executive Director, about 10 years in for-profit sector, 15 years in nonprofit sector, 5 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company</td>
<td>Individual</td>
<td>Phone</td>
</tr>
<tr>
<td>15</td>
<td>Hamilton FB</td>
<td>Alex</td>
<td></td>
<td>President &amp; CEO, about 15 years in for-profit sector, 5 years in nonprofit sector, 5 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company Executive Director, about 10 years in for-profit sector, 15 years in nonprofit sector, 5 years in the current position; responsible for making major corporate decisions, managing the overall operations and resources of a company; the public face of the company</td>
<td>Individual</td>
<td>Phone</td>
</tr>
</tbody>
</table>
Notes: All participants are key managers for their food bank with decision-making power. Names of informants and food banks are pseudonyms.

Data Collection

The semi-structured interview protocol was created to gather the information from the in-depth interviews (See Appendix for the final interview protocol questions). The interview protocol consisted of open-ended questions to motivate the key informants to detail on the focal themes and to decrease the impact of the researcher. I identified key informants using two approaches. First, the Feeding America website was examined for food banks located in different areas based on the recourse scarcity (e.g., low and high) and population characteristics of the area served (e.g., urban and rural). Second, using snowballing techniques, I identified key informants in other food banks. I electronically contacted food bank executives with a short, personalized message asking for them to participate in a face-to-face interview. Respondents were asked to provide contact information for qualified informants from other food banks who are involved in relationships with key suppliers.

During the interview, the research participants guided the discussion, and the researcher acted as a navigator to ensure the participant stays focused on the discussion of the focal themes (Charmaz, 2014). Most interviews were one-on-one with the principal investigator, although two interviews were administrated in a small group setting. Interviews ranged from 25 minutes to over two hours in length. All interviews were digitally recorded and later transcribed. Following
the grounded theory method, main topics were questioned to all participants, while some questions were only inquired from a subset of participants.

The principal investigator conducted most of the interviews on-site. The food banks were located in three states: Florida, Alabama, and Georgia. Before arriving on-site, I examined all publicly available documents regarding supply chain management and sustainability for the local food bank in order to assess the current programs of the food banks and to be familiar with the language of the food bank (Charmaz, 2014). Site visits allowed the researcher to directly interact with key informants in their natural setting, providing comprehensive information through discussions, facility observations, and interactions.

Data Analysis

To enable the continuous contrast of collected information, the interview transcripts, researcher observations, and available company information were imported into NVivo 11 for analysis. NVivo software has many advantages, including the systematic coding and analysis of qualitative data (QSR International, 2018). NVivo enables the researchers to classify, organize, and compare themes evolving from the descriptive data.

Following the grounded theory approach, the data was coded using systematic coding (i.e., open and axial coding). Open and axial coding identify the critical groups and themes in descriptive data that guide the creation of a theoretical framework. Once some descriptive data was gathered, the open coding was started to recognize and name central categories in the data. During open coding, I tried to understand what the key informants discussed specifically. In each main segment, the key categories and themes were identified and labeled. The assigned labels closely corresponded to the key informant’s actual words whenever possible (Glaser & Strauss,
1967). In this study, open coding resulted in the emergence of 95 categories. Not all categories identified in open coding will ultimately be used in the theoretical framework. For example, of the 95 concepts discovered in open coding, 34 of those concepts were used for further analysis.

In addition to open coding, the axial coding of emerging categories was adopted. While the purpose of the open coding is to identify categories emerging from the raw data, the objective of axial coding is to better comprehend the complexity and type of interrelationships amongst identified, central categories (Strauss & Corbin, 1998). Axial coding helps to identify patterns in the categories. Axial coding exposes the relations among categories and sub-categories, which eventually serve as the framework of the emerging substantive theory and corresponding theoretical framework. In this study, nine subcategories formed four major categories in a theory of the nonprofit competition.

The final interpretation stage was validated during multiple meetings of three researchers, in which they again discussed the coding and its interpretation in the same manner as the previous stages (Perreault & Leigh, 1989).

**Trustworthiness of Findings**

In order to evaluate the validity and quality of research design, several steps were followed to address reliability, construct, and external validity (Barratt et al., 2011; Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Yin, 2006). First, an interview protocol was used to help increase the reliability of the study. A funnelling approach was applied to interviewing so that the general questions were asked before specific questions. This approach helped to avoid the responses to specific questions biasing the answers to general questions (Charmaz & Belgrave, 2007). The initial protocol specified broad themes related to the innovation environment, as well
as relationships with suppliers, donors, and customers. Although I started by looking for differences among food banks, as the interviews progressed, I began asking more specific questions related to the nature of food and fund scarcity as well as innovation development. Furthermore, to increase construct validity, I included various sources of data (e.g., recorded researcher observations, published company information, annual reports, and email correspondence) in the study. Data source triangulation was cultivated by ensuring that information obtained from multiple sources about each proposition was aligned (Barratt et al., 2011; Gupta et al., 2006). Triangulation was accomplished by two researchers cross-checking the evidence collected from the key informants’ interviews, recorded researcher observations, published company information, annual reports, and email correspondence. The inter-coder reliability was ensured by having two coders categorize content gathered from the informants’ interviews, emails, published company information, and observations notes (Neuendorf, 2016). Then, using these categorizations, a numerical index was calculated of the extent of agreement between the coders (a=.9). This process also worked to minimize potential research bias since each of the concepts was reviewed and analyzed by two researchers to provide confirmation that the findings are reasonable given the data (Johnston et al., 1999). Moreover, the draft of the manuscript was reviewed by three key informants in order to ensure that our interpretations were representative of informants’ beliefs (Schatzman & Strauss, 1973). Finally, the emergent observations were grounded from our findings with theoretical elements to address the external validity of the findings (Collins & Browning, 2019). R-A theory primarily drove the data collection effort in the early stages of the study and seemed particularly relevant for the emerging findings.
Table 5. Case Study Tactics for Four Design Tests (adapted from Yin, 2006)

<table>
<thead>
<tr>
<th>Tests</th>
<th>Case Study Tactic Used</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct Validity</td>
<td>• Use multiple sources of evidence (Barratt et al., 2011; Eisenhardt, 1989; Choi &amp; Hong, 2002)</td>
<td>a. Multiple sources of evidence (e.g., published company information, observations notes, and email communications)</td>
</tr>
<tr>
<td></td>
<td>• Have key informants review draft case study report (Yin, 2006; Schatzman &amp; Strauss, 1973)</td>
<td>b. Triangulation</td>
</tr>
<tr>
<td>Internal Validity</td>
<td>• Explanation building (Yin, 2006)</td>
<td>a. Empirically based pattern was constantly compared and revised with a predicted pattern simultaneously identified in the literature</td>
</tr>
<tr>
<td></td>
<td>• Use of multiple researchers to analyze data (Johnston et al., 1999; Eisenhardt, 1989)</td>
<td>b. The process repeated after each interview and across three data collection stages</td>
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<tr>
<td>External Validity</td>
<td>• Analytic generalization approach (Barratt et al., 2011; Yin, 2006; Eisenhardt, 1989)</td>
<td>a. Humanitarian supply chain literature</td>
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<td>b. Resource advantage theory</td>
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<td>c. Nonprofit competition</td>
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<td>d. Food supply chain management literature</td>
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<td>Reliability</td>
<td>• Use case study protocol (Yin, 2006)</td>
<td>a. Case study protocol adjusted after each interview</td>
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<td></td>
<td>• Multiple cases (Eisenhardt &amp; Graebne, 2007; Eisenhardt, 1989)</td>
<td>b. Sample consists of eight food banks: Albany FB, Barrington FB, Camden FB, Danville FB, Franklin FB, Easton FB, Georgetown FB, Hamilton FB</td>
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Results

For seven of the eight food banks interviewed in the current study, the site visits began with an overview of the food bank’s warehouse and food-storage and sorting facilities. The principal investigator was unable to tour the facilities of Hamilton FB because the interviewees with both respondents were conducted over the phone.

This section presents the results of the grounded theory analysis. In summary, participants’ interviews can be integrated through an understanding of three main components of nonprofit competition: (1) financial resources, (2) physical resources, and (3) relational resources. Interactions between these components are the source of comparative advantage for humanitarian organizations (see Figure 3).

Food Bank Supply Chain Overview

The concept of food banks was developed around the 1960s to provide food to people in need through a nationwide network of food banks. Food banks are humanitarian aid organizations that gather, organize, and deliver food to nonprofit member agencies and individuals to help the vulnerable avert the suffering that comes from inadequate nutrition (Ataseven et al., 2018; Fisher, 2017). The supply chain for food banks consists of private-sector companies, individual contributors, and government delivering financial support and product on the supply side. On the demand side, downstream member agencies, including food pantries, soup kitchens, and shelters, provide support (Ataseven et al., 2018).

On the supply side, food banks coordinate “food, friends, and funds” to distribute food to those in need (Ataseven et al., 2018). Food bank supply chains include suppliers, donors, and member agencies. At a basic level, food banks are both a warehouse and trucking-connectors
between those who have extra food and those who need it. They provide a convenient mechanism for manufacturers and retailers to donate their products safely and efficiently without having to deal with requests from multiple parties. They facilitate companies receiving a single tax deduction for their goods rather than having to deal with multiple receipts. They serve as an intermediary between food donors, including the federal government’s commodity distribution program and the agencies that work on the frontlines of hunger relief.

Feeding America has contracts with these organizations, establishing standards by which they must operate, including food handling procedures and the distribution of a minimum number of pounds per person in poverty in each geographic area. Feeding America also raises funds from corporate and other donors; some of these funds are redistributed to affiliates to run certain programs or to purchase equipment, such as refrigerated trucks. It gains access to donations of food from manufacturers and makes them available to food banks through a computerized bidding system. It provides technical assistance to food banks on a wide variety of organizational matters, lobbies at the federal level on select issues, conducts research into hunger in the United States, and develops public education campaigns. Food banks pay a membership fee to Feeding America based on the size of their organization. Even though Feeding America provides food banks with funds and resources, food banks rely on fundraising to pay for the food and operations. While all food banks have as their core purpose the distribution of charitable food, they are not all cut from the same cloth. Although Feeding America and the federal government impose certain standards on them, there exists tremendous variation from organization to organization in its food sourcing, political stances, and programming. Each food bank’s size, geographic service area, leadership, and history shape its character.
On the demand side, food banks serve recipients and partner agencies (e.g., soup kitchens, food pantries, shelters) that distribute food to those in need (Ataseven et al., 2018). At the “retail level,” food pantries and soup kitchens set their own rules and policies, such as the quantity and type of food they distribute, as well as the frequency with which recipients may rely on their services.

Overall, food banks provide significant benefits for the for-profit sector (e.g., tax incentives, inventory reduction, reduced cost of waste management), other nonprofit organizations (e.g., the accomplishment of their organizational mission), and society in general (e.g., guaranteed access to food for the population in need) (Midgley, 2014). Moreover, by contributing to charitable giving programs, such as those organized by food banks, retailers and manufacturers can publicize their contributions to social welfare and advance their reputation through corporate social responsibility strategies (Horst et al., 2014). Food banks provide benefits to industries, but the operations and management of food banks can be improved (Booth & Whelan, 2014).

“Shared Maintenance” Handling Fees System

Some food banks charge their partners and members with either “membership fees” or “handling fees.” This funding source is predominantly effective if the food banks can offer exclusive programs or products and benefits to its downstream partners.

According to respondents, nonprofits that partner with food banks are not required to pay a membership fee, but there is a small cost involved with partnerships. The food bank operates a “shared maintenance” handling fee system as partial cost recovery for certain grocery items. This shared maintenance fee can range from $0.00 up to $0.19 per pound for certain food items.
James, from Albany FB, mentioned that the fee is not related to the cost of the food itself, but instead helps defray up to 15% of the cost of acquiring the products, paying for truck fuel and maintenance, and so on. For example, I observed at the Franklin FB facility that one church group acquired a case of 12 boxes of cereal with a retail value of $48.00 that they were able to obtain by a partner program for just $2.52. Shared maintenance fees are charged to partners for specific items from the food industry that include such things as canned goods, meats, dairy products, and other assorted foods. Some food banks also charge a shared maintenance fee for non-food items, such as paper goods, cleaning supplies, and holiday decorations. All the respondents noted that food, such as fresh fruits and vegetables, baked goods and bread as well as food collected through food drives is always 100% free to partner feeding programs.

Shared maintenance fees can cover some operating expenses that represent a significant share of food bank budgets. Handling fees differ from one food bank to another and are in direct proportion to the level of government funding, and often handling fees represent the next main source of revenue after contributions (Fisher, 2017). The rest of the operations expenditures are generally covered using public and private contributions.

Some food banks have an abundance of products. They charge for virtually nothing. We have to charge the maximum share maintenance fee on just about anything we can to generate program revenue. That’s about a third of our cash budget. (Kevin, Georgetown FB)

We are fortunate to have manufacturing plants in our area. We have many companies. We still charge a handling fee, but it is much smaller than in other food banks, and we always end up giving away food. (James, Albany FB)
Components of Nonprofit Competition for Resources

Data analysis identified three main components of nonprofit competition that interact to determine the competitive advantage for the nonprofit that, in turn, result in superior financial performance: (1) financial resources, (2) physical resources, and (3) relational resources (see Figure 3).

Figure 3. Components of Nonprofit Competition
Financial Resources

Financial resources available for humanitarian organizations are donated either by public donors or by private donors. According to Brian from Georgetown FB, only 20% of all financial resources come from Feeding America through grants and financial aid, while the remaining 80% of money food banks need to fundraise through local connections.

Each food bank needs to constantly raise money to support its high operation budgets. For example, Barrington FB needs to raise $10 million every year just to support its operations. Another option for food banks to acquire the necessary cash is handling fees.

Private Donors

Individual donors can make either one-time or recurring contributions. When it comes to individual donations, it is critical for food banks to be involved in all types of private donations because private contributions generate a significant part of a HO’s funding. Overall, respondents identified private contributions as an effective funding source. Thus, data analysis identified two key themes that describe the components of the associate: (1) major donors, (2) regular donors, and (3) corporate sponsorships.

Major Donors

Major donors contribute less frequently, but generally with the larger gifts and donations. In order to create a competitive advantage, nonprofits create fundraising models that nurture major donors. What is considered a “major gift” depends on the organization. According to the data analysis, major donors are individual donors who give a large donation, either one time or
annually. For example, in the past few months, Albany FB received a generous six-figure gift from one of its major donors, whereas Franklin FB also received a major gift totaling only a couple of thousand dollars. While the amounts differ significantly from each other, both food banks provided those examples as a major gift.

Major donations are typically based on long-term relations with the HO’s staff and familiarity with its mission. According to Emma from Barrington FB, these benefactors need to be educated for a longer time as they need more one-on-one interaction and attention. Another example of a major donor is for Hamilton Food Bank when a Fortune 500 company donated a five-figure gift after volunteering several times and becoming familiar with the nonprofit.

Well, with food banks, especially in Florida, there’s a long history with [name of the major donor]. It’s more maintaining. We didn't reach out to them, I don't know when it started, and probably 10-15 years ago. I’m guessing 20 years ago. They’re the preeminent donor just for the amount that they give. So, we’ve got to make sure all our messaging, our public relations messaging, is aligned where there’s a certain commitment to not just food but good food, healthy food, fresh food, and that sort of thing. Everything we've done with what their overall branding is. (Kevin, Georgetown FB)

To find major donors to work with, some humanitarian organizations invest in research to examine the annual charitable reports of similar organizations in the areas. Furthermore, larger food banks employ a team member to concentrate on working with major donors. To secure a large contribution, the CEO or executive director usually needs to participate in several meetings, invite the potential benefactor to their facility or warehouse, and meet with the Board to provide frequent and relevant updates.

"Most of our major donors are fine with us doing what we are doing. Like, "Keep doing what you’re doing. We know you’re not going to really change anything,"
but it's still really good and it makes us look good. We'll keep giving you the money as long as you've done that. (William, Camden FB)

Major donors are not available for every nonprofit. For example, nonprofits that are located in high resource-scarce areas do not regularly receive major donors’ gifts.

It's a few major foundations that everyone wants to go after for large sums of money, and so there's a real competitive nature about that. (Nancy, Franklin FB)

Regular Donors

Regular donors typically donate more frequently, but their contributions are smaller in size. To nurture regular benefactors, humanitarian organizations adopt multiple donor acquisition and donor retention procedures. For example, nonprofits promote their mission, improve branding, and come up with innovation activities. According to all the respondents, competition for regular donors is the fiercest. Regular donors donate frequently and help support the operating budget. However, many nonprofits need those resources.

The regular donor community that we get funding from is a limited community. That's the difference. There is a natural ceiling on the capability in the organization like ours has because not everyone donates, not everyone cares to donate. There's real donor fatigue. I think as we look forward to the future of it, resources will become more constrained, and there'll be greater competition for it. Our competition is not another food relief organization. [Name of Organization] and [Name of Organization], who [do] other stuff. (John, Barrington FB)

Basically, you're competing for the cause, so to spare, right. It's like is feeding hungry people more important than educating the children? (Kevin, Georgetown FB)
Many nonprofits executive directors work hard to turn regular benefactors into recurring donors. Potentially, it can provide the humanitarian organization with sustained income and allows humanitarian organizations to plan their activities.

*Our competition and our monopoly are not that effective for us. We are working that as hard as we can to say, "We are the ones. If you want to do this, this is our value proposition." Again, to use your analogy that you're pursuing, it's no different than any other for-profit business that tries to stake what its unique service proposition is, a value proposition is in the community. We're doing the same thing. Apple will tell you they are the only ones with a good watch. I don't know if they are, I don't know. In a short time, someone else will say they [aren’t], but Apple will continue to say, "We are the best watch to buy." Ours isn’t any different, "Here’s our unique value proposition. Here’s why we do what with communities." It's no different. (John, Barrington FB)*

Several organizations mentioned that in order to attract new regular donors it is critical to expand the company’s web presence and social media outreach. For example, Barrington FB makes two to three posts per day on LinkedIn in order to reach new donors by encouraging people to support the cause; Albany FB has a very interactive website that moves interested donors from the website scanning phase to the donating phase. Even smaller FBs, like Camden FB and Hamilton FB, have full-time or part-time PR managers and consultants who build up their online presence and attract new donors. All eight organizations have a solid web presence, send out social media posts, regularly add news to their website, and include calls-to-action that capture their prospects’ emails.

*Regular donors are critical cause they provide cash. Cash pays for operations—for the administrative side of things. We get a lot of donations through our website. We use social media to our advantage. (Mary, Camden FB)*

*I feel donors are raising the bar and only donating things to you if you have enough capacity. Social media, for us, is a way to show to them that we are constantly growing. (Jacob, Albany FB)*
Corporate Sponsorships

Corporate sponsorship is another potential source of funding for humanitarian organizations. Corporations typically encourage partnerships on projects to improve their image branding as a more socially responsible organization.

Overall, there are many socially responsible corporations out there. Before accepting donations, nonprofits make sure that the corporation’s goals are aligned with the nonprofit’s mission and values. John from Barrington FB mentioned that when he considers corporate sponsorships, it is critical need to evaluate the overhead costs.

Donors are my customers. For example, I sat with [company name], the fast-food place. I sat with them at lunch today and I outlined five different ways that they could partner with us that would extend their brand. I said, “Do you want your brand in front of all the parents and kids and teachers in school? We will give you five pantries that are going to schools. If you pay the money to help us get them up and running, we will put on them ‘[company name] Food Pantry.’ It’s a great story for your publicity.” We need to bring value to our customers. (John, Barrington FB)

There are some corporations that have said, “You do need to change,” and we are fine with this. It’s because that’s where a lot of money is. (William, Camden FB)

Corporate sponsorships are appealing for private entities because they potentially can lead public acknowledgment of the company’s involvement with a certain charitable cause. In turn, humanitarian organizations obtain monetary support, in-kind donations, and increased media. For example, Barrington FB partnered with a local utility company to create a conference room. The utility company renovated the space and the food bank named the conference room after that company. As John, the CEO of Barrington FB, mentioned, “Over 20,000 come through that room every year, this sponsorship brings value to us and [name of the company].”

We will discuss grants and foundation proposals in the following sections.
Public Donors

Public donations, through administrative contracts and government grants, contributes as the largest portion to a humanitarian organization’s financial resources.

Government Grants

Humanitarian organizations can receive grants from the local, state, and federal government and private foundations. Every grant-giving association can have diverse requirements. Several key informants mentioned that one of the biggest advantages of grants is that they help sustain the large programs, empowering greater-scale societal value. For example, both Danville FB and Easton FB use government grants to support school pantries and “backpack programs.”

The downside is that obtaining federal grants can consume a significant amount of resources. First, humanitarian organizations either hire a grant writer or acquire grant writing and develop the proposal, and then it takes time for a humanitarian organization to see the funds. For example, Jessica from Camden FB said that it might take up to two years from the time she applied for grants to the time she would have the money.

Additionally, most grants specify conditions on how exactly a humanitarian organization can use the money. They also have specific reporting requirements that a humanitarian organization should consider before applying. For instance, Georgetown FB had a grant that was dedicated to feeding the seniors in the community. Even though they had a significant amount of money left, they were not able to use it to support other program activities, like feeding children.
For some humanitarian organizations, grants are of the biggest sources of funding, while others prefer not to waste their time and resources on submitting proposals.

*I have a grant writer. Even though we are not big and have limited resources, I still pay a full-time salary for a grant writer. The donor community is very limited for us, so going after grants is critical to support our operating budget.* (Donna, Easton FB)

*Foundations Grants*

Foundation grants are an attractive source of funding since foundation donations are generally larger than donations from individual benefactors. Similar to government grants, foundation grants can also require a significant amount of resources since every foundation has its guidelines and procedures for funding.

*Some of our suppliers have foundations that offer grants to us. We must maintain positive relationships with those suppliers because their grants are critical for us. You know you do not want to make [Name of Organization] or anybody else mad because we will apply for a grant later. We need that money; we use them for other things and building capacity.* (Mary, Camden FB)

To apply for foundation funding, food banks conduct research, develop relationships, and hire employers with strong writing skills. Additionally, foundation grants require a substantial period from initial research to submitting the final application as well as time to receive the money if the application is approved. Therefore, several food banks mentioned that it is critical not to rely on foundation grants as the key income source.

*Competition for Financial Resources*

Overall, financial resources are critical for humanitarian organizations. Financial resources permit NPOs to better predict and deliver the mission and value to the beneficiaries (Van Wassenhove, 2006). Financial stability is one of the main concerns for humanitarian
organizations, as they are mostly sponsored by unstable contributions, government funding, and fundraising support. Although HOs face many encounters, financial stability is the most central premise to accomplishing its mission (Bryson, 2010). Therefore, Kevin from Georgetown FB highlights that it is to maintain the assortment in the method when doing fundraising and attracting financial donors.

*Cash is important because a lot of... I do not know how much you know about philanthropy and how the models are that a lot of foundations and even corporations want to give just specific programs. It’s very hard to get to pay for salaries for people, especially at the administrative level, people that can start new initiatives can write grants, can do marketing campaigns, to run HR, finance, et cetera. (Kevin, Georgetown FB)*

The benefits from financial resources contribute to the timely development of comparative advantage, making it difficult for competitors to imitate the financial value that has developed over time. Therefore, we propose that a humanitarian organization’s financial resources will contribute to the humanitarian organization’s comparative advantage.

**Proposition 1. Financial resources are positively associated with a humanitarian organization’s comparative advantage that, in turn, affects a humanitarian organization’s performance.**

**Physical Resources**

Morgan & Hunt (1999) define physical resources are tangible assets that are utilized by organizations to generate goods and services. Physical resources consist of raw materials reserves, transportation equipment, production facilities, warehouses, distribution centers, and retailing offices (Morgan & Hunt, 1999).
Food

Generally, food banks obtain their food from a variety of suppliers, depending on their geographic location and the nature of food processing and farming nearby. These sources include foods purchased by the federal government to bolster the farm economy; donations of products that are unsellable by supermarkets; surplus from food manufacturers; excess, blemished, or undersized produce; prepared food recovered from caterers or restaurants; and canned food drives. Food banks get food as donations from manufacturers, retailers, and venders. Some of the reason for the food to be donated include surplus stock due to over-ordering, canceled orders, promotion activities, shifting buyer preferences, manufacture errors, damaged packaging, products that are too close to the expiration for distribution (Booth & Whelan, 2014; Benjamin & Farmer-Bowers, 2012), buying food direct from manufacturers at cost price or from Feeding America, and government programs.

Other Goods

Tangible goods consist of items like transportation equipment, warehousing equipment, refrigerators, furniture, and other supplies. While private donors generally tend to make cash donations, several respondents mentioned that in-kind donations are not uncommon. For example, Barrington FB mentioned that one of the 3PL companies donated a 40-foot refrigerated truck because such an item was easier to provide than money since the business acquired over 10 trucks at a discounted price, and it cost less for the donor than cash.

One of our partners owned a building. And they got cold and frozen storage. They just found they do not need that capacity. We said, “Hey, we’ll pick it up.” (Alex, Hamilton FB)
**Services**

Physical resources can be also donated in terms of professional services donated by groups such as companies, organizations, suppliers, universities, and individuals. For example, Hamilton FB was given transportation support from a logistics company. At the Georgetown FB, two groups (a grocery store and a landscaping company) donated their services to build several greenhouses.

*We had a group come out and build the beds. They came out with their saws and 2x4s and everything and built them. Then we got the landscaping company to come in and fill in properly something down and start growing food.* (Brian, Georgetown FB)

Another type of service donation that is common among food banks is the use of equipment or meeting spaces. For example, Hamilton FB used a 40-foot truck for a week from a local 3PL company. Another example was presented by the Franklin FB that has a local insurance company that allows using their meeting space in the building for the food bank’s meetings.

**Competition for Physical Resources**

Overall, not every nonprofit’s equally values donations in terms of physical resources. Several informants mentioned that many contributors prefer to donate in-kind donations rather than cash. Many donors prefer to contribute in terms of donation of their time to sort, repackage, collect items at the food banks’ warehouses. Companies also donate their used equipment in order to increase warehouse and distribution space, obtain tax deductions or avoid disposal costs. The benefits of physical resources contribute to the timely development of comparative advantage, making it difficult for competitors to acquire similar resources over time. Therefore,
I propose that a humanitarian organization’s physical resources will contribute to the humanitarian organization’s comparative advantage.

**Proposition 2. Physical resources are positively associated with a humanitarian organization’s comparative advantage.**

**Relational Resources**

*Established Collaborations*

Established relationships are critical for any humanitarian organization. As Olivia from Barrington FB mentioned, “The first step in customer relations for us is to realize that a just a small today may become a volunteer, regular donor tomorrow.” Lisa from Danville FB said that she keeps in touch with all her donors everyone to two weeks.

Respondents indicated that established relationships help them to advance their mission and enhance their programmatic impact. One way to expand the range of services is to launch a joint initiative with another organization with a similar mission. With the right partnership, food banks can supplement each other’s services to broaden their offerings. Bigger food banks support their long-term partners financially and help them increase their capacity. An established relationship also allows both parties to still operate independently. Rather than combining programs, they prefer sharing information and coordinating their efforts.

*We built our capacity here, but we said, "Listen, if we want to close the hunger gap, we have to build the capacity of our partners." It is kind of that final mile deal. For the past five years, we have probably raised at least a half a million dollars for one of them, where we’ve bought freezers and coolers for them so they can handle more of this.* (James, Albany FB)

*Employees*

Employees in humanitarian organizations presents a specific set of challenges and therefore requires a unique set of skills. Respondents mentioned that it is critical to grow
employees core competencies among board members and volunteers. The observations from the food bank visits indicate that having strong leaders provides a comparative advantage to the organization.

*I learned a long time ago, it's a little person at the back door decides what goes on our trucks and what doesn't. My drivers are instructed to be gracious, to be respectful, to be humbled, to be thankful, and to let them know how important they are to help us.* (Brian, Georgetown FB)

**Volunteers**

Another big part of relational resources are donations containing time that occurs when individuals donate their time free of charge or for payment by their companies on the behalf of a food bank. The informants mentioned that volunteers are a huge resource for their organizations. All interviewees mentioned that without volunteers, food banks would not be able to conduct programs, raise funds, or serve clients. For example, Barrington FB has around 100 full-time employees, but they use more than 20,000 volunteers each year. The smaller food banks might have only one or two paid staff members and are run almost entirely by volunteers. The work that volunteers do for the food banks includes sorting, packing, and assembling.

*Competition for Relational Resources*

Relational resources are among the primary means to enhance the performance of humanitarian organizations (Van Wassenhove, 2006). Collaboration includes support in the form of shared resources among parties in order to achieve a broader goal (Ergun et al., 2014). During the past decades, literature has presented increasingly convincing arguments alongside some evidence on the positive role that collaborative relationships can have in enhancing humanitarian organizations’ efforts (McLachlin & Larson, 2011; Altay & Pal, 2014).
Overall, all the companies indicated that one of the most important things nonprofit organizations need to do is build relationships. The benefits of relational resources contribute to the timely development of comparative advantage, making it difficult for competitors to acquire similar resources over time. Therefore, I propose that a humanitarian organization’s relational resources will contribute to the humanitarian organization’s comparative advantage.

**Proposition 3. Relational resources are positively associated with a humanitarian organization’s comparative advantage.**

**The Effect of Population Density**

Hamilton and Georgetown FBs are located in densely populated areas; therefore, they both indicate that densely populated areas provide a richness of resources that brings more occasions to improve competences. Additionally, both food banks indicated that, even though the level of manufacturing is low in their areas, they are still able to find some major donors, primarily from the service and banking industries with lower costs and serve more meals per thousand population.

> Each company is going to lean in one direction or another that they prefer to be sympathetic to causes of maybe hunger or health or human services or whether the case is. And so yes, that makes it very, very competitive to get those foundations dollars to come to your direction, but still possible. (Jacob, Albany FB)

On the other hand, Easton and Franklin FBs are located in less populated areas, which significantly affects the number of donations that they are able to get. There are only a few major donors in the area, but the competition for those donors is fierce because all the nonprofits are trying to promote their causes to get the necessary funding. Since the competition for donors is intense for the Easton and Franklin FBs, the opportunity costs for developing comparative
advantage are higher in low densely populated areas, which in turn increases the costs for each dollar raised.

There is only for major business in our area; all four of them are homegrown and have been in this community for years and years. Yes, they prefer to stay within the local community, and so that’s good for us. The bad is that all the nonprofits in town, and I cannot even count them. They’re all going after the same people for sponsorships. (Nancy, Franklin FB)

As a result, both food banks chose to invest in a grant writer in order to be able to create a comparative advantage in terms of government and foundation grants. While Franklin food bank was only been able to get small foundation grants, Easton food bank was able to get several national government grants to support its programs.

On the other hand, Camden FB and Danville FBs are located in less populated areas, which significantly affects the number of physical resources that they are able to get. Even though there are food resources available in the area, the population is low. As a result, both food banks are limited in terms of equipment that they can acquire.

We don't have a big fine fancy food bank like some. We have an old parts store that we have made look halfway decent. We can buy food; we can pay the bills; we make it. Now, we don't have a lot of the bells and whistles that a lot of the bigger food banks have. We're looking to get bigger and better, but it's hard in this community. I have five counties, and four other counties are very rural. (Lisa, Danville FB).

In terms of relational resources, both Easton and Franklin food banks are located in less populated areas, which significantly limits the number of volunteers and partners they have. As a result, both food banks spend more effort to recruit volunteers and to build relationships and are not able to draw on their comparative advantage to distribute more food for the population in need. Therefore, the numbers of meals that they distribute are significantly less than for Hamilton and Georgetown FBs that are located in more densely populated areas.
I'm jealous of some food banks and the resources they have, but we may do with what we have, but it's good to have those partnerships especially when you consider supply chain and acquisition. (Emily, Easton FB)

Therefore, I propose that the population density of the area served influences the effects of comparative advantage on performance.

**Proposition 4. Population density of the area strengthens the effect of a humanitarian organization’s comparative advantage on performance.**

### The Effect of Resource Scarcity

Many FBs indicated that resource scarcity of the area served can be an impediment for building comparative resource advantage and achieving higher levels of the performance. However, not every nonprofit has equal access to physical resources. Food banks in high resource scarcity areas highlighted that limited resources bring fewer opportunities to advance new competences. For example, due to only a few production and manufacturing entities, Easton FB mentioned that they are aware there is not a single company in their area that can afford to donate a 40-foot truck to them. As a result, Easton FB spends a significant amount of resources to build the comparative advantage that increases the costs for each dollar raised. Furthermore, both Kevin and Brian from Georgetown FB indicated that, due to high resource scarcity in the area, the physical resources are limited as well as the funding to acquire necessary resources.

*It's the case with warehouses, too. I mean, [Name of the city] has got all the resources up there. Atlanta is building a brand-new facility, 365,000 square feet. In a capital campaign, they raised $50 million. They've done it. It took nothing for them to raise 50 million and about killed me to raise five. (Kevin, Georgetown FB)*

Moreover, because of high resource scarcity in the area, both Hamilton FB and Georgetown FB get fewer food donations. As a result, FBs in high resource scarcity areas require more cash
to sustain their operations that increase the cost for a single dollar raised. Specifically, respondents from Easton FB and Georgetown FB indicated that, due to high resource scarcity in their areas, they are charged the highest handling fees. The handling fees represent anywhere from 30% to 50% of their operating budgets. Therefore, both food banks need to find alternative sources of revenue that make it harder to create an advantage in resources.

*Some have such an abundance of product. They charge for virtually nothing. We have to charge the maximum share maintenance on just about everything we can to generate program revenue. That’s about a third of our cash budget. (Alex, Hamilton FB)*

Nonprofits in high resource scarcity spend more time on developing comparative resource advantage to secure an unstable flow of donations. Specifically, respondents from Easton FB and Georgetown FB indicated that, due to high resource scarcity in their areas, they are more dependent on the relationships that they built. For example, Donna from Easton FB mentioned that she spends extra resources to build relationships with dispatches, and those relationships allow her to get more resources than other food banks.

*To me, I learned a long time ago I had to respect the dispatchers and the truckers as much as I do with stores because, those truckers, they make a living. They are up and down these inner states daily. They would drive extra miles to give us the product when they have already dropped three hours past food banks. (Donna, Easton FB)*

Similarly, Brian from Georgetown FB mentioned that when choosing the optimal location for the warehouse, they took into consideration the highway system. Because they rely heavily on the relationships built with independent truckers and dispatches, they considered the location based on the convenience factors for the drivers.

*We get a lot from independent truckers. We certainly do. That’s where we work in the community. The reason we built on this facility, on this land right here, is that the intersection of just about all of the major roadways. It's a little bit off the*
beaten path, but it's a good access point. If they ever have a rejected load, the trucker, he wants his truck empty so he can pick up another backhaul and take off. (Kevin, Georgetown FB).

However, all the FBs located in high resource scarcity areas indicated that their performance indicators are lower on average compared to food banks located in low resource scarcity areas. Therefore, I propose that in that resource scarcity of the area served influences the effects of comparative advantage on performance.

**Proposition 4. Resource scarcity weakens the effect of a humanitarian organization’s comparative advantage on performance.**

**Conclusions & Implications**

The current research set out to address the nature of nonprofit competition in the humanitarian supply chain. Data analysis identified three main components of nonprofit competition that interact to determine the competitive advantage for the nonprofit that, in turn, results in superior financial performance: (1) financial resources, (2) physical resources, and (3) relational resources. This dissertation contributes to the humanitarian supply chain management literature by developing a substantive theory of the competition among humanitarian organizations anchored in resource advantage which highlights different types of recourses and how these recourses contribute toward a firm’s comparative advantage. For example, Franklin FB requires strong relational ties with suppliers to handle the resource scarcity in the area and deliver humanitarian aid to beneficiaries. In contrast, Barrington FB requires less relational resources and more financial resources than Franklin FB to fund its operations in the densely populated metropolitan area.
The current research is not without limitations which provides an opportunity for future research. The main limitation revolves around the context of the research. Eight humanitarian organizations, chosen based upon the recourse scarcity of the area served (e.g., low and high) and on population characteristics of the area served (e.g., urban and rural), were interviewed to understand the phenomenon of competition. However, the findings may not be generalizable to other humanitarian organizations (e.g., disaster-relief organizations) or holding different positions in the supply chain (i.e., downstream supply chain).

Second, Essay I highlights a set of propositions which provide a foundation for a quantitative test of the proposed relationships among the variables. Testing the propositions will require secondary data and could test the robustness of the main premise of this study: That resource competition positively impacts the financial performance of the humanitarian supply chain. Besides, future studies could consider the network effects of financial, physical, or relational resources on collaborative relationships among all parties involved in the humanitarian sector. Finally, quantitative analyses can identify other types of contra-resources that might influence competition in humanitarian supply chains.

Despite these limitations, the current research makes several important contributions. To our knowledge, research at the intersection of resource advantage and humanitarian supply chains is limited (Topaloglu et al., 2018). This study contributes to the literature by defining the competition among humanitarian organizations and understanding how competition impacts the comparative advantage. Furthermore, despite the rising interest in humanitarian relief efforts, empirical evidence that details the benefits of nonprofit competition is scant (Moshtari, 2016; Maghsoudi et al., 2018). While a handful of studies emphasized the importance of competition, the majority of the studies argue that nonprofit competition is counterproductive, as the nonprofit
sector does not behave like a free market, and humanitarian organizations face challenges to their fundamental beliefs, service delivery, and even survival (Balboa, 2017; Aldashev & Navarra, 2018). Thus, this study contributes to nonprofit competition literature by showing how humanitarian organizations can leverage their resources to accomplish competitive advantage in resources that in turn will lead to superior mission and financial performance.

Overall, this research highlights the importance of competition for humanitarian organizations beyond what is commonly noted. In this study, I highlight how competition also acts as a means to develop an advantage for the organizations.
CHAPTER IV: COMPARATIVE RESOURCE ADVANTAGE

Introduction
To respond to the problems in ways more adapted to the needs of people they are trying to assist, humanitarian organizations are dedicated to becoming more efficient and effective (Weiss, 2013). With the boost in the number of people that require humanitarian assistance, there has been an increase in the number of HOs each year. As a result, there is unanimity among academics, policy planners, and practitioners that HOs operate in an increasingly competitive environment (Heyes & Martin, 2017; Aldashev & Verdier, 2010; Tuckman, 1998).

In the previous chapter, we explored the nature of competition in humanitarian aid settings. Specifically, we asked: What factors influence competition in humanitarian supply chains? The grounded theory analysis identified that financial resources, physical resources, and relational resources comprise comparative advantage for humanitarian organizations that, in turn, influence financial and mission performance. Financial resources, including donations from corporate, public, and individual donors are critical for humanitarian organizations. Financial resources permit humanitarian organizations to consistently deliver value to beneficiaries. Physical resources, including food, machinery, equipment, and services, contribute to the development of comparative advantage, making it difficult for competitors to acquire similar resources over time. Finally, relational resources, in the form established relationships with supply chain members, employees, and volunteers are among the primary contributors to comparative advantage.
Furthermore, we identified that humanitarian organizations operating in diverse environments focus on building and acquiring different types of resources. For example, HOs operating in rural (versus urban) areas focus on developing physical and relational resources that comprise comparative advantage that, in turn, determines performance. On the other hand, HOs that operate in high resource scarcity (i.e., food poor) settings focus primarily on developing relational resources while HOs that operate in low resource scarcity (i.e., food rich) settings focus more on acquiring financial and physical resources that comprise comparative advantage that results in financial performance.

Whereas Chapter III developed a substantive theory of competition among humanitarian organizations anchored in resource-advantage theory, the current chapter empirically evaluates how comparative advantage in resources affects humanitarian organizations’ financial and mission performance. Specifically, I ask whether geodemographic factors and the level of resource scarcity in a service area moderate the effects of a humanitarian organization’s comparative advantage on financial and mission performance. Through a multifaceted investigation of nonprofit competition, this study offers a window into how comparative advantage can be developed and how it affects humanitarian organizations’ performance. Generalized linear modeling of a longitudinal sample of 198 food banks is used to test hypothesized relationships. The data were collected from secondary sources including Feeding America, Internal Revenue Service form 990-N, and the U.S. Census. This chapter begins with hypotheses development followed by a discussion of the methodology, analyses, and results.
Theory and Hypotheses Development

According to resource-advantage theory, competition is defined as the continuous struggle among organizations for comparative advantages in resources that will produce marketplace positions of competitive advantage for some market segments and thus superior financial performance (Topaloglu et al., 2018; Hunt, 1999). Overall, Hunt (1999) describes competition as a positive force, as it contributes to social prosperity and economic growth by encouraging companies to acquire knowledge, innovate, and utilize existing resources to be leaner and more agile. The goal of competition for any organization is to achieve superior financial performance that either surpasses the performance of a rival or exceeds the past performance of the organization. If an organization is unable to achieve superior financial performance over time, the organization is involved in “prolonged inferior performance” that negatively affects the company’s survival. For HOs, prolonged inferior financial performance compromises its survival and prevents it from delivering social value—a fundamental, mission-driven purpose for any HO (Topaloglu et al., 2018). Therefore, prior research emphasizes that to be proactive and respond to complex disasters, superior financial performance is critical to a HO’s sustainability (Topaloglu et al., 2018; Burt, 2012). In addition to achieving superior financial performance, HOs leverage their resources to deliver superior mission performance, which is defined as the value of the organization’s goods or services as perceived by all relevant stakeholders (Topologlu et al., 2018). Overall, R-A theory offers a useful perspective on competition among humanitarian organizations where the focus is on achieving positions of competitive advantage by delivering products and/or services efficiently, resulting in superior financial performance and effectively leading to superior mission performance (Kummitha, 2018).
Figure 4 shows the theoretical framework that illustrates the relationship between comparative advantage and financial and mission performance. Furthermore, Figure 2 shows that financial, physical, and relational resources are defining characteristics, rather than manifestations, of comparative advantage. Findings from Study I reveal that changes in financial, physical, and relational resources cause changes in comparative advantage that, in turn, affect financial and mission performance. Finally, Figure 4 shows that geodemographic factors of the service area and the level of resource scarcity in a service area moderate the effects of a humanitarian organization’s comparative advantage on financial and mission performance. Figure 4 relates to the Essay I by illustrating how a humanitarian organization’s comparative advantage influences financial and mission performance. Following the developmental mixed methods research design, the findings from the multiple case study (Essay I) inform the empirical assessment of relationships proposed in a subsequent study (Essay II) (Davis & Golicic, 2012; Tashakkori & Teddie, 2010).

Figure 4. Conceptual Framework for Essay II
Comparative Advantage

Data analysis from Essay I identified and described three main components of nonprofit competition that determine comparative advantage for the nonprofit that, in turn, result in superior performance: (1) financial resources, (2) physical resources, and (3) relational resources. The comparative advantage is defined as the ability of an organization to carry out an organizational activity more efficiently than another activity (Hunt, 1999). Specifically, in terms of resources, a comparative advantage represents the unique ability of an organization to access or utilize a certain type of resources more effectively and efficiently that another type of resources. The conceptual and operational definitions are displayed in Table 6.

Table 6. Definitions

<table>
<thead>
<tr>
<th>Name of the Construct</th>
<th>Conceptual Definition (Source)</th>
<th>Operationalization (Source)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Resources</td>
<td>Capitalization (e.g., cash reserves and cash) that the firm has at its disposal (Morgan &amp; Hunt, 1999)</td>
<td>Total amount of cash donations (Feeding America)</td>
</tr>
<tr>
<td>Physical Resources</td>
<td>Tangible assets that are used to manufacture and market an organization’s goods and services (Morgan &amp; Hunt, 1999)</td>
<td>Total value of in-kind donations (Feeding America)</td>
</tr>
<tr>
<td>Relational Resources</td>
<td>A kind of capacities of building and transferring business relationship between the organization and its various external partners (Morgan &amp; Hunt, 1999)</td>
<td>Total number of volunteers (Feeding America)</td>
</tr>
<tr>
<td>Financial Performance</td>
<td>Efficiency of the humanitarian organization in managing fundraising expenses toward higher-yield activities (Orgut et al., 2016)</td>
<td>Cost per dollar raised (Feeding America)</td>
</tr>
<tr>
<td>Mission Performance</td>
<td>Effectiveness of the humanitarian organization in delivering services to beneficiaries, taking into consideration the appropriateness of services delivered. (Orgut et al., 2016)</td>
<td>The percent of meal gap in the service area (Feeding America)</td>
</tr>
<tr>
<td>Population Density</td>
<td>The number of people living in each unit of service area, per square mile (U.S. Census; Feeding America)</td>
<td>The population density of the area served (Census)</td>
</tr>
<tr>
<td>Resource Scarcity</td>
<td>The lack of availability of food supplies required to feed the people in need (Feeding America)</td>
<td>Food poorness/richness categorization of the area served (Feeding America)</td>
</tr>
</tbody>
</table>
The first type of resource that contributes toward a HO’s comparative advantage is financial resources. Financial resources available for humanitarian organizations are donated either by public donors or by private donors. Governmental funding (e.g., grants or administrative contracts) denotes the largest percentage of a humanitarian organization’s financial resources (Andreoni & Payne, 2003). Even though the amount of federal aid has increased in recent years, governmental funding has been more difficult to attain for humanitarian organizations (Edwards, 2019). Due to the increase in the number of natural disasters each year, along with the rise in the number of humanitarian organizations, government spending has been reduced and the percentage of government support for each HO has decreased (Global Humanitarian Assistance Report, 2019). Private charitable contributions constitute another type of financial resources. Funding from private benefactors (e.g., individuals, trusts, foundations, and companies) have been growing in the past few years (Giving USA, 2018). Overall, participants in Study 1 identified private contributions as an important funding source. Financial resources are critical for HOs as they provide the necessary monetary support for the HO’s programs and services. The benefits from financial resources contribute to the timely development of comparative advantage, making it difficult for competitors to imitate the financial value that has developed over time. Therefore, I propose that a humanitarian organization’s financial resources will contribute to the humanitarian organization’s comparative advantage.

The second group of resources that causes changes in comparative advantage is physical resources. R-A theory defines physical resources (e.g., raw materials, machinery, production facilities) as the tangible assets that are used to manufacture and market an organization’s goods
and services (Morgan & Hunt, 1999). While many HOs primarily focus on securing cash donations, contributions from donors take many forms. For example, donors often contribute in-kind to disaster relief operations to assist disaster victims. Past research reports that in-kind contributions can come in the forms of canned food, water, household items, relief supplies (Holguín-Veras et al., 2014). Appropriate in-kind assistance during disaster response can save thousands of lives. During the Haiti earthquake, healthcare foundations and medical equipment manufacturers donated surgical equipment and supplies to humanitarian organizations that provide health services, saving thousands of victims (Dzwonczyk & Riha, 2012). Therefore, past research has emphasized the importance of in-kind donations for humanitarian organizations.

Many HOs struggle with limited availability of financial resources and securing monetary donations during the immediate response since it might take up to several weeks to get funding from large government and private sector donors (Stapleton et al., 2010). In-kind donations may be quicker to acquire during the initial stages of response so that HOs can serve more beneficiaries (Holguín-Veras et al., 2014).

Overall, not every HO equally values donations in terms of physical resources. Some organizations may donate in-kind to increase their storage space, avoid disposal costs, or receive a tax deduction. The benefits of physical resources contribute to the timely development of comparative advantage, making it difficult for competitors to acquire similar resources over time. Therefore, I propose that a humanitarian organization’s physical resources will contribute to the humanitarian organization’s comparative advantage.

The last group of resources highlighted in Essay I are relational resources. Relational resources are among the primary means to enhance the performance of humanitarian organizations (Van Wassenhove, 2006). Collaboration involves support in the form of shared
resources among parties to accomplish a broader objective (Ergun et al., 2014). During the past two decades, the literature has offered increasingly convincing arguments alongside some evidence on the positive role that collaborative relationships can have in improving humanitarian organizations’ efforts (McLachlin & Larson, 2011; Altay & Pal, 2014). Overall, established relationships are critical for any humanitarian organization (Eftekhar et al., 2017; Moshtari, 2016; Van Wassenhove, 2006). Participants in Study 1 indicated that established relationships help them to advance their mission and enhance their programmatic impact. Building relationships is front and center in everything HOs do. The benefits of relational resources contribute to the timely development of comparative advantage, making it difficult for competitors to acquire similar resources over time. Therefore, I propose that a humanitarian organization’s relational resources will contribute to the humanitarian organization’s comparative advantage.

Overall, HOs contribute enormously to the success of aid and disaster relief operations. Managing such operations and supply chains are one of the most multifaceted tasks in emergency or disaster situations (Varella & Gonçalves, 2016). During uncertain and complex situations, HOs must leverage all existing resources to attain a comparative advantage to achieve financial and mission performance. While past research has emphasized the importance of financial, physical, and relational resources individually, these groups of resources were not relatively compared to each other. Financial, physical, and relational resources individually can strengthen the humanitarian organization’s marketplace position through improved effectiveness and efficiency. Given the lack of prior research that establishes the relative importance of these resources as compared to each other, I propose the default to assume that financial, physical, and relational resources equally contribute to the development of comparative advantage.
Hypothesis 1. Financial, physical, and relational resources equally comprise a humanitarian organization’s comparative advantage.

While there is agreement on the overall positive nature of competition within the business sector, the nature of competition in the humanitarian sector has either been avoided or discoursed in a negative light (Fathalikhan et al., 2018; Heyes & Martin, 2017; Schwenger et al., 2014; Tuckman, 1998). Hunt (1999) highlights that any organization aims at achieving superior financial performance that surpasses the performance of some referent (e.g., competitors’ performance, companies’ past performance indicators, and objectives). In the current competitive environment, superior financial performance is as essential to HO’s sustainability as it is to for-profit organizations in order to be proactive and respond to complicated and uncertain situations (Topaloglu et al., 2018; Burt, 2012). Past research indicates that to effectively respond to emergencies and to deliver much-needed aid to beneficiaries, HOs need to be fiscally sustainable (Aflaki & Pedraza-Martinez, 2016; Tomasini et al., 2010).

Essentially, HOs can leverage their comparative advantage in resources to achieve financial performance, which is described as the efficiency of the humanitarian organization in managing fundraising expenses toward higher-yield activities (Orgut et al., 2016). Therefore, similar to for-profits, humanitarian organizations focus on achieving positions of comparative advantage by accumulating enough cash reserves to deliver valued aids to beneficiaries (Kummitha, 2018). For example, Abebe (2016) points out that an HO in Kenya leverages monetary donations and contributions to subsequently build a competitive advantage. Another example shows that that HOs develop comparative advantages when facing a crowded market to persuade donors that they, rather their competitors, deserve resources (Barman, 2002). Overall, Topolunglu et al. (2018) argue the consequence of acquiring donations, grants, and volunteers is superior financial performance.
In addition to ensuring strong financial performance, HOs need to effectively deliver mission performance, defined as providing services to beneficiaries, taking into account the appropriateness of services delivered (Haavisto & Kovács, 2015; Van Wassenhove & Pedraza Martinez, 2012). Therefore, HOs leverage their comparative advantage in resources to effectively meet their social goals through superior mission performance and stay competitive by delivering valuable services that support social welfare.

Competition is advantageous for humanitarian organizations because it enhances the efficient and effective use of the resources that HOs draw on to generate and distribute products and services. Past research emphasizes that to be proactive and respond to complex disasters, superior financial and mission performance are critical to humanitarian organizations’ sustainability (Topaloglu et al., 2018; Burt, 2012). Therefore, I propose that humanitarian organizations leverage their comparative advantage in resources to achieve financial and mission performance.

Hypothesis 2. A humanitarian organization’s comparative advantage is positively related to financial performance.

Hypothesis 3. A humanitarian organization’s comparative advantage is positively related to mission performance.

Moderating Effects of Population Density

For many humanitarian organizations, the rise in the number of nonprofit organizations has reduced the level of public support for each organization (McKeever & Pettijohn, 2014). Previous research highlights that the population density of the area served affects the viability of nonprofit organizations (Lin et al., 2017; Bettencourt et al., 2007; Malmberg & Maskell, 2002). Following Bose (2015), population density is defined based on the total population of the area.
served. Some food banks are located in densely populated areas, where even small contributions from regular donors can be sufficient to meet their budgetary needs. Other food banks are located in less populated areas, which significantly affects the effort required to assemble resources.

Economic research shows that densely populated areas bring more opportunities to develop new organizational capabilities (Bettencourt et al., 2007) due to the larger number of manufacturers and wholesalers located in the areas. Similarly, higher population density reduces the costs of essential operations, allowing the accomplishment of financial and mission goals utilizing fewer resources (Malmberg & Maskell, 2002). For food banks, the population density of the area served affects operational efficiency, such as the costs of fundraising or logistics costs. Thus, HOs serving densely populated areas will find it easier to leverage their comparative advantage to achieve financial performance goals.

Furthermore, humanitarian research recognizes that urban (versus rural) communities require different approaches in terms of disaster response (Archer & Dodman 2017; Macarthy et al., 2017). Specifically, densely populated areas provide higher opportunities for HOs to attract volunteers. In terms of food bank performance, since most HOs heavily rely on volunteer hours to achieve their missions, food banks that expend less effort to recruit volunteers will be able to draw on their comparative advantage to distribute more food for the population in need.

Other scholars find that higher population density can essentially strengthen the relationship between an organization’s relative marketplace position and financial and mission performance by changing the firm’s decision-making approaches (Betts & Collier, 2016). For example, a humanitarian organization that concentrates on both rural and urban environments utilizes target-based approaches that can potentially increase organizational comparative advantage that leads to more effective and efficient disaster response (Patel et al., 2017). Case
evidence of Easton and Hamilton food banks in the current research demonstrates that the Hamilton food bank, located in a high densely populated area, can raise a higher amount of donations with lower costs and serve more meals per thousand population compared to the Easton food bank, which is located in a low densely populated area. Since the competition for donors is fierce for the Easton food bank, the opportunity costs for building comparative advantage are higher in low density populated areas, which, in turn, increases the costs for each dollar raised. Based on the literature review and case evidence from Essay I, I propose that the population density of the area served influences the effects of comparative advantage on performance. Formally, I state:

**Hypothesis 4.** Population density of the area served exerts a positive moderating effect on the relationship between a humanitarian organization’s comparative advantage and financial performance.

**Hypothesis 5.** Population density of the area served exerts a positive moderating effect on the relationship between a humanitarian organization’s comparative advantage and mission performance.

**Resource Scarcity**

Resource scarcity of the area served is an often-cited obstacle for humanitarian organizations (Lu et al., 2019; Maghsoudi et al., 2018). Studies of for-profit organizations highlight that richness of resources brings more opportunities to advance new competences (McEvily & Zaheer, 1999) and reduces the efforts essential for survival, allowing the accomplishment of goals beyond the tasks focused on the continuation of operations (Farooq, 2017; Li et al., 2013). In terms of food banks’ performance, scarcity of food has been highlighted as a common limitation (Simmet et al., 2018). For the current study, resource scarcity is defined based on the “food richness” or “food poorness” of the area in which the food bank functions.
Prendergast (2015) suggests that food banks are not equal in the amount of food available to them: Some food banks are food rich and some are food poor. Feeding America highlights that some food banks are located in closer proximity to food manufacturers and wholesalers and have more alternative food sources than other food banks. The food richness of an area affects the level of competition. Food banks located in food poor areas, also known as food deserts, encounter more severe competition. Therefore, food banks in low resource scarcity areas (i.e., food rich) will have more opportunities to develop stronger ties with supply chain partners and increase their marketplace position compared to food banks in high resource scarcity (i.e., food poor) areas. As a result, food banks that serve low resource scarcity areas will be able to focus on distributing more meals for the population in need. Case evidence from Essay I confirms this proposition. For example, Easton FB serves a high resource scarcity area, requiring more effort to build a comparative advantage in resources. Due to only a few production and manufacturing entities in those areas, Easton FB does not receive many in-kind donations and financial donations, making it harder to create an advantage in resources. Therefore, Easton FB indicated that their performance indicators are lower on average compared to food banks located in low resource scarcity areas. Finally, Mohan et al. (2013) propose that when food insecurity and food deficiency escalate at the same time, the amount of food donations by the food producers and wholesalers decreases.

Other scholars propose that low resource scarcity can essentially strengthen the relationship between an organization’s relative marketplace position and financial and mission performance by allowing the firm to think innovatively (Kach et al., 2016; Mehta & Zhu, 2015). Since Feeding America has healthy food guidelines, food banks that have access to healthier food manufacturers and wholesalers possess a comparative advantage by providing innovative
ways to deliver the product. For example, the low resource scarcity of the area provides Albany FB with the ability to focus its creative abilities on developing innovations that extend and differentiate their line of product and service, offerings that result in more efficient financial performance and more effective mission performance. Therefore, the food richness of the area served for Albany FB improves the relationship between the organization’s comparative advantage and financial and mission performance.

Based on the literature review and case evidence from Essay I, I propose that the resource scarcity of the area served influences the achievement of sustainable competitive advantage of humanitarian organizations. From a food perspective, functioning in areas characterized by “food poorness” requires finding more sources of food donation to achieve superior financial and mission performance. Formally, I propose:

**Hypothesis 6.** The relationship between a humanitarian organization’s comparative advantage and financial performance is weaker (stronger) when resource scarcity is high (low).

**Hypothesis 7.** The relationship between a humanitarian organization’s comparative advantage and mission performance is weaker (stronger) when resource scarcity is high (low).

**Data and Method**

*Research Context*

In this study, I explore the nature of nonprofit competition in the humanitarian supply chain. Specifically, I test the relationships among factors related to performance derived from the multiple case study. Data analysis identified three main components of nonprofit competition that interact to determine comparative advantage for nonprofit organizations that, in turn, results
in superior financial performance: (1) financial resources; (2) physical resources; and (3) relational resources.

I test my hypotheses using a longitudinal sample of 198 food banks. The data were collected from secondary sources including Feeding America, Internal Revenue Service Form 990-N reports, and the U.S. Census. The data on comparative advantage and performance were provided by Feeding America, the nation's leading domestic hunger-relief charity. Their mission is to feed America's hungry through a nationwide network of 198-member food banks and fight to end hunger (Feeding America 2019).

The remaining data for the study are publicly available through state and federal websites. After combining data from the above sources, the final dataset contains data from 199 food banks over 5 years period from 2014 to 2018. The number of food banks changed through the years, ranging from 198 to 200. The unit of analysis is an individual food bank that generates total of a 1194 food bank year observations in the dataset.

**Dependent Variables**

The review of the literature on humanitarian competition suggests that performance can be assessed using two different types of variables. One type assesses the performance of humanitarian organizations using financial metrics. These measures include cost per dollar raised, donation-to-delivery time, and delivery time (Beamon & Balcik, 2008; Blecken et al., 2009; Davidson, 2006, Tatham & Hughes, 2011). The other type measures mission performance of the humanitarian organization and uses specific measures for different humanitarian organizations depending on their missions, such as the total number of meals provided (i.e.,
hunger relief charities), disasters responded to (i.e., disaster relief charities), or shelters operated (i.e., homeless charities).

The operationalization of financial performance follows Blecken et al. (2009) who describe nonprofit financial performance in terms of determining how much it costs a nonprofit to raise a dollar in order to decide which fund-raising activities have the best rate of return. In this study, I use the cost per dollar raised for each food bank. This metric was selected because it represents the efficiency of the food bank in managing fundraising expenses toward higher-yield activities. The source of data for this metric was provided by Feeding America. The numerator of the fraction is the total expense reported for development/fundraising on the Allocation of Functional Expenses page. The denominator of the fraction is the total amount of cash raised from private sources. Capital expenses and capital campaign revenue are not included in this metric.

In this study, I use meals distributed as the measure of mission performance. Meals distributed are measured as the percent of meal gap in the service area for each food bank. This metric was selected because the percentage indicates the level of performance achieved by the food bank in accomplishing the mission of closing the meal gap. The source of data for this metric is Feeding America’s annual reports and Map the Meal Gap data (Feeding America, 2019). The number of service area meals is calculated using the total amount of meals distributed to beneficiaries, including all meals provided by other food banks in the service area. The aggregated number of meals is compared to the number of meals required, as defined in the Map the Meal Gap for the service area to determine the percentage of meals distributed to the service area. Meal gaps are adjusted in the case of split counties, where splitting members are responsible for only the percentage of the meal gap corresponding to their service area.
The geometric means of the cost per dollar raised and meals distributed as the percent of meal gaps in a service area for years 2014, 2015, 2016, 2017, and 2018 are used as final measures of financial and mission performance, respectively. We use the geometric mean as a more accurate way of calculating performance related means because the current year of performance is dependent on past years’ performances and not independent from one another (Azadegan et al., 2011). Specifically for humanitarian organizations, lower performance last year can deplete the performance of the following years due to the lack of funds, volunteers, and other factors (Beamon & Balcik, 2008).

**Independent Variables**

Combining the insights from the multiple case study with R-A theory, I propose that, within the context of food banks, comparative resource advantage is calculated as the weighted average of financial, physical, and relational resources. Hence, comparative advantage is modeled as a formative second-order construct. The three first-order constructs (i.e., financial, physical, and relational resources) are conceptualized as defining characteristics rather than manifestations of comparative resource advantage. That is, changes in financial, physical, and relational resources cause, rather than reflect, changes in comparative resource advantage (Ataseven et al., 2017; Davis & Golicic, 2010; Howell et al., 2007). A formative comparative advantage construct refers to an index of a weighted sum of variables. Specifically, based on the findings from Essay I, there is a set of three exogenous variables (financial, physical, and relational resources) which are combined to form a comparative advantage. The conceptual variables and their operationalization are presented in Table 7. Using data from Feeding America annual reports, financial resources were operationalized as a dollar amount of available cash to
individual food banks to run the programs. Similarly, physical resources were operationalized as a dollar amount of available in-kind support to individual food banks to run the programs. Finally, relational resources were operationalized as the total number of volunteer hours for each food bank. Financial, physical, and relational resources were measured using annual data.

*Moderating Variables*

The focus of the research methodology in this study is on empirically testing evidence collected in the multiple-case study on how food banks are involved in competition with other humanitarian agencies. In the multiple case study, food banks were chosen based upon the resource scarcity of the area served (e.g., low and high) and on population density of the area served (e.g., urban and rural) to create variation in supply chain food banks and provide a stronger foundation for the substantive theory of competition. The same characteristics of the service area are used as moderating variables in the current study. Following Bose (2015), population density of the area served is defined based on the total amount of people per square mile of the area served by each food bank. Population data were provided by Feeding America. Feeding America determines the total population of the area served based on the service area for each food bank (by county) using the latest data available from the U.S. Census at the time. For example, the total population of the area served in 2018 was obtained using U.S. Census data from 2017.

The second source of variation on the supply side of food banks that might affect competition is resource scarcity. Resource scarcity is defined based on the “food richness” of the area in which the food bank operates. Food banks that are considered “food rich” by Feeding
America are classified as “low resource scarcity” (resource scarcity=0), while those that are considered “food poor” are classified as “high resource scarcity” (resource scarcity=1).

Control Variables

All control variables are based on archival data obtained from public websites for each of the individual food banks as well as provided by Feeding America. Drawing on earlier empirical work of food bank related studies (Ataseven et al., 2018), the analysis controlled for food bank size (number of employees) and food bank age (years since establishment). Previous research has established that organizational size and age influence the combination of resources available to a humanitarian organization; therefore, it is critical to control for them.

Analytical Considerations

To analyze the data, we utilized generalized linear modeling using SPSS 24. Generalized linear modeling permits for the modeling of data that is not normally distributed, has a restricted theoretical range, and a nonconstant variance of observations (McCullagh, 2018). Given that our dependent variables are continuous variables (i.e., geometric means of cost per dollar raised and meals distributed as a percent of meal gap in the service area), I analyze the data using a random component stepwise linear regression.
Results

**Food Banks Demographics**

Food Banks population within the Feeding America network include 198 individual food banks. Tables 7 and 8 show the demographic characteristics of the food banks analyzed. The average age of a food bank is about 26 years with a standard deviation of 6 years. The resource scarcity of the area served is balanced so that approximately half of the food banks are located in high scarcity areas and half of them in low scarcity areas. In terms of geographical location, the highest number of food banks are located in the Midwest (30%) followed by the Southeast (26%). Around 23% of food banks serve the area with a population of fewer than 500,000 people. Almost 25% of the food banks operate in the area between 500,001-1,000,000 people and almost the same number of food banks operate in the area between 1,000,000-2,000,000 people. The rest of the food banks (about 30%) serve the area with a population above 2,000,000 people. All the food banks rely on volunteers as well as regular staff members. The range of total numbers of employees is from three full-time positions to 254 full-time positions. 24% of the food banks operate less than 20 full-time employees and 30% of the food banks operate from 20 to 40 full-time employees. Around 25% of the food banks have more than 60 full-time staff members. As for volunteer hours, less than 20% of the food banks for each group rely on less than 14,500 (19%) hours and more than 75,500 (18%) hours. About 21% of the food banks manage 14,501-25,500 hours, 25,501-45,500 hours, and 45,501 - 75,500 hours of volunteer support. Finally, about 24% of the food banks operate with less than 4,000 individual donors followed by 27% of the food banks functioning with 4,001-8,000 donors. Around 25% of the food banks use support from 8,001-16,000 donors and more than 16,000 individual donors, respectively.
Table 7. Food Banks Demographics (1)

<table>
<thead>
<tr>
<th>Food Characteristics</th>
<th>N of FBs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>26.21*</td>
<td>5.67*</td>
</tr>
<tr>
<td><strong>Resource Scarcity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>101</td>
<td>51.01%</td>
</tr>
<tr>
<td>Low</td>
<td>97</td>
<td>48.9%</td>
</tr>
<tr>
<td><strong>Geographical Location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West</td>
<td>31</td>
<td>15.66%</td>
</tr>
<tr>
<td>Midwest</td>
<td>60</td>
<td>30.30%</td>
</tr>
<tr>
<td>Southwest</td>
<td>24</td>
<td>12.12%</td>
</tr>
<tr>
<td>Southeast</td>
<td>51</td>
<td>25.76%</td>
</tr>
<tr>
<td>Northeast</td>
<td>32</td>
<td>16.16%</td>
</tr>
<tr>
<td><strong>Population of the Area Served</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;500,000 people</td>
<td>45</td>
<td>22.73%</td>
</tr>
<tr>
<td>500,001-1,000,000 people</td>
<td>49</td>
<td>24.75%</td>
</tr>
<tr>
<td>1,000,000-2,000,000 people</td>
<td>48</td>
<td>24.24%</td>
</tr>
<tr>
<td>&gt;2,000,000 people</td>
<td>56</td>
<td>28.28%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>198</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Mean

** SD

Table 8. Food Banks Demographics (2)

<table>
<thead>
<tr>
<th>Food Characteristics</th>
<th>N of FBs</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Volunteer Hours (per year)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;14,500 hours</td>
<td>37</td>
<td>18.69%</td>
</tr>
<tr>
<td>14,501-25,500 hours</td>
<td>41</td>
<td>20.71%</td>
</tr>
<tr>
<td>25,501-45,500 hours</td>
<td>42</td>
<td>21.21%</td>
</tr>
<tr>
<td>45,501 - 75,500 hours</td>
<td>43</td>
<td>21.72%</td>
</tr>
<tr>
<td>&gt; 75,501 hours</td>
<td>34</td>
<td>17.68%</td>
</tr>
<tr>
<td><strong>Number of Employees</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20 full-time positions</td>
<td>46</td>
<td>23.74%</td>
</tr>
<tr>
<td>21-41 full-time position</td>
<td>58</td>
<td>29.29%</td>
</tr>
<tr>
<td>41-61 full-time position</td>
<td>43</td>
<td>21.72%</td>
</tr>
<tr>
<td>&gt; 62 full-time positions</td>
<td>51</td>
<td>25.25%</td>
</tr>
<tr>
<td><strong>Number of Individual Donors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;4,000 donors</td>
<td>47</td>
<td>23.74%</td>
</tr>
<tr>
<td>4,001-8,000 donors</td>
<td>52</td>
<td>26.26%</td>
</tr>
<tr>
<td>8,001 -16,000 donors</td>
<td>49</td>
<td>24.75%</td>
</tr>
<tr>
<td>&gt;16,001 donors</td>
<td>50</td>
<td>25.25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>198</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Mean

** SD

Descriptive Statistics

Table 7 displays the means, standard deviations, and zero-order correlations among the constructs used in the analysis. Most correlations among the theoretical variables are not large enough to pose estimation problems. All the constructs have skewness and kurtosis scores within acceptable range (±2.99), and most are close to zero indicating the acceptability of the normal distribution assumptions under the multiple regression model. Each correlation is below 0.6, helping to increase the standard error estimates (Greene, 2007).
Table 9. Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Comparative</td>
<td>6.69</td>
<td>0.56</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advantage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Population</td>
<td>6.04</td>
<td>0.39</td>
<td>0.56**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Financial</td>
<td>0.21</td>
<td>0.11</td>
<td>0.095*</td>
<td>0.124**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Mission</td>
<td>0.85</td>
<td>0.37</td>
<td>0.164*</td>
<td>0.309</td>
<td>0.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Size (number</td>
<td>51.0</td>
<td>44.0</td>
<td>0.267</td>
<td>0.132</td>
<td>0.09</td>
<td>0.06</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>of employees)</td>
<td>4</td>
<td>3</td>
<td>*</td>
<td>*</td>
<td>4*</td>
<td>5*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Age</td>
<td>26.2</td>
<td>5.67</td>
<td>0.185</td>
<td>*</td>
<td>*</td>
<td>-115</td>
<td>*</td>
<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Note: Resource Scarcity (two binary variables are not included for purpose of parsimony).
Sample Size: 1198.

Hypothesis Testing Results

Hypothesis1 proposed equally weighted direct effects of financial, physical, and relational resources on comparative advantage. The component matrix using principal component analysis extraction method is presented in Table 8. The results indicate that financial, physical, and relational resources equally comprise a humanitarian organization’s comparative advantage. The overall results, therefore, indicate support for the first hypothesis. As post hoc analysis, the comparative advantage was also tested as a reflected construct. Specifically, we considered that financial, physical, and relational resources are caused by comparative advantage. The results indicate non significance. Furthermore, the expected covariances among financial, physical, and relational resources are not zero. Therefore, it indicates that changes in financial, physical, and relational resources comparative advantage are not caused by the same
variable-comparative advantage. As a result, it can be concluded that comparative advantage is determined by the weighted average of financial, physical, and relational resources.

Table 10. Comparative Advantage Component Matrix

<table>
<thead>
<tr>
<th>Component 1: Comparative advantage in resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program In-Kind Amount</td>
</tr>
<tr>
<td>Program Cash Amount</td>
</tr>
<tr>
<td>Volunteer Hours</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.

The results from our analysis of the independent, moderating, control, and dependent variables are presented in Tables 9 and 10.

Hypotheses 2 and 3 explored the direct effects of comparative advantage on financial and mission performance. The results were found to be significant. The results indicate that a humanitarian organization’s comparative advantage is positively related to financial performance ($\beta =0.59$, $p<.05$) and mission performance ($\beta =0.11$, $p<.05$). The overall results, therefore, indicate support for the second and third hypotheses.

Hypotheses 4 and 5 examined the moderating effect of population density on the relationship between comparative advantage and financial and mission performance. For Hypothesis 4, the results demonstrate significance ($\beta =0.11$, $p<.05$). Population density exerts a positive moderating effect on the relationship between a humanitarian organization’s comparative advantage and humanitarian organization’s superior financial performance as depicted in Figure 5. Thus, my fourth hypothesis is supported.
Table 11. Generalized Linear Modeling – Outcome Variable: Financial Performance

<table>
<thead>
<tr>
<th></th>
<th>Model 1 Controls</th>
<th></th>
<th>Model 2 Direct Effects</th>
<th></th>
<th>Model 4 Population Density</th>
<th></th>
<th>Model 6 Resource Scarcity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wald Chi-Square</td>
<td>b</td>
<td>p-value</td>
<td>Wald Chi-Square</td>
<td>b</td>
<td>p-value</td>
<td>Wald Chi-Square</td>
<td>b</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>13.25</td>
<td>0.01</td>
<td>0.00</td>
<td>15.25</td>
<td>0.01</td>
<td>0.00</td>
<td>8.25</td>
<td>0.01</td>
</tr>
<tr>
<td>Age</td>
<td>117.64</td>
<td>-0.01</td>
<td>0.00</td>
<td>77.84</td>
<td>-0.02</td>
<td>0.00</td>
<td>7.36</td>
<td>-0.01</td>
</tr>
<tr>
<td>Independent Variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparative Advantage in Resources</td>
<td>1526.41</td>
<td>0.59</td>
<td>0.00</td>
<td>2.98</td>
<td>-0.32</td>
<td>0.08</td>
<td>680.49</td>
<td>0.92</td>
</tr>
<tr>
<td>Moderating Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Characteristics</td>
<td>1.27</td>
<td>-0.23</td>
<td>n/s</td>
<td>1.27</td>
<td>-0.23</td>
<td>n/s</td>
<td>1.27</td>
<td>-0.23</td>
</tr>
<tr>
<td>Resource Scarcity</td>
<td>166.00</td>
<td>4.04</td>
<td>0.00</td>
<td>166.00</td>
<td>4.04</td>
<td>0.00</td>
<td>166.00</td>
<td>4.04</td>
</tr>
<tr>
<td>Moderation Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Characteristics*Comparative Advantage</td>
<td>13.57</td>
<td>0.11</td>
<td>0.00</td>
<td>13.57</td>
<td>0.11</td>
<td>0.00</td>
<td>13.57</td>
<td>0.11</td>
</tr>
<tr>
<td>Resource Scarcity * Compar</td>
<td>173.61</td>
<td>-0.61</td>
<td>0.00</td>
<td>173.61</td>
<td>-0.61</td>
<td>0.00</td>
<td>173.61</td>
<td>-0.61</td>
</tr>
<tr>
<td>Intercept</td>
<td>653.81</td>
<td>2.59</td>
<td>0.00</td>
<td>19.65</td>
<td>5.50</td>
<td>0.00</td>
<td>0.79</td>
<td>0.22</td>
</tr>
<tr>
<td>Omnibus Test &amp; Goodness of Fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio Chi-Square</td>
<td>1635.72</td>
<td>2.00</td>
<td>0.00</td>
<td>984.28</td>
<td>1.00</td>
<td>0.00</td>
<td>1449.65</td>
<td>3.00</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>117.85</td>
<td>n/a</td>
<td>n/a</td>
<td>-207.87</td>
<td>n/a</td>
<td>n/a</td>
<td>24.82</td>
<td>n/a</td>
</tr>
<tr>
<td>Deviance</td>
<td>57.61</td>
<td>1195.05</td>
<td>0.05</td>
<td>99.24</td>
<td>1194.08</td>
<td>0.06</td>
<td>67.30</td>
<td>1192.06</td>
</tr>
<tr>
<td>Pearson Chi-Square</td>
<td>57.61</td>
<td>1195.05</td>
<td>0.05</td>
<td>99.24</td>
<td>1194.08</td>
<td>0.06</td>
<td>67.30</td>
<td>1192.06</td>
</tr>
<tr>
<td>Akaike's Information Criterion (AIC)</td>
<td>-223.71</td>
<td>n/a</td>
<td>n/a</td>
<td>421.74</td>
<td>n/a</td>
<td>n/a</td>
<td>-39.63</td>
<td>n/a</td>
</tr>
<tr>
<td>Bayesian Information Criterion (BIC)</td>
<td>-193.18</td>
<td>n/a</td>
<td>n/a</td>
<td>437.00</td>
<td>n/a</td>
<td>n/a</td>
<td>-14.19</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Table 12. Generalized Linear Modeling – Outcome Variable: Mission Performance

<table>
<thead>
<tr>
<th></th>
<th>Model 1 Controls</th>
<th>Model 3 Direct effects</th>
<th>Model 5 Population Density</th>
<th>Model 7 Resource Scarcity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wald Chi-Square</td>
<td>b</td>
<td>p-value</td>
<td>Wald Chi-Square</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>1.45</td>
<td>0.15</td>
<td>n/s</td>
<td>1.55</td>
</tr>
<tr>
<td>Age</td>
<td>0.33</td>
<td>-0.01</td>
<td>n/s</td>
<td>1.33</td>
</tr>
<tr>
<td>Independent Variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparative Advantage in Resources</td>
<td>33.19</td>
<td>0.11</td>
<td>0.00</td>
<td>11.98</td>
</tr>
<tr>
<td>Moderating Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Characteristics</td>
<td>0.88</td>
<td>4.65</td>
<td>n/s</td>
<td></td>
</tr>
<tr>
<td>Resource Scarcity</td>
<td>30.20</td>
<td>-2.26</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Moderation Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Characteristics * Comparative Advantage</td>
<td>6.42</td>
<td>-2.13</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Resource Scarcity * Comparative Advantage</td>
<td>34.51</td>
<td>0.36</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.00</td>
<td>0.13</td>
<td>n/s</td>
<td>2.23</td>
</tr>
<tr>
<td>Omnibus Test &amp; Goodness of Fit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio Chi-Square</td>
<td>6.54</td>
<td>2.00</td>
<td>0.40</td>
<td>132.74</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-491.01</td>
<td>n/a</td>
<td>n/a</td>
<td>-477.87</td>
</tr>
<tr>
<td>Deviance</td>
<td>159.21</td>
<td>1195.13</td>
<td>0.13</td>
<td>155.76</td>
</tr>
<tr>
<td>Pearson Chi-Square</td>
<td>159.21</td>
<td>1195.13</td>
<td>0.13</td>
<td>155.76</td>
</tr>
<tr>
<td>Akaike’s Information Criterion (AIC)</td>
<td>990.02</td>
<td>n/a</td>
<td>n/a</td>
<td>961.74</td>
</tr>
<tr>
<td>Bayesian Information Criterion (BIC)</td>
<td>1010.37</td>
<td>n/a</td>
<td>n/a</td>
<td>977.00</td>
</tr>
</tbody>
</table>
While the results for Hypothesis 5 also demonstrate significance ($\beta=-2.13$, $p<.05$), the relationship is opposite to the one proposed. Population density exerts a negative moderating effect on the relationship between the humanitarian organization’s comparative advantage and the humanitarian organization’s superior mission performance. Figure 6 depicts the relationship. Overall, my fifth hypothesis is not supported.
Hypotheses 6 and 7 tested the relationship between comparative advantage and financial and mission performance when influenced by a low and high scarcity environment. The results for financial performance indicate the overall negative relationship ($\beta = -.61$, $p < .05$). The results suggest that comparative advantage has a weaker effect on financial performance in high resource scarcity areas and a stronger effect in low resource scarcity areas. Figure 7 shows the relationship between comparative advantage and financial performance moderated by resource scarcity. Therefore, hypothesis 6 is partially supported.
Finally, the results for mission performance indicate the overall positive relationship ($\beta = 0.36, p<.05$). The results indicate that comparative advantage has a weaker effect on mission performance in low resource scarcity areas and a weaker effect in low resource scarcity areas. Figure 8 illustrates the relationship between comparative advantage and mission performance moderated by resource scarcity. Therefore, hypothesis 7 is partially supported.
Discussion and Limitations

The current study aims to understand and explain the development and effects of comparative advantage by humanitarian organizations using food banks as the context. More specifically, it investigated the effect of comparative advantage on humanitarian organizations’ financial and mission performance. Data analysis identified how comparative advantage influences financial and mission performance by food banks. Through a deep investigation of comparative resource advantage, this study offers a window into how it can be developed and how it affects the humanitarian organization’s performance. The insights reveal that three types of resources (i.e., financial, physical, and relational) identified in Essay I equally comprise a
humanitarian organization’s comparative advantage. Therefore, to stay sustainable in an increasingly competitive environment, humanitarian organizations should concentrate on developing three types of resources simultaneously. Table 11 summarizes the results.

Table 13. Summary of Hypotheses Tests

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Prediction</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Financial, physical and relational resources equally comprise a humanitarian organization’s comparative advantage.</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>A humanitarian organization’s comparative advantage is positively related to financial performance.</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>A humanitarian organization’s comparative advantage is positively related to mission performance.</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>Population density of the area served exerts a positive moderating effect on the relationship between humanitarian organization’s comparative advantage and humanitarian organization’s financial performance.</td>
<td>Supported</td>
</tr>
<tr>
<td>H5</td>
<td>Population density of the area served exerts a positive moderating effect on the relationship between humanitarian organization’s comparative advantage and humanitarian organization’s mission performance.</td>
<td>Not Supported (opposite direction)</td>
</tr>
<tr>
<td>H6</td>
<td>The relationship between a humanitarian organization’s comparative advantage and financial performance is weaker (stronger) when resource scarcity is high (low).</td>
<td>Partially Supported</td>
</tr>
<tr>
<td>H7</td>
<td>The relationship between a humanitarian organization’s comparative advantage and mission performance is weaker (stronger) when resource scarcity is high (low).</td>
<td>Partially Supported</td>
</tr>
</tbody>
</table>

Findings also suggest that the relationships between comparative advantage and financial and mission performance are strongly contingent on characteristics of the service area. Specifically, I asked whether the levels of population density and resource scarcity in a service area moderate the effects of a humanitarian organization’s comparative advantage on financial and mission performance. As noted earlier, past research does not offer a clear perspective on the effects of population density and resource scarcity on financial and mission performance,
with some indicating that high population density and low resource scarcity offers better opportunities (McEvily & Zaheer, 1999), whereas others propose that high population density and low resource scarcity can be a motivator for innovation (Mehta & Zhu, 2015). Results from Essay II offer further nuance on how the effects of comparative advantage on performance may vary depending on population density and resource scarcity. For food banks operating in both high and low resource scarcity, the relationship between comparative advantage and financial performance is strong. Interestingly, in terms of mission performance, comparative advantage is a strong determinant of the ability to fill the hunger gap only for food banks operating under high resource scarcity. I consider these findings to be novel and interesting because they extend the current understanding of comparative advantage under different contextual circumstances.

Overall, the study suggests that the effects of comparative advantage on performance in food banks is highly context-contingent. The observations may explain why some humanitarian organizations are reluctant and unwelcoming to building comparative advantage. During interviews, some humanitarian organizations have described the idea of building comparative advantage with cynicism.
CHAPTER V: GENERAL DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

The primary objective of the dissertation was to understand the nature of competition in the humanitarian supply chain. As Oloruntoba (2018) highlights, competition research within the humanitarian supply chain management and logistic literatures is rare. Topaloglu et al. (2018) took a notable first step by relying on resource-advantage theory in the context of commercial nonprofits to investigate how nonprofit organizations can leverage diverse resources to successfully compete in the marketplace. The current research also adopts an R-A theory perspective to better understand competition among humanitarian organizations with the ultimate goal of understanding how competition impacts the financial and mission performance of humanitarian organizations. Furthermore, in the current research, I empirically examined the influence of comparative advantage on financial performance and mission performance of humanitarian organizations.

RQ1: What is the nature of competition in humanitarian supply chains?

The nature competition among humanitarian organizations is similar to the nature of competition in the for-profit world. Results from Essay I indicate that humanitarian organizations compete for attention from donors and volunteers, funding sources, and physical supplies. However, unlike actors in for-profit businesses, those involved in humanitarian relief are inspired by different objectives. Instead of profit maximization, the goal for humanitarian organizations is to minimize social suffering by saving lives, preserving property, and improving the social and economic foundations of communities (Van Wassenhove, 2006). Furthermore, Essay I
indicated that humanitarian organizations operate in a resource-constrained environment. This dissertation contributes to the humanitarian supply chain management literature by developing a substantive theory of competition among humanitarian organizations anchored in R-A theory, which highlights different types of recourses and how those recourses contribute to the organization’s comparative advantage. Overall, the nature of competition between humanitarian organizations is generally seen as healthy, or even necessary.

**RQ2: What factors influence competition in humanitarian supply chains?**

Essay I identified three main components of nonprofit competition that determine comparative advantage for the nonprofit that, in turn, influences financial and mission performance: (1) financial resources, (2) physical resources, and (3) relational resources. Furthermore, Essay I demonstrated that financial, physical, and relational resources are defining characteristics rather than manifestations of comparative resource advantage. Findings from Essay I reveal that changes in financial, physical, and/or relational resources cause changes in comparative resource advantage, which affect superior financial and mission performance. Besides, the level of resource scarcity in a service area and population density of the service area moderate the effects of a humanitarian organization’s comparative advantage on financial and mission performance.

**RQ3: Does a humanitarian organization’s comparative advantage affect financial and mission performance?**

Essay II investigates the relationship between comparative advantage and the humanitarian organization’s financial and mission performance. Data analysis identified how comparative advantage influences financial and mission performance by food banks. The insights reveal that three types of resources (i.e., financial, physical, and relational) identified in
Essay I equally comprise a humanitarian organization’s comparative advantage. Therefore, in order to stay sustainable in an increasingly competitive environment, humanitarian organizations should concentrate on developing three types of resources simultaneously. Furthermore, comparative advantage positively influences financial and mission performance. Interestingly, the effect of comparative advantage on financial performance is significantly higher than on mission performance.

**RQ4: Does the level of resource scarcity in a service area moderate the effect of comparative resource advantage on a humanitarian organization’s comparative advantage?**

Findings from Essay II reveal that the relationship between comparative advantage and financial and mission performance is strongly contingent on the resource scarcity of the service area. For humanitarian organizations operating in both high and low resource scarcity, the relationship between comparative advantage and financial performance is significant. When a humanitarian organization has a high comparative advantage, it results in lower fundraising costs regardless of the level of resource scarcity of the area served. On the other hand, when a humanitarian organization has a low comparative advantage, it results in a significantly higher level of financial performance in high resource scarcity areas than on low resource scarcity areas regardless of the level of resource scarcity of the area served. Interestingly, in terms of mission performance, comparative advantage is a strong determinant of the ability to fill the hunger gap only for food banks operating under high resource scarcity. I consider these findings to be novel and interesting because they extend the current understanding of comparative advantage under conditions of resource scarcity.
RQ5: Do geodemographic factors of the service area moderate the effect of comparative resource advantage on a humanitarian organization’s comparative advantage?

Results also propose that the relationship between comparative advantage and financial and mission performance is strongly contingent on the population density of the service area. For food banks operating in densely populated areas, the influence of comparative advantage on financial performance is stronger than in low populated areas. In other words, as originally hypothesized, the population density of the area served exerts a positive moderating effect on the relationship between humanitarian organization’s comparative advantage and cost per dollar raised. Interestingly, in terms of mission performance, for food banks operating in low densely populated areas, the influence of comparative advantage on mission performance is stronger than in high populated areas. In other words, comparative advantage is a much stronger determinant of the ability to fill the hunger gap for food banks that serve areas with low population density.

Theoretical Contributions

First, this dissertation contributes to the humanitarian supply chain management literature by developing a substantive theory of the competition among humanitarian organizations anchored in resource advantage, which highlights a different type of resources and how these resources contribute to comparative advantage. For example, Franklin FB requires strong relational ties with suppliers to handle the resource scarcity in the area and deliver humanitarian aid to beneficiaries. In contrast, Barrington FB requires less relational resources and more financial resources than Franklin FB to fund its operations in densely populated metropolitan areas. To my knowledge, research at the intersection of resource advantage and humanitarian supply chains is limited (Topaloglu et al., 2018). This study contributes by defining
competition among humanitarian organizations and understanding how competition impacts the financial performance of the humanitarian supply chain.

Second, despite the growing interest in humanitarian assistance efforts, empirical support that describes the benefits of nonprofit competition is scant (Moshtari, 2016; Maghsoudi et al., 2018). While a handful of studies emphasized the importance of competition, the majority of the studies argue that humanitarian competition is counterproductive, as the humanitarian aid sector does not perform like a “free market” and HOs face challenges to their fundamental beliefs, service distribution, and even existence (Balboa, 2017; Aldashev & Navarra 2018). Thus, this study contributes to humanitarian competition literature by showing how nonprofits can leverage their resources to achieve superior social value, defined as the value of the HO’s products or services, as recognized by all critical stakeholders (Topaloglu et al., 2018).

Third, this dissertation contributes to the humanitarian supply chain management and logistics literature by empirically testing the financial performance of humanitarian organizations. Therefore, this study develops and tests standardized comparable performance indicators. Further, the study offers insights based on R-A theory, thereby extending the use of these theories to the study of humanitarian supply chains.

Fourth, previous research mostly concentrated on sudden onset disasters or both sudden- and slow-onset disasters (Kunz & Reiner, 2012). Although slow-onset disasters, such as hunger and poverty, generally permit for more time to respond, they can lead to harsher consequences for populations because of their large scale (Wood et al., 1995; Majewski et al., 2010). Furthermore, donations are often allocated for a particular disaster. Sudden-onset disasters, such as earthquakes and hurricanes, draw more media interest and therefore are often over-financed, while slow-onset disasters, such as hunger relief and poverty, tend to be overlooked and
underfinanced. Hence, the current research contributes to humanitarian disaster relief literature by exploring the competition during slow-onset disasters, since they have received very limited attention so far (Kunz & Reiner, 2012).

Finally, the current research adopts a developmental mixed methods research design to examine the complex nature of competition among humanitarian organizations. Mixed methods research designs are suitable for exploring complex research questions since they involve the collection of two different types of data and apply two different analysis procedures (Davis et al., 2011). Given that past research has emphasized the importance of qualitative and quantitative research approaches in combination in humanitarian settings (Akhtar, 2018), following mixed methods research design will improve understanding, scope, complexity, validity, internal consistency, and generalization of the competition phenomena.

**Practical Contributions**

There are several practical implications to the observations made in this study. First, this research highlights the importance of competition for humanitarian organizations beyond what is commonly noted. For a long time, the nonprofit sector was largely insulated from the pressures of competition common in the for-profit world. As more and more organizations enter the nonprofit arena, however, attention from donors and volunteers becomes increasingly precious. Literature has amply highlighted the obstructions of competition in humanitarian supply chain management (e.g., Moshtari, 2016; Maghsoudi et al., 2018). In this study, I highlight how competition also acts as a means to develop a comparative advantage for organizations. I note how competition for resources is important because it familiarizes organizations with others and helps spur innovation. In other words, competition helps to recognize “who” one needs to be familiar with alongside “what” one needs to improve.
The second practical implication of this study is to help nonprofit managers better understand the important elements of competition and learn how to identify the factors that affect the comparative position of the organizations as well as the effects on financial and mission performance. That is to say, Essay I suggested that relational and financial resources represent more generalizable components of nonprofit competition, meaning that managers can study these elements and gather some insight on general patterns related to relational and financial resources.

Third, the current research empirically evaluates the operations of food banks and provides recommendations to improve effectiveness and efficiency. Improving the management of food waste is becoming a key issue in many countries worldwide (Parfitt et al., 2010). The results of study demonstrated that it is critical for food banks to concentrate on building comparative advantage. Furthermore, depending on the population density and resource scarcity, food banks can decide on which particular set of resources they need to concentrate on.

**Future Research**

The dissertation is not without limitations. To start, the current dissertation only found support for three types of resources. Therefore, the dissertation provides a foundation for future tests of the relationships amongst other groups of resources as indicated in Chapter II. Testing other types of resources will require the collection of primary or secondary data that can help validate the robustness of the main premise of this study. In addition, future studies could examine and model the relative importance of the interaction of factors proposed here. Future studies may also consider the network effects of innovation on collaborative relationships among all parties involved in the humanitarian sector.

Another limitation revolves around the context of the research that potentially limits its
generalizability. I investigated food banks that were chosen based on population density and resource scarcity. The hypotheses are tested using population data from almost 200 food banks in the United States. Future studies can apply an SEM-based analysis with a larger sample size from another humanitarian aid organization.

I highlight another limitation of the study on its focus on steady-state operations of food banks, or what is generally described as the dormant stage of disaster relief operations. Many humanitarian organizations, including food banks, are involved in achieving financial and mission performance when disasters strike or what is labeled as active stage of disaster relief operations. Displacement and disruptions to markets and livelihoods caused by man-made or natural disasters can heavily challenge humanitarian efforts. Vulnerable households, who may spend as much as 80% of their income on food, can lack adequate food temporarily due to a shortage of food or sudden price increases. Investigating the effect of population density, resource scarcity and the effectiveness of comparative advantage in improving financial and mission performance during active stage of relief operations can be a significant research contribution.

During the past decade, chronic food insecurity in the United States has risen to some of the highest levels since the government started reporting the figures (Orgut et al., 2016; Wills, 2017). Ironically, the progress in addressing hunger and nutrition in developing countries has far surpassed that of developed countries, wherein some cases (including the U.S.) food security has seen a decline in the past several years (Fisher, 2017). Given this background, we focused on humanitarian food supply chains in the United States. Nevertheless, replicating and extending the study of humanitarian food supply chains in other countries (developed and developing) is a highly necessary area of research.
REFERENCES


Soelaksono, A. (2009). *NGO and donor coordination to speeds up reconstruction and avoid NGO competition.*


APPENDIX A: FINAL INTERVIEW PROTOCOL

Interview Protocol Guide
My name is Iana Shaheen. I am a Ph.D. Candidate at University of South Florida. In collaboration with Dr. Donna Davis, I am conducting interviews as a part of my theses titled ‘Competition in humanitarian logistics.' The primary objective of the interview is to investigate how competition affect collaborations among humanitarian organizations.

Opening
- Introductions
- Overview of purpose of the study
- Confidentiality assurance

Demographic Data
- Name and title of interview participant
- Job duties of the participant
- How long in this job? This NGO? This industry?

NGO/Firm Data
- NGO’s background and mission, history, number of employees, annual budget, number of members, and other important partners or stakeholders.
- What are your organization’s key strengths?
- What is your organization’s unique positioning (compared to other NGOs)? What is the product that you are trying to get out to beneficiaries?
- What else makes your organization different from other NGOs?

Initial Question: GRAND TOUR
- When you think about competition within humanitarian logistics, what are some things that come to mind?

Additional Prompts
- Please explain your relationship with NGOs by providing examples of interaction.
- Is it getting easier or more complicated to manage with competition in humanitarian sector? Example?
- Who are your top ten direct suppliers?

• How do you see your competitive space (oligopoly, monopoly, monopolistic competition)?
• What are some products/services (e.g. grants, volunteers, donors, transportation, warehousing) that you compete for with other NGOs?
• What are some factors that affect the competition? Are those factors similar to for-profit sector?
• Do you distinguish between different types of competition?
• Are there external factors that may change the way you interact with other organizations? Do any of these factors drive your behavior?
• How does technology (omni channel) affect your behavior?
• Have you experienced shift in terms of products?

Additional Questions
• How do you measure performance? How do you measure financial performance? Are there any financial indicators that are same for different NGOs?

Wrap Up
• Is there anything that affects your competition with NGOs we have not yet discussed?
APPENDIX B: IRB Letter For Essay I

9/20/2018

Iana Lukina
Marketing
19105 Marisa Ridge Pl
Tampa, FL 33647

RE: Not Human Subjects Research Determination
IRB#: Pro00036734
Title: Humanitarian Relief Supply Chains: On the formation and strengthening of organizational collaborations

Dear Dr. Lukina:

The Institutional Review Board (IRB) has reviewed your application. The participants do not meet the definition of human subjects. Human subjects are defined as "a living individual about whom an investigator (whether professional or student) conducting research obtains: 1) data through intervention or interaction with the individual, or 2) identifiable private information. The data obtained in this study are about the individual being interviewed, but about the organization. As such, the activities do not meet the definition of human subject research under USF IRB policy, and USF IRB approval and oversight are therefore not required.

While not requiring USF IRB approval and oversight, your study activities should be conducted in a manner that is consistent with the ethical principles of your profession. If the scope of your project changes in the future, please contact the IRB for further guidance.

If you will be obtaining consent to conduct your study activities, please remove any references to "research" and do not include the assigned Protocol Number or USF IRB contact information.

If your study activities involve collection or use of health information, please note that there may be requirements under the HIPAA Privacy Rule that apply. For further information, please contact a HIPAA Program administrator at (813) 974-5638.

Sincerely,

[Signature]

Kristen Salomon, Ph.D., Chairperson
USF Institutional Review Board