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Understanding the Drivers and Barriers of Coordination Among Humanitarian Organizations

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Abstract :

This paper investigates the horizontal coordination among humanitarian organizations (HOs) during diverse phases of humanitarian operations. In particular, the study seeks to understand the drivers and barriers for horizontal coordination among HOs from both practitioners and academics sources and through theories extracted from the strategic management and operations management literatures.

Key Words:

Horizontal Coordination, Theoretical Model, Humanitarian Organizations, Humanitarian Operations.

1- Introduction

The impact of disasters is growing over time. The number of natural disasters has increased in the last decades and is expected "to increase by a further multiple of five over the next 50 years" (Thomas and Kopczak, 2007). According to the CRED International Disaster Database, the number of disasters affecting the world has grown from "around 220 per year in the mid-1990s, to a current annual figure of some 350-400" (Tatham and Houghton, 2011). The severity of disasters leads to involvement of a large number of established organizations and newly born organizations after the disaster strikes in humanitarian operations. For example, following the 2004 Asian Tsunami more than 40 countries and 700 nongovernmental organizations (NGOs) were present in the affected area (Chia, 2007), or after Haiti earthquake 3,000 to 10,000 NGOs are estimated operating in Haiti (Kristoff et al., 2010).

To deal with the growing number and complexity of disasters (Van Wassenhove, 2006), and to handle the growing need for more sustainable humanitarian operations (Chang et al., 2010; Zuo et al., 2009), HOs are motivated to coordinate with each other. For instance, Van Wassenhove (2006) points out that even when organizations are well prepared to respond during disasters, they may be less effective when they operate individually within a large-scale disaster. Van Brabant (1999) suggests that "similar standards of quality, cost-effective use of resources, rational allocation of tasks, and working towards agreed priorities" are all characteristics that promote coordination among HOs. Gazley and Brudney (2007) suggest that coordination can yield many benefits such as "economic efficiencies, greater service quality, organizational learning, access to new skills, diffusion of risk, improved public accountability, ability to buffer external uncertainties, and conflict avoidance." The significant amount of uncertainty (e.g. number of beneficiaries, availability of supply, conditions of supply networks, availability of human resources, etc.) faced by HOs when responding to

disasters (Thévenaz and Resodihardjo, 2010) can amplify the benefits of coordination. However, high levels of uncertainty also create additional barriers to coordination.

While Samii and Van Wassenhove (2003) report increased levels of coordination among HOs (through sharing equipment, assets, and resources), the humanitarian operations literature provides numerous examples of the scarcity of inter-organizational humanitarian coordination. Van Wassenhove (2006) documents such coordination failures for the 2004 Indian Ocean Tsunami; Farazmand (2007) provides examples for the 2005 hurricane Katrina; and Cordoba (2010) for the 2010 Haiti earthquake.

In summary, Thévenaz and Resodihardjo (2010) observes that "efforts are duplicated, resources are used in an unproductive and ineffective way or are wasted, relief efforts are slow, impeded, or obstructed." The lack of coordination results in ineffective aid distribution particularly in the last mile (Murray, 2005); causes congestion at local airports and roads (Fritz, 2005); can lead to injury or death of aid recipients struggling to attain services (Moore et al., 2003); leads to competition among HOs over limited available resources (Steinberg, 2007), raising costs and increasing delays for services (Chang et al., 2010). In contrast, coordination through joint plans could help HOs to efficiently use the available resources, or coordination through joint procurement of resources from abroad could lead to higher negotiation power and lower costs which eventually could decrease the level of competition and improve service to beneficiaries.

Despite the dramatic importance of inter-organizational coordination in humanitarian operations in recent years, few systematic studies of horizontal coordination have been completed (Balcik et al., 2010; Schulz and Blecken, 2010). In fact, this topic has received only limited exposure in operations management (Cruijssen et al., 2007). Accordingly, this work represents an early attempt to frame theoretically the horizontal coordination concept in humanitarian operations research using theories from interorganizational literature. This study

sheds light on the significant causes of low coordination performance among HOs. It focuses on horizontal coordination among HOs, and identifies six constructs (e.g., commitment and trust, relationship specific investments, opportunistic behavior, short-term orientation, strategic and operational relatedness, and relationship management capability) as the main factors influencing coordination performance among HOs.

Theoretically, the study contributes to our understanding of the determinants of coordination among HOs using a multidisciplinary approach which has been recently called for in operations management (Bendoly et al., 2006; Ketchen, 2007; Miles and Snow, 2007). Our multidisciplinary approach draws concepts and theories from strategic management and marketing (e.g. transaction cost economics , resource based view/relational view , and social exchange theory), operations management (e.g. supply chain management, resource sharing, humanitarian aid logistics), as well as evidence from practical case studies.

The study suggests that "commitment-trust" and "relationship specific investments" are key drivers of coordination performance among HOs. The former keeps the motivation for HOs to maintain coordination, and the latter improves the effectiveness and efficiency of coordination efforts. Moreover, opportunistic behaviors of partners, organization's short-term orientation, (strategic and operational) relatedness, and relationship management capability inhibit or drive the coordination performance through their effect on "commitment-trust" and "relationship specific investments."

This paper is organized as follows: we begin by defining and characterizing the types of horizontal coordination . Next, we explore existing coordination initiatives among HOs and review the literature on horizontal coordination in humanitarian operations. Building on the literature review and the insights from inter-organizational relationship theories, we develop a model of horizontal coordination that describes the drivers and impediments of coordination

performance among HOs. Finally, we discuss managerial practices that may influence coordination performance and opportunities for future research.

2- Theoretical Foundation

Coordination, collaboration, alliances, or integration are often used interchangeably to qualify inter-organizational partnerships. However, to develop and validate our theory of horizontal coordination, we must first provide a clear and unambiguous definition. Ergun et al. (2011) define coordination as "the management of parallel actions in ways that increase effectiveness" which may include conducting identical or different activities or projects by different organizations. The operations management literature distinguishes between two forms of potential supply chain coordination: horizontal and vertical. Vertical coordination includes parallel actions with suppliers, customers, or across departments of the same organization. Horizontal coordination includes coordination with competitors or non-competitors providing similar services, or internal departments with similar functions (Simatupang and Sridharan, 2002).

Vertical coordination across supply chain echelons has been well-examined in supply chain management literature (Cao and Zhang , 2011; Goffin et al., 2006; Van Der Vaart and Van Donk, 2008). Power distribution, trust, planning difficulty, and communication are among the factors that influence both vertical coordination among companies and their performance (Benton and Maloni, 2005; Griffith et al., 2006; Johnston et al., 2004; Paulraj et al., 2008). Synthesizing the literature and distinguishing between integration and collaboration, Cao and Zhang (2011) identify seven areas for supply chain collaboration: "information sharing, goal congruence, decision synchronization, incentive alignment, resources sharing, collaborative communication, and joint knowledge creation". Furthermore, Cao and Zhang (2011) conceptualize collaborative advantage or benefits through the following five components: "process efficiency, offering flexibility, business synergy, quality, and innovation."

The academic research addressing horizontal coordination in supply chain management is limited (Cruijssen et al., 2007). A few studies examine factors influencing coordination (Oh and Rhee, 2008; Schotanus et al., 2010; Verstrepen et al., 2009). Verstrepen et al. (2009) characterize horizontal coordination objectives as including "cost reduction, growth, innovation, information, quick response, and social relevance". In contrast, the strategic management and organization theory literatures examining inter-organizational partnerships (including horizontal coordination) are quite mature. A number of studies explore factors of success, failure and termination in alliances or joint ventures (Das and Teng, 2000; Greve et al., 2010; Lunnan and Haugland, 2008; McCutchen Jr et al., 2008; Park and Ungson, 2001). Other research studies alliance capabilities (Schreiner et al., 2009), coordination disadvantages (Gazley, 2010) and the influence of behavioral aspects on strategic alliances (Vanpoucke and Vereecke, 2010).

Focusing on horizontal coordination efforts, Lambert et al. (1999) characterizes three types (see Figure 1), depending on their level of integration. In one extreme of the spectrum, Lambert et al. (1999) place arm's length cooperation. In Arm's length cooperation, organizations maintain only a limited number of exchanges and have no significant joint operations. In the polar extreme, the authors identify horizontal integration. Under horizontal integration partners can integrate or combine assets and operations under sole ownership, either through a merger among equal partners or an acquisition among unequal partners (Yin and Shanley, 2008).

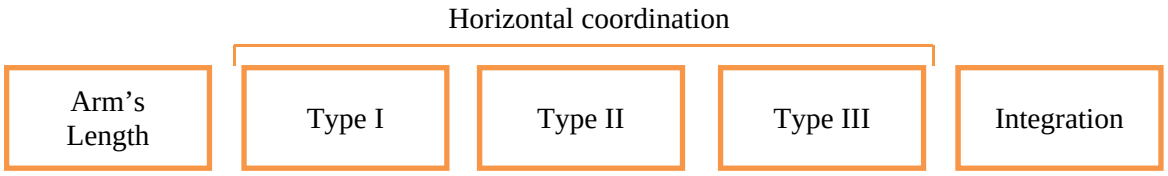

Figure 1. Horizontal coordination types (based on Lambert et al. 1999)

In type I, partners coordinate on a single task or to a limited extent over a short-term period. In the humanitarian context, type I coordination among HOs includes sharing information about "the disaster situation, the affected population or the availability of resources" (Zhang et al., 2002). In addition, HOs coordinating with type I initiatives jointly develop and pursue immediate solutions for common problems (McLachlin and Larson, 2011). In type II coordination, partners jointly execute a number of tasks, or several departments of each organization collaborate over a medium-term period. Type II coordination in humanitarian context is often disaster (or event) oriented, focusing on joint planning, joint context and capacity analysis, or joint identification of critical issues (e.g., locations of supply chain disruptions or bottlenecks).

Balcik et al. (2010) and Van Brabant (1999) suggest that HOs can coordinate in terms of the prioritization of target groups, regional division of tasks or joint projects. The purpose of type II coordination efforts in the humanitarian context are to close gaps, avoid unnecessary duplication of efforts, efficient use of available resources, and performance evaluation (Van Brabant, 1999). In type II coordination, the sharing of the knowledge among partners includes "the availability of supplies, schedules of aid deliveries and their routing" (Kovacs and Spens, 2010). In type III, known as "strategic alliance", the organizations combine or integrate their operations to a significant degree. Partners have a long term scope on their relationship and consider others as the extension of themselves. This type of coordination involves long-term joint planning and more integrated supply chain processes, across functions and organizations. Arrange a formal contract among partners becomes more necessary as the coordination intensity increases, moving from type I to type III. In the humanitarian context there are emerging initiatives for applying type III coordination, such as the Sphere Project or the International Alliance against Hunger.

After defining horizontal coordination and identifying three types of horizontal coordination initiatives, in the following section, we categorize the employed coordination initiatives among HOs according to two dimensions: coordination type and humanitarian operation phase.

3- Humanitarian Aid Context and Coordination Initiatives among HOs

3.1. Horizontal Coordination Initiatives among HOs

Several UN agencies, major organizations such as International Federation of Red Cross and Red Crescent Societies, or NGOs have coordination practices in place. The UN and relief agencies have established committees, offices and programs to improve humanitarian coordination (Balcik, 2010). For instance, the Office of UN disaster relief coordinator (UNDRO), the Office of the Coordinator for Humanitarian Affairs (OCHA), and the Inter-Agency Standing Committee (IASC) develop system-wide humanitarian policies, establish common ethical frameworks and provide accessible systems for information sharing. In terms of information sharing, the UN has developed several platforms such as www.irinnews.org (Humanitarian News and Analysis), and ReliefWeb.org. To improve coordination at national or international levels and to facilitate the exchange of information among humanitarian agencies, the UN has also developed a Logistics Support System (LSS). To support closer inter-agency coordination and more accountability the UN implemented the Cluster Approach, establishing clusters of expertise in 9 sectors (e.g. nutrition, health, water/sanitation, emergency shelter, logistics, etc.). An important part of the cluster approach is the establishment of a Consolidated Appeals Process (CAP) standardizing the process to appeal for funds from donors. The CAP goal is to expedite organizations access to funds. In addition, the UN has created a Central Emergency Fund (CERF), a common pool of funds available to qualifying organizations which allows them to ramp up humanitarian operations

immediately after a disaster strikes. Finally, the UN has established a network of five Humanitarian Response Depots (UNHRD) to strategically maintain inventory stockpiles of critical emergency items. The initiative serves as a common preparedness tool allowing humanitarian organizations to timely access critical items at either no cost or on a cost recovery basis. Analogously, the IFRC has also established regional hubs with the intent of pre-positioning needed products. In addition, the IFRC has developed a humanitarian logistics software available to other organizations that facilitates inventory pipeline visibility across different organizations. Finally, in another effort by the IFRC and a number of HOs, the Sphere project provides operational standards and codes of conduct for humanitarian organizations.

The Emergency Capacity Building (ECB) is a coordinative initiative by seven agencies - CARE International, Catholic Relief Services, International Rescue Committee, Mercy Corps, Oxfam GB, Save the Children and World Vision International - that has the goal of discussing and sharing opinions on the significant inhibitors of humanitarian relief delivery. By now the efforts within this project have manifested in more than 20 research findings, field tools and practical guides. The Humanitarian Horizons project is a collaborative effort initiated by the Feinstein International Centre of Tufts University and the Humanitarian Futures Programme of King's College and conducted closely with the seven NGO members of the IWG. The goal of the project is to raise HOs' anticipatory and adaptive capacities and assist the HOs to prepare for the complexities of the future. Besides above initiatives Kovacs and Spens (2011) point to other emerging coordination endeavors such as inter-agency purchasing consortia, harmonizing joint customs procedures, or implementing tracking and tracing, fleet management systems, joint training, joint standards, and joint templates.

Figure 2 illustrates the coordination initiatives already implemented among HOs. The initiatives have been grouped based on two dimensions: the level of coordination (type

I/operational, type II/tactical and type III/strategic), and the phase of humanitarian operations (preparedness, response and recovery (Kovács and Spens, 2007; Pettit and Beresford, 2005)). Type I or operational coordination includes initiatives which are adopted for a short term and within a limited degree of interaction among HOs. Before disaster strikes, HOs could share information through platforms such as irinnews (humanitarian news and analysis). After disaster strikes, HOs could share information relating to the disaster situation or the affected population through platforms such as ReliefWeb. The goal is to adapt to the realities of the situation, improvise, and overcome obstacles to get the job done or develop immediate solutions (e.g. expediting late deliveries). Type II or tactical coordination includes initiatives which are adopted for the medium term and require more interaction of HOs. Before disaster strikes, HOs could establish or become involved in joint pre-positioning acts or purchasing consortia. After disaster strikes, HOs could share information on "the availability of supplies, schedules of aid deliveries and their routing" (Kovacs and Spens, 2010). HOs can coordinate in terms of the prioritization of target groups, regional division of tasks or joint projects. The purpose of this type of coordination is to avoid duplication and gaps, "optimizing the use of the available logistics and communications, and monitoring and evaluating the impact of the programs on the existing needs and capacities" (Van Brabant, 1999). Type III or strategic coordination includes initiatives which are adopted for long term and require considerable interaction among HOs. This type of coordination which includes more integrative planning and decision making is new to the humanitarian context, such as the Sphere project or emergency capacity building (ECB). Type III coordination involves long run joint planning and more integrated supply chain processes, across functions and organizations.

As figure 2 demonstrates, several coordination initiatives have been designed and conducted within humanitarian settings. Many efforts have been devoted to coordination type I (operational) and II (tactical) coordination, particularly in the response phase of humanitarian

operations. In this phase it is not surprising to observe little or no coordination effort on the strategic level. Schulz and Blecken (2010) report that only limited cooperation takes place during the preparation phase of the disaster relief lifecycle. In other words, many HOs only activate their operations after a disaster strikes, so there is always considerable uncertainty about of which HOs would be present in the affected region and the amount of resources they will bring to the field (Tomasini and Van Wassenhove, 2004). Such uncertainty leads to remarkable redundancies and duplicated efforts and materials (Simpson, 2005). Thus, scholars argue that to improve the impact for beneficiaries HOs should coordinate not only during the response phase of humanitarian operations but also during preparation and recovery phases (Thomas and Kopczak, 2007; Van Brabant, 1999).

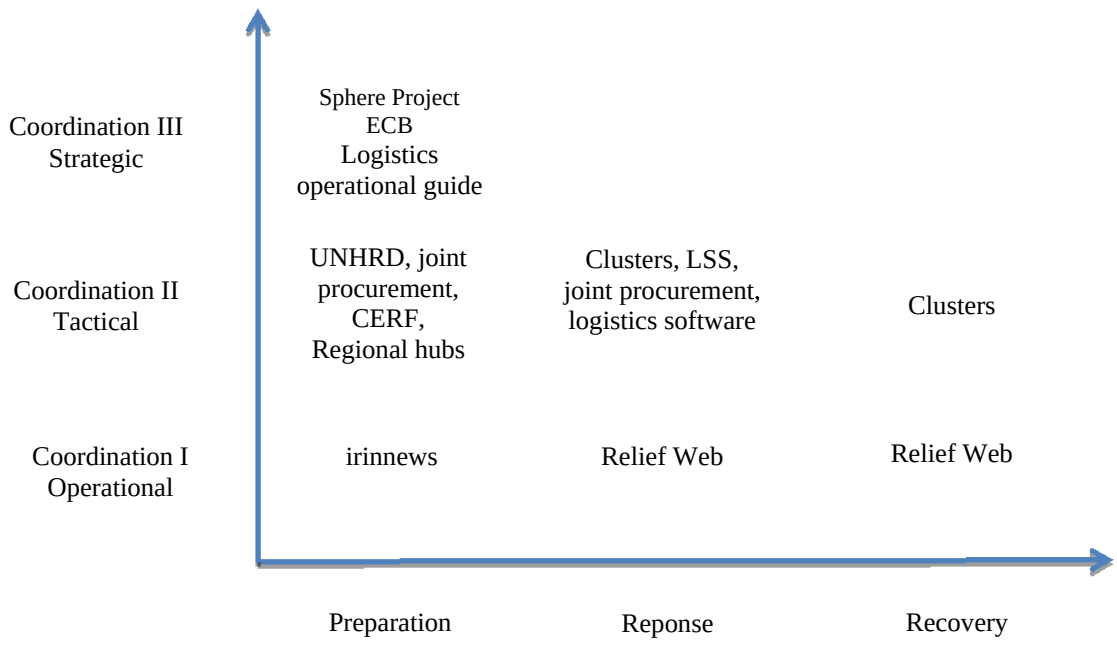

Figure 2. Coordination initiatives among HOs

Coordination among organizations is not easy to establish in a short period if their relationships were not established prior to the disaster (Dolinskaya et al., 2011). Frequently, efforts to develop coordinative platforms occur only after the disaster strike, when the hectic response is unfolding and when options, as well as time to address the requirements, are

limited. In such contexts, it is much more difficult to establish adequate coordination mechanisms (Pettit and Beresford, 2009). While some immediate needs during an emergency can be addressed by *ad hoc* coordination, longer term objectives are compromised and not well served.

In general, to provide efficient and effective relief services, HOs first have to develop more coordination initiatives, particularly in the preparation phase (strategic and tactical). There is a specific need for longer-term, broader, more in depth, and continuing coordination during preparedness and recovery phases of humanitarian operations. Second, HOs should evaluate and redesign the coordinative efforts. Third, HOs need to deal with the barriers and trigger the drivers of coordination. Forth, HOs should not rest on UN or big organizations and need to design and employ dyadic or network relationships with other organizations.

The importance of organizations' coordination in humanitarian operations and the challenges of designing and employing the coordination initiatives initiated a considerable number of studies from scholars and practitioners' perspectives. The following section review the conceptual and methodological orientation of academic studies.

3.2. Review of papers and reports considering horizontal coordination among HOs

The search procedure began by using the following key words "coordination", "collaboration", or "Inter-organizational relationships" combined with "Humanitarian aid/relief organizations". Papers and reports which consider coordination among NGOs (not including military or private sector) were chosen for further studies. Focusing only on supply chain management or operations management journals provides us a limited number of studies (McLachlin and Larson, 2011), so we extended our search to all academic and practitioner outlets. For this reason, we used Google scholar which in addition to published papers gives access to working papers or practitioners' reports. Additionally, we checked the

studies which cited seminal papers (e.g. Van Wassenhove, 2006). These steps eventually gave access to 34 relevant papers (Table 1).

Table 1, The categories of Journals examining the coordination among HOs

Operations Management	14
Disaster Management	7
Public Management	6
General Management	2
Un-published Studies	5

Our review of published research on coordination among HOs allowed us to identify common themes. First, several studies emphasize the current low levels of coordination among HOs; they also stress the importance of coordination to improve the level of humanitarian relief services (Kapucu et al., 2010; Kovács and Spens, 2007, 2009, 2011; Maon et al., 2009; Perry, 2007; Pettit and Beresford, 2009; Van Wassenhove, 2006). Some studies consider one or more aspects of coordination, such as motivation (Ngamassi et al., 2010), the structure of inter-organizational relations (Battini, 2007; Moore et al., 2003; Stephenson Jr and Schnitzer, 2006), leadership (Waugh and Streib, 2006), permanent and temporary networks (Jahre et al., 2009), and trust (Tatham and Kovács, 2010). Still others consider the evaluation of current coordinating agents or practiced coordination initiatives (Balcik et al., 2010; Battini, 2007; Jahre and Jensen, 2010; Lee and Low, 2006; Perry, 2007; Simo, 2009; Simo and Bies, 2007; Van Brabant, 1999). Finally some studies have shed light on the impediments of coordination and proposed solutions for dealing with them (Balcik et al., 2010; Campbell and Hartnett, 2005; Cooley and Ron, 2002; Dolinskaya et al., 2011; McEntire, 2002; McLachlin and Larson, 2011; Parmar et al., 2007; Schulz and Blecken, 2010; Thévenaz and Resodihardjo, 2010; Van Brabant, 1999; Zoraster, 2006)

Methodologically, studies on humanitarian coordination follow similar approaches. A literature review of previous studies on humanitarian coordination in academic and practitioner journals is common. This is frequently followed by proposing methods for the promotion of coordination among HOs (Barnett, 2005; Battini, 2007; Campbell and Hartnett, 2005; Kapucu et al., 2010; Kovács and Spens, 2007,2011; Minear, 2004; Pettit and Beresford, 2009; Stephenson Jr and Schnitzer, 2006; Van Brabant, 1999). Some of this type of studies elaborate the learning of business organizations in established academic fields and argue towards adapting those models or methods in humanitarian context (Balcik et al., 2010; Kovacs and Spens, 2010; Maon et al., 2009; Tatham and Houghton, 2011; Tatham and Kovács, 2010; Van Wassenhove, 2006). Additionally, there are few papers which used field study to investigate the coordination among HOs (Lee and Low, 2006; McEntire, 2002; Zoraster, 2006). A few studies used more advanced quantitative methods such as social network analysis (Moore et al., 2003; Ngamassi et al., 2010).

In respect to data collection methods various methods have been used such as survey (Ngamassi et al., 2010; Parmar et al., 2007), interviews (Dolinskaya et al., 2011; Perry, 2007), workshop presentations (Kovács and Spens, 2009; McLachlin and Larson, 2011). Another observation is that many of studies collected data based on the event level such as South-East Asian Tsunami or Katrina (Simo and Bies, 2007; Thévenaz and Resodihardjo, 2010; Waugh and Streib, 2006), and a few studies investigate the coordination at organizational level within dyad, triad or other type of organizational relationships, such as International Federation of Red Cross and Red Crescent Societies (IFRC), United Nation Humanitarian Response Depots, ECHO humanitarian procurement centers (HPC) (Jahre et al., 2009; Schulz and Blecken, 2010).

According to aforementioned observations, the importance of coordination among HOs has triggered lots of studies from scholars' and practitioners' perspectives. The studies, first,

elaborate the relevant challenges through methods such as descriptive event study, interview or survey; second, represent the inhibitors of coordination though list of items and examples, and third, suggest solutions or methods imported mostly from business sector to deal with the barriers or challenges of coordination.

Accordingly, research about coordination among HOs' is in the nascent phase, thus there are considerable opportunities to conduct more methodologically and theoretically rigorous studies. For example, interorganizational relationships area contains mature and established literature which can guide researchers in humanitarian context to see the coordination from several theoretical perspectives, test the theories, or even revise and develop theories upon rigorous empirical methods (e.g. well-structured single or multiple case studies, field research, or lab experiment). Along these lines, our study considers the interorganizational relationship theories to understand the main factors influencing the horizontal coordination among HOs, providing a systematic view of the drivers and impediments to coordination.

4- A Theoretical Model For Horizontal Coordination

The interorganizational relationships is an interdisciplinary field including studies from various academic areas such as organizational sciences, supply chain management and marketing. In marketing, Palmatier et al. (2007) refer to the fact that researchers apply different theories to understand the main factors determining the interorganizational relationship performance. Palmatier et al. (2007) consider four interorganizational relationships perspectives which are more practiced in marketing research - transaction cost economics, dependence, relational norms and commitment-trust - to provide an integrated view of factors effect on interorganizational relationships performance. The commitment–trust and dependency structure rest on social exchange theory. The commitment–trust perspective (Morgan and Hunt, 1994), acknowledges an organization's commitment to and

trust in its partner(s) the two key determinants of relationship performance. The dependency perspective argues that power structure is the key driver of interorganizational relationship performance (Hibbard et al., 2001). Relational norms perspective proposes that the higher level of relational norms associates positively with the higher level of relationship performance (Cannon et al., 2000). Finally, transaction cost economics (Williamson, 1975) suggests that transaction-specific investments and partners' opportunistic behavior effect interorganizational performance (Heide and John, 1990; Noordewier et al.,1990). Palmatier et al. (2007) uses longitudinal data over four years which reveal the causality relationship among constructs within each theoretical perspective. They eventually conclude that commitment-trust and relationship specific investments are two key drivers of partnership performance.

For the purpose of this study, we rest on the four aforementioned theories of interorganizational relationships to understand the main factors effect on horizontal coordination among HOs. However, due to the lack of data in humanitarian settings, conducting an empirical study comparing the relative efficacy of each perspective is not currently possible.

Building on the finding of Palmatier et al. (2007), figure 3 proposes an integrative view of the factors or constructs influence on horizontal coordination among HOs. The theoretical model suggests commitment–trust, and relationship-specific investments as key drivers of horizontal coordination. Commitment is associated with the will and motivation of partners to save or continue the relationship, and RSIs is associated with the efficiency or effectiveness of the relationship. In addition, four constructs: opportunistic behaviors of partners, organization's short term orientation, relatedness (strategic and operational), relationship management capability, indirectly effect on horizontal coordination performance through their influence on commitment–trust, and RSIs. These constructs are more relevant to the facts which we observe in our review of the papers examining HOs coordination and furthermore, provide

more theoretical predictions of the significant factors which have an effect on the horizontal coordination in humanitarian setting.

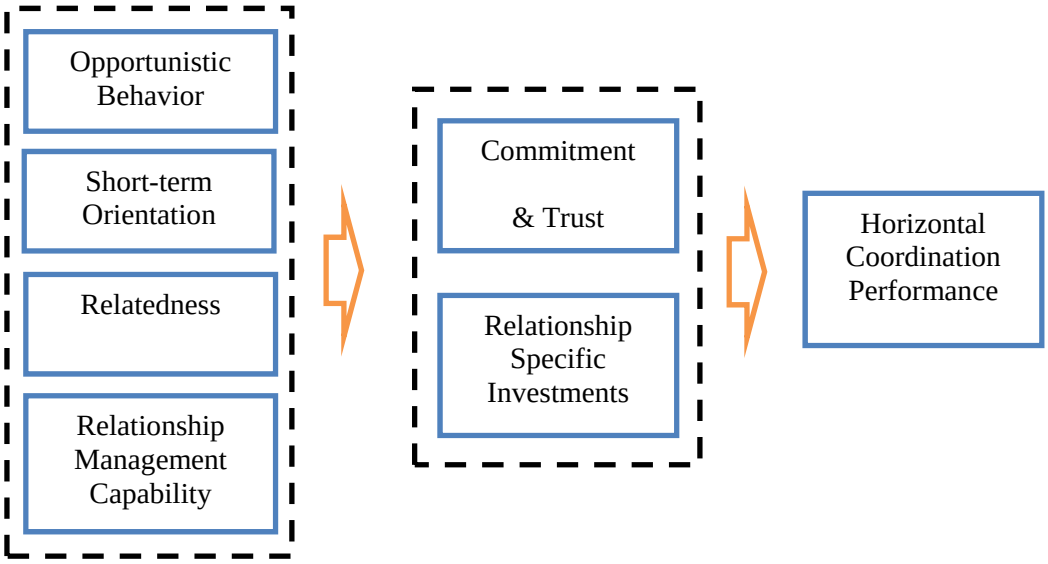

Figure 3. A theoretical model for horizontal coordination in Humanitarian aid Context (Inspired by Palmatier et al, 2007)

In this section, we elaborate the model constructs and represent the propositions which rest on aforementioned theories in interorganizational relationships literature. Upon this model, in section 5, we discuss possible strategies or approaches for resolving the inhibitors or driving the horizontal coordination among HOs.

Commitment & Trust

In our model, we represent commitment-trust as a key factor positively influencing the coordination performance (Anderson and Weitz, 1992; Morgan and Hunt, 1994). Commitment is "an enduring desire to maintain a valued relationship" (Moorman, Zaltman, and Deshpandé 1992, p. 316). Partners through commitment, dedicate continuously tangible resources or conduct some tasks in order to attain the relationship objectives (Shah and Swaminathan, 2008). In humanitarian context these resources can be funding resources,

access to media, human resources, skills, time, or infrastructure dedicated to a coordination initiative. Morgan and Hunt (1994) refer to the lack of commitment as a reason of partnerships' failures.

Trust is defined as "confidence in an exchange partner's reliability and integrity" influences horizontal coordination. Trust relationship with coordination could be mediated by commitment (Morgan and Hunt 1994, p. 23). Benevolence and competence are two dimensions of trust (Ganesan, 1994; Moorman et al., 1992). Benevolence-based trust reflects the perception of the "partner's goodwill and avoidance of opportunism" and competence-based trust elaborates the reliance on the partner's expertise, capabilities, and judgments" (Shah and Swaminathan, 2008).

Zaheer et al. (1998) asserts trust as a remarkable factor in improving the interorganizational relationships performance, reducing conflicts, or decreasing the costs of coordination processes. High level of trust among organizations leads to use of social control mechanisms (Inkpen and Currall, 2004; Li et al., 2010) which could raise flexibility and efficiency in interorganizational partnerships because "problems are more likely to be openly identified, examined, and resolved" (Wuyts and Geyskens, 2005). Thus, we propose that:

> *Proposition 1: Partners' commitment towards coordination tasks is positively associated with the horizontal coordination performance*.

Relationship specific investments

Relationship specific investments (RSIs), as another key driver of coordination performance, are idiosyncratic investments which facilitate or improve the relationship and coordination among organizations. RSIs are durable investments (Williamson,1985), not easily recoverable (Ganesan, 1994) or considered sunk assets (Palmatier et al., 2007). Grover and Malhotra (Grover and Malhotra, 2003) refer to several types of RSIs including "investments in

facilities, equipment, personnel, and firm or process-specific training associated with the production of goods or services that have little or no use outside the exchange relationship". In humanitarian context RSIs could be investment in training programs (e.g. logistics), procedures of conducting joint tasks, designing interfaces, communication channels, knowledge sharing routines, dedicated human resources and specific coordinative initiatives.

RSIs raise switching costs and interdependence among partners (Gilliland and Bello, 2002). They raise the level of coordination, lower interaction costs, and improve product innovation (Palmatier et al., 2007), and allow partners to "accumulate specialized information, language, and know-how" (Dyer and Singh, 1998). Thus, we propose that:

> *Proposition 2: Partners' engagement in relationship specific investments is positively associated with the horizontal coordination performance.*

Opportunistic Behavior

Opportunistic Behavior refers to organization's effort "to mislead, distort, disguise, obfuscate, or otherwise confuse" (Williamson, 1985: 47). Opportunism in partnerships emerges when partners hold out their resources or efforts, contribute with low quality resources, or proportionally attain more than what sacrificed within the coordination practice (Alchian and Woodward, 1988). Opportunistic behavior increases the coordination costs through the need for more comprehensive and contingent contracts among partners as well as monitoring or modifying coordination agreement (Williamson, 1985).

Evidence from humanitarian aid operations indicates that HOs compete with each other for resources, fund and media attention (Kovacs and Spens, 2010; Stephenson Jr and Schnitzer, 2006). Scarcity of resources (e.g. transportation providers) after a disaster strikes intensifies competition. A number of scholars argue that HOs are concerned with their own survival and self-preservation and have low tendency to collaborate with others (Balcik et al., 2010;

Barnett, 2005; Cooley and Ron, 2002) which motivate them to pursue opportunistic behavior in their coordinative practices which subsequently decreases partner's trust (Palmatier et al., 2007) and commitment or negatively influence on their engagement in investing on RSIs which eventually lower coordination performance among HOs. Thus, we propose that:

Proposition 3A: Partners' opportunistic behavior is negatively associated with the partners' commitment towards coordination tasks.

Proposition 3A: Partners' opportunistic behavior is negatively associated with the partners' engagement in relationship specific investments.

Short-term orientation

HOs' managers deal with humanitarian special context and several limitations from the humanitarian relief stakeholders which lead to short term orientation. First of all, in humanitarian operations access to the right information plays an important role to capture the media and donors attention and to deliver effectively or efficiently the aids to the beneficiaries. HOs usually have difficulties in accessing to appropriate information which could inform them of the demand (e.g. the needs of the beneficiaries), the supply (e.g. local and international capacities), or delivering ways of the products or services (e.g. logistics infrastructure). Given the lack of information and task complexity of humanitarian operations, planning and evaluation of humanitarian operations performance in long term scope is not an easy task (Thomas, 2005) which has direct influence on complicated accountability and the allocation of gains or costs within the coordination initiatives. These difficulties would be more significant when we assume the bounded rationality of HOs' managers (Simon, 1960) (i.e., limited cognitive ability (Cyert and James, 1992) and imperfect information (Coase, 1937)).

Furthermore, coordination practices need considerable time for several tasks such as sharing information, or decision making which eventually could lead to longer response times (Das et al., 2006). For example, UN cluster initiatives currently hold joint meetings (up to 72 per week) (Volz, 2005). However, HOs have limited time to react to the beneficiaries needs which provides limited time for establishing and managing coordinative relationships among HOs (Balcik et al., 2010; Dolinskaya et al., 2011). Additionally donors put pressure on HOs to provide the humanitarian services through short term funding contracts. Nevertheless, a group of HOs are obliged through their own mandates to work for a short time on the field. To summarize, engagement in coordination initiatives is time consuming or requires resource investment (e.g. human resource, information) in long term. Short-term orientation is associated with low commitment to coordinative tasks and low engagement in relationship specific investments among HOs. Thus, we propose that:

Proposition 4A: Partners' short-term orientation is negatively associated with the partners' commitment towards coordination tasks.

Proposition 4B: Partners' short-term orientation is negatively associated with the partners' engagement in relationship specific investments.

Relatedness

Relatedness, or fitness, relates to similarity among organizations. Strategic relatedness refers to the degree of congruency among organizations goals, mission or value system (Holcomb and Hitt, 2007). Operational relatedness refers to utilizing similar supply chain systems, information systems, communication technologies, operational procedures, and knowledge sharing routines within partners. The extant literature indicates the positive affect of relatedness on relationship performance such as reducing conflict or monitoring cost, increasing synergy, exploring and exploiting new opportunities, or less need to formal

contracts (Dyer and Singh, 1998; Holcomb and Hitt, 2007; Luo, 2002; Mahoney and Pandian, 1992; Parkhe, 1993).

The level of relatedness among HOs decreases due to misalignment of goals, different mandates and values (e.g. neutrality, impartiality), and disparate cultures (Barnett, 2005; Benton and Maloni, 2005; Birdsall, 2005; Gazley, 2010; Minear, 2004; Stockton, 2002; Stoddard, 1998). According to their mandates, HOs can be active in specific areas (e.g. health care, shelter, or food), or in different phases of humanitarian operation (preparedness, response and recovery) (Kovács and Spens, 2011). Stockton (2002) argues that failed experience of HOs' coordination in Afghanestan, may be due to "the absence of universal strategic objectives". Stoddard (1998) states that HOs' identities, policies and programming preferences go along with the goals and propensities of their country of origin or the home government. Moreover, HOs have differences in respect to their organizational culture or behavioral norms which could play as communication barriers among HOs and lead to misunderstanding and miscommunication (Campbell and Hartnett, 2005).

In terms of operational relatedness, HOs' often use diverse methods and technologies of operating or supply chain systems or timeframes for operations. Each organization stick to its operational procedures and routines, and expect other partner(s) to adapt themselves to its operational approach (Campbell and Hartnett, 2005). Operational un-relatedness leads to potential barriers or challenges for HOs to coordinate (Campbell and Hartnett, 2005; Long and Wood, 1995). Thus, we propose that:

> *Proposition 5A: Partners' un-relatedness is negatively associated with the partners' commitment towards coordination tasks.*
>
> *Proposition 5B: Partners' un-relatedness is negatively associated with the partners' engagement in relationship specific investments.*

Relationship management capability

Relationship management capability compromise two concepts of relational capability (Holcomb and Hitt, 2007), and relational norms extracted from relational exchange theory (Kaufmann and Dant, 1992). Building on Schreiner et al. (2009) suggestion, we conceptulize the relationship management capabilty as a contruct with three types of skills: coordination, communication and bonding skills. Coordination skills refers to the ability to define the probem or task, making decision, divide each partner roles or responsiblities, controling its performance. Communication includes the abilities to employ formal and informal methods to efficiently convey information to partner(s) in "a timely, accurate and complete manner". Bonding indicates to an ability of organization to engage in a gradual process in which exchange partners could socially integrate and provide "instrumental or expressive value" to the partner(s).

HOs deal with considerable difficulties or managerial complexity (Park and Ungson, 2001) within the organizations during organizing or handling the collaborative initiatives. Rise of bureaucracy, loss of flexibility, complicated accountability, the large number and diversity of actors, lack of mutual familiarity, limitation of resources or difficulty in evaluating results (Balcik et al., 2010; Gazley and Brudney, 2007; Kent, 2004; Van Brabant, 1999) are among the difficulties or complexities that managers of HOs deal with in coordinative initiatives. A number of studies argue that coordination complexity leads to partnerships' failure (Greve et al., 2010; Holcomb and Hitt, 2007; McCutchen Jr et al., 2008; Park and Ungson, 2001; Schreiner et al., 2009). Accordingly, we argue that the low attention and investment in relationship management capability prevents HOs to trust on partner(s) and commit to engage in coordination initiatives as well as inhibits them to invest on relationship specific investments. Thus, we propose that:

Proposition 6A: Partners' low relationship management capability is negatively associated with the partners' commitment towards coordination tasks.

Proposition 6B: Partners' low relationship management capability is negatively associated with the partners' engagement in relationship specific investments.

As humanitarian organizations engage in more strategic levels of coordination the required amounts of commitment and relationship specific investments increase. Such strategic orientation necessitates managerial approaches that directly enhance them; or indirectly enhance any secondary factors, e.g., reducing partners' opportunistic behaviors, promoting long-term orientation, increasing relatedness among organizations as well as their relationship management capability. In the following section, we discuss practical managerial approaches that can improve horizontal coordination in future humanitarian operations.

5- Managerial Implications

To move from *ad hoc* coordination efforts during relief operations toward more strategic type III ones will require a paradigmatic shift in the way they operate. This shift may be brought about by a combination of inter-organizational, intra-organizational and donor sponsored measures. Next, we elaborate on managerial practices that may provide some guidance on this required paradigmatic shift.

5.1. From Reactive to Generative Decisions:

Currently, decision-making at various organizational levels takes place in a reactive mode. Humanitarian organizations often lack the resources to invest in planning and capacity building. Available resources are allocated thinly across multiple programs in different regions of the world. The occurrence of a disaster mandates that resources be re-allocated and reshuffled in a reactive way. Humanitarian organizations may be able to move toward more

generative decisions by first observing and adapting to emerging trends, and then understanding the structure underlying such patterns. Generative decision-making is aimed at addressing the identified structural problems and redesigning the system. For instance, HOs inability to properly build capacity, capture lessons learned, move beyond constant firefighting, and develop long-term coordination efforts suggests that they operate with limited human resources and significant overload. Insights from strategic and operations management imply that managerial firefighting often requires draconian measures to limit the amount of work overload (Repenning 2001, Black and Repenning 2001) and scale back the number of programs (Gonçalves, 2011).

5.2. Collaborative decision support tools:

Often, humanitarian organizations share little "relatedness" to each other. That is, despite operating in the same environments, under similar principles, they approach strategic , tactical and operational matters in widely different ways. Consider for example Medécin Sans Frontiéres (MSF) and International Medical Corps (IMC). While the two organizations provide health care emergency aid to save lives and alleviate suffering, their programs differ significantly. MSF operates mainly during early relief, with their expert surgeons, and will move out after they perceive the primary need has been met. In contrast, IMC will engage in training, staying for longer periods of time into the early recovery and development phases. Given the differences and possible conflicts between the organizations' different goals, missions, cultures and operational approaches, it is often challenging to coordinate in practice

Collaborative decision support approaches may help overcome humanitarian organizations' differences by providing a common service. Platforms that integrate data from multiple organizations could help improve planning and operations during preparedness, relief and recovery phases. After a disaster strikes, multiple organizations gather data about the state of health facilities, often by surveying the same facilities and interviewing the same doctors

multiple times. The practice is tremendously inefficient and leads to frustration. Currently, organizations conduct theses needs assessment surveys in isolation and the data gathered is seldom shared. Moreover, because problems in the humanitarian sector are wicked (Gass, 1994), methods such as conflict analysis, scenario planning, problem structuring methods, and management science methods (e.g., simulation modeling, system dynamics, operations research) are extremely valuable (Altay and Green III, 2006; Campbell and Hartnett, 2005; Franco, 2006). For instance, system dynamics allows managers in humanitarian organizations to learn in complex environments allowing them to "assess the interactions among variables, experience the long-term side effects of their decisions, and systematically explore new strategies" (Gonçalves, 2011). Clarity on the long-term impact of different strategies may facilitate a conversation on the number and role of different actors involved. Initiatives that establish platforms to gather and share data to shed light on the state of the system, simulation models that map the dynamics of relief efforts, joint analyzes providing transparency on existing problems, identifying gaps and redundancies can pave the way to more enduring humanitarian coordination efforts. Such initiatives have the potential to increase trust among HOs and their commitment to coordination efforts (Campbell and Hartnett, 2005).

5.3.Effective inter-organizational governance:

Balcik et al. (2010) argue that existing coordination efforts are characterized by low transaction costs (e.g., simple requirements, little technological uncertainty, low negotiation costs), such as collaborative procurement and third-party warehousing. To ensure the move toward long-term strategic coordination initiatives (e.g., 4PLs, warehouse standardization, transportation collaboration, etc.), HOs must implement effective governance mechanisms to safeguard the relationships among partners. Through networked collaborations, collaborative communities or multi-firm network organizations (Miles and Snow, 2007) HOs could establish an effective inter-organizational governance providing an environment to yield

efficient and effective relief services. Along these lines, consortia or group-based coordination initiatives can enhance process standardization (e.g., labeling, packaging), decrease costs through better forecasting, raise the "joint bargaining power, and address the shared risks and benefits across participants" (Balcik et al., 2010). As an operational approach toward such collaborative networks, Dollinester (2011) refers to a "membership subscription" approach in which interested HOs subscribe to the coordinative mechanism and qualified applications are admitted. AirLink, a "web-based platform that matches NGOs with transportation needs and airline companies," provides an interesting example of a membership subscription coordination initiative. Given the structured admission process of reliable and capable partners, organizational commitment and inter-organizational trust are high, promoting an effective coordination initiative.

5.4. Donor sponsored incentive mechanisms:

Competition among organizations induces opportunistic behavior and short-term orientation which decrease the level of commitment to and engagement in coordinative efforts. Scholars argue that incentive mechanisms (Barnett, 2005; Cooley and Ron, 2002; Huxham, 1993) employed by donors motivate HOs to keep a short-term view of operations and compete for resources or media attention (Balcik et al., 2010; Stephenson Jr and Schnitzer, 2006). This situation leads to low satisfaction or low quality of services to the beneficiaries (Chang et al , 2010). Therefore, donors can improve the coordination through designing effective incentives that encourage long term orientation and discourage the opportunistic behavior of partners (Campbell and Hartnett, 2005). For example, the Humanitarian Innovation Fund is a collective effort "to develop, test and share new technologies and processes that will make humanitarian aid more effective and cost-efficient in the future". In another example, SeaChange-Lodestar Fund supports collaborative operations of nonprofits partners which integrate part (or all) of their main activities in a formal long-term scope or permanent way.

5.5. Donors' capability building initiatives:

Donors can promote a context in which HOs compete towards building capabilities. Some scholars argue that organizations simultaneously compete and cooperate with each other which is called by (Nalebuff and Brandenburger, 1996) as "coopetition". We build on discussion regarding suppliers' coopetition in supply chain management (Wilhelm, 2011), and propose that donors can provide a network context in which HOs can cooperate to develop their capabilities and competencies in providing efficient humanitarian services. In this line, Wilhelm (2011) examines the Toyota's supplier association which plays a role to make ties among its suppliers and the company. Through coordinative initiatives such as association meetings or learning groups, the partners know about other organizations' existence, learn about their performance (success and failure), and moreover through the emerging transparency attain more information about each other, and can monitor each other. Additionally, they work together in joint projects and observe the best practice HOs' strengths and capabilities. These types of actions lead to "capability building competition" (Fujimoto, 2001) which change the competition on media attention and funding resources to competition over improving capabilities in order to provide right humanitarian services in right time and in right quality.

6- Limitations and Potential Areas For Further Research

This study contains some limitations. First, we focus on four relevant theoretical frameworks to understand the drivers and barriers of horizontal coordination among HOs, however next studies can explore the value of including other perspectives and constructs to the proposed model. For example, there is an opportunity of investigating the influence of culture on horizontal coordination performance. Cannon et al. (2010) point to the few studies which investigate supply chain relationships in the context of different cultures. Given the

employment of humanitarian operations in regions with variety of value and cultures, the effectiveness of operations management practices (e.g. facility location, layout, supply chain strategies) in those regions are different which means that they are altered or precluded by some cultures (Metters et al., 2010).

Second, employing empirical research methods has recently been emphasized by scholars for strengthening the empirical base of operations management (Craighead and Meredith, 2008; Fisher, 2007; Gupta et al., 2006). However, few studies in humanitarian operations have used empirical methods (e.g. well-structured single or multiple case studies, field study, or lab experiment) to explore the coordination among HOs. In respect to the proposed model, there are opportunities to conduct empirical research, through single or multiple methods (Boyer and Swink, 2008), examining v our result with samples including different type of HOs (e.g. local, international, or private) presenting in various regions of the world. For example, studies which use social network analysis can give insights on the validity of our proposed model. As a popular method in analyzing the interorganizational relationships, social network analysis can give insight in explaining why HOs' networks are "formed, disintegrate, and succeed or fail" (Borgatti and Li, 2009).

Third, in developing the model we relied on secondary data from literature review and practitioners reports, but further studies should use primary data through field research to revise and test the model. For example through field research (using methods such as action research, case study, content analysis, ethnography, or experiments), researchers can observe and investigate the actual behavior of HOs' managers while treating with problems in coordination practices as well as the practical validity of theoretical model. The results can "challenge, support, and/or extend existing theory, identify a lack of theory to explain observed phenomena, or be exploratory and thus theory building" (DeHoratius and Rabinovich, 2010).

Forth, in managerial implication section, we elaborated four approches towards enhancing coordination among HOs. These suggestions need more academic work to be well suited to humanitarian context. HOs' specific characteristics or their differences with commercial companies impacts negatively on normative coordinative initiatives which are suggested from commercial sector. Thus, there is a call for revise of models, cross-learned from private sector, in order to apply in humanitarian sector. In this line, some scholars call for exploring the influence of culture and behavioral issues in operations management practices (Bendoly et al., 2006; Metters et al., 2010). For example, studies built on organizational learning and communication theories could explore the influence of behavioral issues (e.g. emotion, culture or trust) (Argote and Miron-Spektor, 2010) as a facilitator or inhibitor of cooperative activities such as information sharing among HOs.

Finally, after using field research and using approaches within behavioral operations management, the knowledge relevant to the actual behavior of HOs' managers while dealing with coordination problems emerge. In next steps, scholars can investigate managerial interventions that counteract or leverage these behavioral deviations through behavioral mechanism design approach (Katok and Loch, 2010).

7- Conclusion

As we look to the future of research in horizontal coordination among HOs, we believe that there is a considerable amount of work needed to fully explore the phenomenon. Our research provides insights into the drivers and barriers of horizontal coordination performance among HOs. Specifically, the study highlights the key factors which have effect on the coordination performance, and guides the HOs managers in developing strategies for increasing the horizontal coordination performance. Managers should take into account the type of horizontal coordination and acknowledge that pursuing higher level of coordination

performance is associated with the high amount of commitment-trust and RSIs. We hope that our study prompts future studies that will look in more detail theoretically and empirically at the proposed model in order to make it more insightful and valuable in understanding interorganizational relationships among HOs and designing strategies for its improvement.

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