

# An empirical investigation of swift trust in humanitarian logistics operations

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## Abstract

**Purpose** – Trust is essential for any team working together. In humanitarian logistics operations, relief organizations often have to work collaboratively in hastily formed networks. Trust in such a context, termed as “swift trust” in the literature, is an important but less explored topic. The purpose of this paper is to empirically explore the antecedents of swift trust as well as its impact on the coordination among the humanitarian workers.

**Design/methodology/approach** – The authors choose the humanitarian workers in Southeast Asia as the research sample. An exploratory survey study is conducted in three Southeast Asian countries, namely, Singapore, Indonesia, and the Philippines, with 89 usable responses.

**Findings** – The empirical results have shown support for most hypotheses. Third-party certification, competency, similarity in procedure standards and organizational values, can all generate swift trust. Moreover, swift trust can lead to greater openness in information sharing for coordination, though not to active assistance. Both coordination activities would lead to greater coordination effectiveness.

**Research limitations/implications** – Future studies could examine the four antecedent conditions for swift trust with better proxies. The connection between swift trust and coordination effectiveness can be explored in depth.

**Practical implications** – NGOs and governments could use these means effectively to build swift trust among the humanitarian players. For example, organizing field-oriented training activities would be beneficial for humanitarian workers in both network building and enhancing personal competency.

**Originality/value** – The findings point to the importance of swift trust in humanitarian operations and identify several means to enhance this trust. It has filled a research gap on the empirical investigation of the antecedents and impact of swift trust on inter-organizational coordination in humanitarian logistics operations.

**Keywords** Empirical, Humanitarian logistics, Hastily formed networks, Inter-organizational coordination, Swift trust

**Paper type** Research paper

## 1. Introduction

In recent decades, we have witnessed an increasing impact and complexity of both natural and man-made disasters (IFRC, 2016). To mitigate the effect of such disasters, humanitarian relief organizations (HROs) across the world are busy rescuing and helping people in disaster-prone areas, particularly those in developing countries where often the poor post-disaster infrastructure presents additional challenges to humanitarian logistics operations in the field. Under such emergency operations, typically, there are multiple stakeholders such as commercial enterprises, donor and host governments, the military, HROs (often both international and local ones), as well as local communities working together for effective response[1]. The stakeholders and agencies involved may often have

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various motivations, mandates, resources, and technical expertise, and must coordinate well to ensure the effectiveness of the emergency operations, as no single actor has sufficient resources to respond effectively to a major disaster. Therefore, inter-organizational coordination in emergency humanitarian logistics has attracted increasing attention (e.g. Balcik *et al.*, 2010; Moshitari and Goncalves, 2017).

Trust is a critical factor for effective coordination in supply network management (e.g. Golicic *et al.*, 2003; Gulati and Singh, 1998). It is well documented that a high level of trust among supply chain partner organizations leads to coordination effectiveness and better chain performance in both the commercial and humanitarian contexts (e.g. Fawcett *et al.*, 2008; Saab *et al.*, 2013). However, the literature tends to focus on trust from long-term relationships. Studies on trust formed in the temporary networks in emergency logistics operations on sudden onset disasters are scant (Tatham and Kovács, 2010). In the context of humanitarian operations, these temporary networks are often the norm in emergency relief operations whereby a number of individual logisticians from a variety of organizations have to work together, often without prior experience, especially for coordination in the field. This type of temporary networks can be classified into hastily formed networks (HFNs) in the literature (Denning, 2006). Different from many temporary networks where the participants are professionally trained and share common backgrounds and approaches (e.g. military combat units, fire-fighter teams), an HFN is a network of people characterized by five elements: established rapidly, from different communities, working together in a shared conversation space, in which they plan, commit to, and execute actions, and to fulfill a large, urgent mission (Denning, 2006).

In the context of humanitarian operations, while sharing a common aim to help the disaster victims, the logisticians in an HFN may not have had extensive professional engagement with the rest previously, nor have gone through the same training. This is particularly true for some developing countries which tend to limit the entry of international HROs for reasons of political or religious sensitivities. An HFN may develop, migrate, and reorganize, gaining and losing memberships in an unstructured way (Majchrzak *et al.*, 2007). In such a context, trust building would follow a different pattern from the trust formed in a long-term relationship. Individuals within such a network are often tied together via “swift trust” or “initial trust” (Meyerson *et al.*, 1996).

Swift trust is a form of trust occurring in temporary organizational structures, assumed by group members initially, and is later verified and adjusted (Meyerson *et al.*, 1996). It has been already recognized as an important type of trust in humanitarian operations (Stephenson, 2005). Tatham and Kovács (2010) have proposed a model of swift trust in the humanitarian context with several possible facilitators. However, to date, there is no known empirical work on swift trust in humanitarian logistics studies.

To address this research gap, we conduct an empirical investigation to examine not only the factors affecting the forming of swift trust, but also the impact of swift trust on the inter-organizational coordination activities among the HROs operating in the field, with coordination theory as the lens (Malone and Crowston, 1994). By applying swift trust and coordination theory into humanitarian coordination practices, this study would enrich our understanding of this important practical research domain and contribute to the improvement of humanitarian relief operations in the field. It is especially relevant and timely to the context of large-scale relief operations for sudden onset disasters in developing countries, where professional HROs often have to work with many unfamiliar and relatively new partners such as the local government agencies, military, local community, and the local enterprises to form various HFNs. By building swift trust quickly in these HFNs, the HROs could coordinate their logistics operations more smoothly and effectively, which in turn may alleviate the sufferings of the beneficiaries and reduce the HRO's operating cost.

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From the perspective of novelty and academic contribution, it is one of a few empirical investigations in the arena of humanitarian logistics, and may contribute to future rigorous empirical examination in the field.

## 2. Literature Review

### 2.1 *Trust in commercial world*

Trust is a core concept in supply network management and has been studied from a range of perspectives, including economic, psychological, and sociological. It integrates “micro-level psychological processes and group dynamics with macro-level institutional arrangements” (Rousseau *et al.*, 1998), and is dynamically formed in the course of interactions among people and organizations. Morgan and Hunt (1994) loosely define trust as “confidence in an exchange partner’s reliability and integrity.” While we would mainly discuss inter-organizational trust in this study, for all practical intents and purposes, it would encompass inter-personal trust as the decisions within organizations are made by individuals. Therefore, inter-organizational trust is viewed as the trust between individuals from different organizations (Tatham and Kovács, 2010), and we, therefore, measure swift trust at the personal level.

Examining commercial supply chain inter-organizational relationships, Golicic *et al.* (2003) proposed different types and levels of cooperative relationship, ranging from close alliances to arms-length transactional relationships, and the level of inter-organizational trust among the supply chain partners is found to be deeper in closer relationships. Fawcett *et al.* (2008) has further reported that the lack of trust is a major barrier to the effective management of the supply chain.

### 2.2 *Swift trust in general*

The concept of swift trust is first proposed by Meyerson *et al.* (1996) as an explanation of the trust developed in temporary, non-conventional teams within or between organizations. It is “a unique form of collective perception and relating that is capable of managing issues of vulnerability, uncertainty, risk, and expectations” (Meyerson *et al.*, 1996). Instead of the typical trust built through the passage of time as an evidence-driven information process, swift trust is generated by category-driven processes under very tight time windows. A temporary team would interact as if trust were present, but then must verify that the team can manage the expectations of all stakeholders. It is conditional and is in need of reinforcement and calibration by action. Hung *et al.* (2004) has developed a framework for the initial formation and further growth of the trust in the context of virtual teams. Three routes to trust, the peripheral, central, and habitual, are proposed in Hung *et al.* (2004)’s framework. The peripheral route refers to the early establishment of trust, and the central one is its further development in relationships with a long-term perspective, while the habitual one is at a higher level where trust is based on the patterns developed within the relationship.

Temporary groups are not limited to the commercial world. Military combat units and civilian emergency response teams for disasters (e.g. bush fire) are often formed of complete strangers from different branches and organizations for urgent tasks, frequently in life or death situations. It is reported that the professionalism and specialist knowledge of the team members would result in an acceptance of their competency and the formation of swift trust in such a context (Hyllengren *et al.*, 2011; Curmin *et al.*, 2015).

Moving from the forming of swift trust to its impact, Adler (2007) has conducted a simulation to examine the impact of swift trust on the contractual development of a strategic partnership, and found the initial trust (swift trust) and distrust on the partnership would significantly affect the inter-team relationship. Deeper trust would loosen the formality between teams and increase the perceived quality, while deep distrust would lead to competition between teams and reduce the perceived quality.

### 2.3 *Swift trust in humanitarian context*

In the context of emergency humanitarian operations, many temporary networks can be classified as HFNs since in which many participants are often neither professionally trained nor shared a common background or culture. These HFNs are often formed with little or no prior warning as disaster relief is characterized by the arrival of large numbers of individuals from a variety of organizations. In addition, the HFNs include the volunteers in the field (beneficiaries) without any knowledge of relief operations, and members from faraway headquarters virtually linked to the network. In such a context, the forming of swift trust would be more challenging compared to the temporary groups in a business or military setting, but the urgency of relief operations demands a high level of trust among the team members for effective communication and coordination (Stephenson, 2005).

Examining the antecedents of swift trust in humanitarian operations, Tatham and Kovács (2010) proposed a framework with five conditions influencing the formation of swift trust, namely, third-party information, dispositional trust, rule, category, and role. Here, third-party information refers to the prior reputation of the person or the employing organization. It also includes certification by a known person. Next, dispositional trust refers to the general disposition of an individual to trust others. It is related to personality and is thus beyond the scope of this study. The third factor, rule, refers to the processes and procedures, and common rules and processes can significantly build swift trust between two unknown HFN members (Hyllengren *et al.*, 2011). We term it in this study as “protocol standard” to avoid any potential confusion.

As for category, this factor refers to the membership of the individuals in social groups or categories. It can be gender, race, nationality, religion, or perceived organizational goal or even stereotype. Here, we call it “group identity” for clarity. The last factor, role, refers to the expected competency of the partners, and we term this factor as competency for ease of use.

### 2.4 *Coordination in humanitarian operations*

Building trust is not an end in itself. The purpose of forming trust is to facilitate more effective inter-organizational coordination and collaboration. While it is well known in organization theory that trust can facilitate inter-organizational coordination (e.g. Ring and Van de Ven, 1992; Rampersad *et al.*, 2010), it is important to explore its impact in the humanitarian context. It is particularly so in the case of HFN coordination, where high environmental, demand, and supply risks have posed challenges to field coordination (Moshtari and Goncalves, 2017). The literature typically divides field coordination into two types, vertical and horizontal coordination (e.g. Balcik *et al.*, 2010; Bealt *et al.*, 2016). Vertical coordination refers to the coordination with upstream or downstream partners such as the logistics service providers while horizontal coordination refers to the coordination at the same level of the chain, often with the other HROs. The focus of this study is on horizontal inter-organizational coordination in the field where swift trust is critical to coordination effectiveness.

The most commonly accepted definition of coordination is “the act of managing dependencies between entities and the joint effort of entities working together towards mutually defined goals” (Malone and Crowston, 1994, p. 91). From coordination theory, coordination in humanitarian logistics arises from the task interdependencies, where a single entity is unable to meet the needs of the beneficiaries in a location. While various coordination mechanisms, ranging from centralized planning to market (bidding) are possible, some in-between forms such as group decision making are most practical at this level given the diversity of the participating players (Malone and Crowston, 1994). The dominant approach in humanitarian operations, the cluster approach, can be seen as a form of group decision making (Jahre and Jensen, 2010). It assigns a single lead agency (umbrella organization) as the coordinator to facilitate the horizontal inter-organizational

coordination in a certain humanitarian program (Akhtar *et al.*, 2012). While the cluster approach seeks to be inclusive without any formal membership, realistically, many HROs maintain a considerable degree of independence and interface with the cluster only in times of need (Tatham and Spens, 2016). One important research question is to understand the means and the mechanisms that could motivate the HROs to coordinate better in the field.

Trust would be a key component to facilitate coordination, as the lack of trust is a major barrier to inter-organizational coordination (Kabra and Ramesh, 2015). In the context of complex and dynamic environments, which include emergency humanitarian operations, Hossain and Uddin (2012) have developed a framework to model inter-organizational coordination based on social networks. Similarly, Saab *et al.* (2013) has explored the connection between trust and coordination among the field-level ICT workers in HROs where trust building through collaborative activities is found essential for successful inter-organizational coordination.

While there is growing recognition of the importance of swift trust and coordination in humanitarian logistics operations as summarized in Table I, there is no known quantitative study on the forming of swift trust in emergency relief operations. The existing works are largely based on either theoretical applications (e.g. Tatham and Kovács, 2010; Hossain and Uddin, 2012) or case studies (e.g. Saab *et al.*, 2013). This study is thus initiated to fill the research gap.

Important study	Context	Key findings
Meyerson <i>et al.</i> (1996)	Theoretical paper	First systematic study on swift trust
Hung <i>et al.</i> (2004)	Trust in context of virtual team	A framework on the routes to swift trust
Hyllengren <i>et al.</i> (2011)	Temporary military group in Northern Europe	Factors affecting the forming of swift trust reported
Curnin <i>et al.</i> (2015)	Emergency operations centers in Australia	Role clarity critical for swift trust
Adler (2007)	Outsourced team management by simulation	Impact of swift trust on strategic partnership reported
Stephenson (2005)	Theoretical paper on humanitarian coordination	Propose social network approach for coordination
Tatham and Kovács (2010)	Theoretical paper in humanitarian logistics	A framework on antecedents of swift trust
Moshtari and Goncalves (2017)	Meta study on humanitarian collaboration	Identify factors affecting collaboration effectiveness
Balcik <i>et al.</i> (2010)	Literature review on humanitarian coordination	An overview of the field with definitions and classifications
Bealt <i>et al.</i> (2016)	Survey and interviews to study vertical coordination	Barriers to the collaboration between logistics service providers and HROs
Jahre and Jensen (2010)	Conceptual paper on coordination mechanisms	Cluster approach proposed and discussed
Akhtar <i>et al.</i> (2012)	Case study on the practices of chain coordinators	Factors related to the coordination success identified
Tatham and Spens (2016)	Theoretical paper on coordination challenges	Propose to apply approaches used in urban search and rescue community
Kabra and Ramesh (2015)	Empirical investigation on coordination barriers	Major barriers to coordination reported
Hossain and Uddin (2012)	Conceptual paper to model coordination	A social network-based framework is proposed
Saab <i>et al.</i> (2013)	Case study on field-level ICT workers' coordination	Trust building is essential for coordination effectiveness
Jensen and Hertz (2016)	Case study on cluster approach in coordination	Roles of participants are clarified and categorized

**Table I.**  
Summary of referenced studies on swift trust and humanitarian coordination

### 3. Hypotheses and framework

To develop a framework with empirically testable hypotheses, we first examine the model presented in Tatham and Kovács (2010, p. 38). The five antecedent conditions in the model are then further developed into testable hypotheses in the context of emergency relief operations for a developing country.

Third-party information is the first factor in the original model. It can be in the form of reputation or certification by official third-party organizations (such as ISO), or in the form of references provided by trusted persons, particularly for the small local HROs which often lack the needed contacts with the outside world. Researchers have long noticed that the importance of third party in disseminating relevant trust information (e.g. Burt and Knez, 1996; Kramer, 1999). As most HFN members are assumed to have no prior contact, some third-party knowledge is essential in the forming of initial trust for partner credibility (Eckel and Wilson, 2004). When a partner is introduced by a trusted person or organization, two HROs without any prior work experience would find it easier to trust in each other. We, thus, posit the following hypothesis:

*H1.* It is easier to generate swift trust towards a partner if the partner is introduced by a trusted person or organization.

The second factor, disposition trust, is more personality related, and the HROs at the organizational level can do very little to induce this type of trust (Tatham and Kovács, 2010). Therefore, we do not explore this factor further.

Rule or protocol standard is the third factor, which is important in relief operations. There have been calls within the humanitarian community to develop common rules and procedures among HROs in the same cluster to facilitate inter-organizational coordination, though in practice, there is still a long way to go (Balcik *et al.*, 2010). Moreover, similar operating rules and procedures in the HROs can be seen as a sign of professionalism and a guard against potential maverick behavior (Kramer, 1999), and may generate trust between the partners more easily, leading to the following hypothesis:

*H2.* Two HROs are more likely to generate swift trust towards each other if they follow similar rules and procedures on humanitarian operations.

The next factor, category or group identity, is an important though often divisive factor in the forming of swift trust. Here, we specifically explore the impact of organizational belief and values, an important type of group identity. Sharing the same organizational values would be particularly important for the forming of swift trust amongst the small local HROs. Moreover, cultural and organizational value differences have been identified as a top barrier to trust and coordination (Kabra and Ramesh, 2015). In addition to organizational values, another important type of group identity is religion. There are so many religious conflicts and wars around the world. It would be interesting to explore the impact of religious belief on the relief operations since some NGOs/HROs are predominantly faith-based. Anecdotal information from the field suggests that it is relatively easier for two similar faith HROs to work together as compared to two HROs established by different faith groups. Therefore, we propose the next two sub-hypotheses:

*H3a.* Two HROs are more likely to generate swift trust towards each other if they share the same organizational values.

*H3b.* Two HROs are more likely to generate swift trust towards each other if they share the same religious belief.

The last factor, role or competency, is another important factor in trust building (Hyllengren *et al.*, 2011). A challenge in humanitarian relief is that the roles of the participants are

less clear than that in the traditional commercial supply chain (Jensen and Hertz, 2016). Curnin *et al.* (2015) found that role clarity is a critical factor for swift trust and successful coordination in the emergency management. It is reported that experience in prior disaster relief operations is important for building trust (Saab *et al.*, 2013). A person with experience would thus find his role in an HFN more quickly in a rapidly evolving environment, and be seen as more competent and as such is easier to be trusted, resulting in the following hypothesis:

*H4.* It is easier to generate swift trust towards a partner if the partner is perceived as competent through his/her background or experience.

In addition to these antecedents, perceived risk can act as a moderator on swift trust building. In any trust building process, risk always plays an important role (Eckel and Wilson, 2004). In the humanitarian context, the competition for media attention and the subsequent funding would be an important risk as most HROs do not have stable revenue but instead rely on the donations from the goodwill of various individuals and organizations (Tomasini and Van Wassenhove, 2009). An understanding of the potential competition may affect swift trust building between two HROs, and thus cause them to withhold critical information and adversely affect their coordination. Another possible risk is the potential clash due to value differences, which is a common factor in inter-organizational conflicts and happens in humanitarian relief operations as well (Akhtar *et al.*, 2012). The following two sub-hypotheses are thus proposed:

*H5a.* It is more difficult to generate swift trust towards a partner if the partner is perceived to be a potential competitor for funds.

*H5b.* It is more difficult to generate swift trust towards a partner if the partner is perceived to be significantly different in organization values.

In addition to the antecedents of swift trust, we also investigate the impact of swift trust on the coordination activities as well as the coordination effectiveness in the humanitarian context. Our premise is that swift trust will help engender coordination effectiveness. The relationship between the trust and coordination has been well discussed in the coordination literature (e.g. Gulati and Singh, 1998; Rampersad *et al.*, 2010). The coordination literature has further identified different levels of coordination, from low-level information sharing (each maintaining full autonomy) to high-level task sharing when organizations share authority and responsibility for planning and implementing actions (Malone and Crowston, 1994). Here, we propose two levels of coordination, information sharing (passive contribution to coordination) and active assistance (active coordination with efforts). We thus posit the following two sets of hypotheses, *H6a-b* on the impact of swift trust on the two levels of coordination, and *H7a-b* on the impact of coordination on its effectiveness:

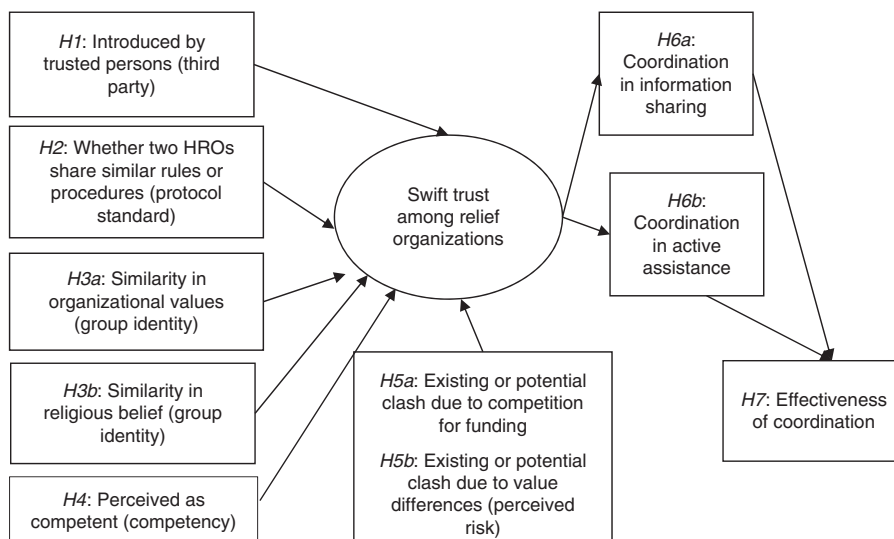
*H6a.* The deeper the swift trust among the coordinating partners, the higher the degree of their coordination activities in information sharing.

*H6b.* The deeper the swift trust among the coordinating partners, the higher the degree of their coordination activities in active assistance.

*H7a.* The higher the degree of the coordination activities in information sharing, the better the coordination effectiveness.

*H7b.* The higher the degree of the coordination activities in active assistance, the better the coordination effectiveness.

Figure 1 summarizes the group of seven hypotheses into a framework.



**Figure 1.**  
Research framework

## 4. Research method

### 4.1 Sample selection

We have chosen the humanitarian workers in Southeast Asia, from the public and private sector as well as the NGO sector, as the research sample. Southeast Asia is a disaster-prone region with a vibrant private sector and strong local governments. The region thus enjoys a high variety of organizations, ranging from local, regional, to internationals, participating in humanitarian field operations, often without prior knowledge of one another, which would make swift trust more critical for the coordination effectiveness. It is, indeed, an appropriate location for our study.

There are several disaster-prone countries in Southeast Asia, including the Philippines, Indonesia, and Myanmar. The recent disasters in the region include tsunamis (e.g. 2004 Indian Ocean tsunami in Aceh), earthquakes (e.g. 2009 Sumatra earthquake in Padang), cyclones and typhoons (e.g. 2008 Cyclone Nargis in Myanmar, 2013 Typhoon Haiyan in the Philippines), flash floods (e.g. 2011 Bangkok flood), and volcanic eruptions (e.g. 2010 Merapi eruptions in Java). In addition, there are man-made disasters such as ethnic conflicts in Myanmar and Southern Philippines, including the battle against the ISIS militants in Marawi of Philippines, and the Rohingya refugee crisis in Myanmar in 2017. Many large international HROs are active in the region, with extensive relief and development programs in the field.

Moreover, most countries in the region are democracies with a vibrant private sector and have strong networks of local HROs. For instance, Indonesia, the largest country in the region, is estimated to host tens of thousands of local NGOs, of which only about 9,000 are officially registered with the Ministry of Home Affairs (Figge and Pasandaran, 2011). Many of them are heavily involved in local humanitarian operations, either focusing on emergency relief alone or operating in both relief and developmental activities. There are the secular and religious NGOs (Protestant, Catholic, Muslim, and Buddhist organizations), some of which have also actively contributed to humanitarian activities in the field, especially in the remote regions of the country. It would indeed be interesting to explore the forming of swift trust as well as its impact in such a complex and dynamic environment, in particular, on the degree of coordination among the HROs.

We elect to employ a survey-based approach to make the study results more objective and allow for easier empirical verification compared to the qualitative approaches such as case studies. The questionnaire for this survey was developed through a rigorous process. We first review the extant literature to list the candidate constructs and the measures that were used in previous research, and then develop a draft questionnaire. Structured face-to-face interviews are then conducted with a few senior humanitarian logisticians in the region for feedback, using an interview protocol based on the draft questionnaire. We then finalize the questionnaire, which is attached in Appendix. In addition to the English version, the questionnaire was also translated into the local language, e.g., Bahasa Indonesia (the official language of Indonesia), for a survey conducted in Indonesia. It would enable us to reach out to more local or regional HROs there who are weak in the English language, as suggested by Harkness and Schoua-Glusberg (1998).

A multi-country exploratory survey was initiated in early 2014. Giving the limited knowledge about humanitarian workers in the region, we used the humanitarian logistics education centers in three Southeast Asian countries (Singapore, Indonesia, and the Philippines) to implement the surveys among the humanitarian workers participating in the training sessions at these centers. A researcher visited these centers with the trainers, distributed the questionnaires, and collected the completed questionnaires before leaving the centers. As most humanitarian workers are not used to answering public inquiries and surveys, handling the questionnaire personally would be more convenient and effective for them. The researcher could also explain and clarify their questions during the process. We managed to collect 90 questionnaires from the three training sessions: Singapore (33 responses; most are from the international or regional HROs with operations in several Southeast Asian countries), Indonesia (24 responses; most are from the local HROs), and the Philippines (33 responses; most are from the local HROs), respectively. Using ANOVA to compare the responses from the three centers, we detected no evidence of response bias. Data were thus pooled together for further analysis.

On examining the responses, we found one questionnaire to be unusable due to the absence of all critical information. Thus, the usable sample size is 89. A few more questionnaires are incomplete, making the sample sizes for hypotheses testing uneven. Table II presents the respondent profiles.

Among the respondents, nine of them omitted their profile information such as organization type and size. Among the rest (80), the largest group is from the NGO sector (including local, regional, international NGOs as well as the multinational organizations such as the UN agencies like WFP) (50 percent). The second largest is the public sector (28 percent comprising the government agencies and related associations, often those working together with the NGOs in the field), followed by academia (14 percent, often those who join humanitarian operations out of personal interest), and finally the private sector (both corporations and private foundations, 9 percent). This percentage largely fits the overall humanitarian landscape in the region where NGOs and governments are the main players.

**Table II.**  
Organizational  
affiliation of  
respondents

	Number	Percent
Government agencies	11	13.8
Government-affiliated associations	11	13.8
Local NGOs	4	5.1
Regional NGOs	6	7.6
International NGOs	15	18.8
UN agencies and other multinational organizations (e.g. Red Cross)	15	18.8
Private sector	7	8.8
Academia	11	13.8

**Note:**  $n = 80$

#### 4.2 Measures

The measures used for the constructs such as swift trust and coordination effectiveness are drawn from the literature with some adjustments to suit the context of emergency relief operations. On swift trust, we adopt three items from Robert *et al.* (2009) as shown in Q3 of our questionnaire in Appendix.

The degree of coordination is measured by the frequency, openness, and proactivity of information sharing, readiness to maintain a positive relationship, and accessibility according to Hossain and Uddin (2012), and Rampersad *et al.* (2010). The first three items measure the degree of coordination in information sharing, and the latter two measure the degree of coordination in active assistance as shown in the first five items of Q4 of the questionnaire. The last construct, coordination effectiveness, is also developed based on Hossain and Uddin (2012), and Rampersad *et al.* (2010), though with some adjustments to the humanitarian context with the last five items of Q4 of our questionnaire.

### 5. Results

Based on the results from Q1 of the questionnaire, Hypotheses *H1-H4* are tested. All hypotheses except for *H3b* are supported. We first conduct an explanatory factor analysis through the principal components analysis to derive the factors from the seven items with the results shown in Table III. As these factors account for 81 percent of the observed variance in the data with the Kaiser-Meyer-Olkin (KMO) measure at 0.64, the explanatory factor analysis is deemed valid.

The three items in the first factor, “the person is from an organization I know,” “the person is introduced by someone I know,” and “I have some good friends in the organization,” are used to measure the variable for *H1*, “introduced by trusted person.” Reliability analysis also supports the grouping with Cronbach’s  $\alpha$  at 0.76. The two items in the second factor are conceptually inconsistent as the first “competency by background or experience” is quite different from the second “sharing same values,” and reliability analysis does not support the grouping either with Cronbach’s  $\alpha$  at 0.68, below the threshold for item consistency. Moreover, both factors 3 and 4 contain single items, and we thus treat the rest four items individually.

Factor 1 and the four items are then used to test *H1-H4*. One-sample *t*-tests are employed as we now have single variables for each hypothesis with the results presented in Table IV. Table IV shows that *H1*, *H2*, *H3a*, and *H4* are strongly supported when compared to the null hypothesis (mean = 3), but *H3b* is not. *H3b* is rejected, suggesting that religious belief has been viewed as having no impact on swift trust generation.

Item	Factor 1 third-party information	Factor 2 value or competency	Factor 3 similar rules	Factor 4 same belief
Person from organization I know	<i>0.768</i>	0.190	-0.062	0.100
Person introduced by a person I know	<i>0.878</i>	0.068	<i>0.097</i>	-0.086
Having friends in the organization	<i>0.770</i>	-0.168	0.337	0.226
The organization follow similar rules or procedures	0.122	0.22	<i>0.897</i>	0.087
The person is competent based on background & experience	0.035	<i>0.912</i>	0.046	0.138
Have same values with the organization	0.111	<i>0.725</i>	0.454	0.009
Have same religious belief with the organization or person	0.092	0.127	0.084	<i>0.974</i>

**Notes:**  $n = 88$ . Four factors whose eigenvalues are greater than one are loaded. Values in italic indicate item loading from their respective factors

**Table III.**  
Factor analysis  
on factors that  
induce trust

To test *H5a-b*, we use the answers to two items, “potential competition for funding” and “potential clash due to differences in values,” in *Q2* of the questionnaire to measure the variables for *H5a* and *H5b*, respectively. One-sample *t*-tests are used, and the results shown in Table V suggest to reject *H5a* but *H5b* is supported.

*H6a-b* and *H7a-b* on coordination activities are similarly supported except for *H6b*. We again conduct exploratory factor analysis to derive the coordination variables from items of *Q4* in the questionnaire. Three factors are loaded with the details shown in Table VI. As these factors account for 77 percent of the observed variance in the data with the KMO measure at 0.75, the explanatory factor analysis is deemed valid.

The five items in the first factor, coordination with the new partner, coordination in the network, effective centralized coordinator, centralized coordinator with information, and good coordination with the new partner by the central body, are measures of coordination effectiveness. The second factor includes the openness, regularity, and proactivity of

**Table IV.**  
*t*-test results for *H1-H4* for null hypothesis

Variable	Mean	t-score	<i>p</i> -value
Introduced by trusted person ( <i>H1</i> )	3.38	4.92	< 0.001
Sharing similar rules & procedures ( <i>H2</i> )	3.49	5.38	< 0.001
Sharing similar organizational values ( <i>H3a</i> )	3.91	10.1	< 0.001
Sharing similar religious belief ( <i>H3b</i> )	2.17	-7.47	< 0.001
Perceived competency ( <i>H4</i> )	3.84	10.2	< 0.001

**Notes:** *n* = 89. Mean = 3

**Table V.**  
*t*-test results for *H5a-b* for null hypothesis

Variable	Mean	t-score	<i>p</i> -value
Potential competition for funding ( <i>H5a</i> )	2.88	-1.21	0.229
Potential clash due to difference in values ( <i>H5b</i> )	3.31	3.03	0.003

**Notes:** *n* = 88. Mean = 3

**Table VI.**  
Factor analysis on coordination activities

Items	Loaded factor 1 coordination effectiveness	Loaded factor 2 information sharing	Loaded factor 3 active assistance
Open to share information with new partners	0.128	<i>0.852</i>	0.070
Regularly share information with new partners	0.176	<i>0.880</i>	0.126
Proactively share information with new partners	0.084	<i>0.832</i>	0.239
New partner can approach us for help needed	0.136	0.255	<i>0.816</i>
We try our best for a positive coordination experience with new partner	0.187	0.094	<i>0.839</i>
Our activity well-coordinated with new partner	<i>0.662</i>	0.149	0.365
Our activity with new partner well-coordinated within the network	<i>0.762</i>	0.164	0.284
There is an effective central body in our network	<i>0.909</i>	0.048	0.0911
The central body can process all information from the network	<i>0.931</i>	0.116	0.001
The central body can coordinate well with new partner	<i>0.917</i>	0.156	0.101

**Notes:** *n* = 84. Three factors whose eigenvalues are greater than one are loaded. Values in italic indicate items loading from their respective factors

information sharing, which measure the different aspects of information sharing. The third factor includes approachable and active assistance for the new partners, and measuring the active assistance in coordination. Reliability analysis supports the grouping of the variables with Cronbach's  $\alpha$  at 0.92 for Coordination effectiveness, 0.85 for Information sharing, and 0.70 for Active assistance, respectively, which supports their internal consistencies. The grouping is consistent with our theoretical discussion in Section 3.

After the factor analysis, we then average the item scores for the three factors and derive the value of all coordination variables: Coordination effectiveness, information sharing, and active assistance, respectively. Four linear regressions are conducted to test the two groups of hypotheses with organization type (public, private, NGOs, and others) as the control variable. The results are reported in Tables VII and VIII.

Tables VII and VIII show that *H6a*, *H7a*, and *H7b* are supported by regression analysis but not *H6b*, and the control variable, "organization type" has no impact on our dependent variables.

## 6. Discussion

We proceed to conduct an exploratory empirical analysis on the forming and impact of swift trust in humanitarian operations. Most of our hypotheses are well supported by the empirical data. Specifically, the key findings are as follows.

Being introduced by trusted person or organization can lead to deeper trust (*H1*), similarity in rules and procedures can generate trust (*H2*), sharing similar organizational values can generate trust (*H3a*), and a competent partner is more likely to be trusted (*H4*). However, there are also surprises. Contrary to our expectation (*H3b*), religious belief or values have no impact on the forming of swift trust. Actually, most respondents strongly agree that religion should not have any impact on their professional behavior. In another similar question on the barrier to the forming of swift trust, most respondents also strongly disagree that religious differences should be a source of organizational conflict. It shows that the humanitarian workers are largely professional in their views on religion. In Southeast Asia, a region with diverse cultures and religions and occasional religious conflicts, the humanitarian workers are able to put aside their religion beliefs and maintain a professional posture when dealing with organizations and people from other religious backgrounds.

Dependent variable	Coordination on information sharing ( <i>H6a</i> )		Coordination on active assistance ( <i>H6b</i> )	
	<i>b</i>	SE	<i>b</i>	SE
Swift trust	0.247*	0.100	0.099	0.090
Organization type	-0.068	0.081	0.046	0.073
$R^2$	0.079		0.018	

Notes:  $n = 86$ . \* $p < 0.05$

**Table VII.**  
Linear regression  
on *H6a-b*

Dependent variable	Coordination effectiveness			
	<i>b</i>	SE	<i>b</i>	SE
Information sharing ( <i>H7a</i> )	0.342**	0.106		
Active assistance ( <i>H7b</i> )			0.432**	0.119
Organization type	0.081	0.081	0.036	0.080
$R^2$	0.115		0.141	

Notes:  $n = 86$ . \*\* $p < 0.01$

**Table VIII.**  
Linear regression  
on *H7a-b*

Our tests on *H5a* and *H5b* also show the differences between principles and monetary benefits. While difference in organizational values is an important barrier to the forming of swift trust (*H5b*), the potential conflict in fund raising (*H5a*) is not. Humanitarian workers are not so concerned about the competition for funding among the HROs, but they focus more on the field operations which demand deep trust among the different field workers (and hence organizations). Here again our results bear evidence of the professionalism of the humanitarian staff.

Moving from the forming of swift trust to its impact, the testing of *H6a-b* and *H7a-b* has presented a mixed bag. While swift trust is found to be inductive to coordination in information sharing (*H6a*), its linkage to active assistance in coordination is not supported by the data (*H6b*). This suggests the limitation of swift trust in the field. While HROs are willing to trust unfamiliar partners quickly for the field work, their coordination is still at a low level. Some swift trust is good enough for low effort coordination activities such as information sharing, but is insufficient for the more costly forms of coordination such as active assistance. Due to the chaotic nature in the field during an emergency relief operation, it is especially difficult for an organization to devote extra time and effort on unfamiliar partners when the organization is being inundated with many pressing tasks. A permanent and long-term trust and close relationships from past experience may be necessary for more costly assistance in the coordination. Moreover, both *H7a* and *H7b* are supported, suggesting that coordination in either information sharing or active assistance can enhance coordination effectiveness.

This finding concurs with earlier studies such as Tatham and Spens (2016). In another study by one of the authors of this paper with some volunteers who had participated in the Philippines Haiyan relief operation in November 2013, many of them had mentioned that they only attended the cluster meeting for information but made all decisions themselves, without any coordination or deference to others:

We didn't find those cluster meetings effective. People were proposing creative initiatives like developing houses on flexible materials or addressing the gender issue in the country, which seems not too relevant to us at this point. Assessments was done by each organization and they reported that to a central point who made one PowerPoint slide out of it and plotted it on a map using color to show where the HROs were active and where they were not. But this was not followed up by a central decision on whom and where to go the next day.

## 7. Conclusion

The humanitarian aid supply network in disaster relief operations is a typical HFN where the members are from organizations with different backgrounds and organizational culture. Nurturing swift trust in such a group is critical for the coordination of the network and thus its effectiveness in the relief operation. This study investigates the antecedents of swift trust and develops an empirically testable framework linking trust, coordination activity, and relief performance. We conducted an exploratory survey among the humanitarian workers in three countries in Southeast Asia with 89 usable responses. The results have shown support for most hypotheses on swift trust generation, with some interesting exceptions as well. However, being the first empirical investigation without a large sample size, the usual caveat applies and this limits our conclusion and generalizations.

Our findings point to the importance of swift trust in humanitarian operations and identify several means to enhance that trust. The HROs and governments should use these means effectively to improve the swift trust among the humanitarian players. For example, third-party certification and personal competency are inductive to swift trust. Organizing field-oriented training activities to develop better trust and improve coordination effectiveness would thus be beneficial for the humanitarian workers in both network building and enhancing personal competency.

Future studies could examine the empirical results more rigorously and investigate the four antecedent conditions for swift trust using better proxies. The connection between swift trust and coordination effectiveness can be explored in depth. It is also interesting to note that religious belief has no impact on swift trust generation. It would be valuable to explore this anomaly more carefully, and explore the means to achieving such a harmony that is a hallmark of professionalism of the humanitarian workers in the field. We defer this to another study.

## Note

1. It has been made known to the authors of this paper at the point of revision that there are also situations whereby some countries exercise their sovereign right to reject any form of external assistance, though this is the exception rather than the norm.

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### Appendix. Survey on trust and coordination in humanitarian logistics

- (1) Based on your experience, when you work with organizations or persons you did not know previously, to what extent do the following factors induce your trust in your UNKNOWN partners? (Rate on a scale of 1-5, where 1 is "totally not important," and 5 "extremely important"):
  - The person is from an organization I know.
  - The person is introduced by someone I know.
  - I have some good friends in the organization.
  - I tend to believe people who are doing good.
  - The organization follows similar rules or procedures in humanitarian operations as mine.
  - Given his/her background and experience, the person is competent in humanitarian operations.
  - We share the same values with the organization.
  - We share the same religious beliefs with the organization or the person.
- (2) Based on your experience, when you work with organizations or persons you did not know previously, to what extent do the following factors lower your trust in your UNKNOWN partners? (Rate on a scale of 1-5, where 1 is "totally not important," and 5 "extremely important"):
  - Different culture of the person.
  - Different ways of doing things in the organization.
  - Potential competition for funding with the organization.
  - Potential clash with the organization due to differences in values.
  - Potential clash with the organization due to differences in religious belief.
- (3) Based on your experience, regarding an organization or persons you have just started to work with, to what extent do you agree to following statements on your new partner? (Rate on a scale of 1-5, where 1 is "totally not agree," and 5 "totally agree"):
  - My colleagues who might interact with them would probably consider them trustworthy.
  - Given their track record, I see no reason to doubt their competence and preparation for the task.
  - If I were working with them on a specific task, I believe I can rely on them not to cause me trouble by careless work.
- (4) Based on your experience, regarding an organization or persons you have just started to work with, to what extent do you agree to following statements regarding coordination with the new partner? (Rate on a scale of 1-5, where 1 is "totally not agree," and 5 "totally agree"):
  - Our organization is open to share most information with the new partner.
  - Our organization would regularly share information with the new partner.
  - Our organization would proactively share important information with the new partner.

- The new partner can approach us any time for assistance when needed.
- Our organization would try our best to have a positive coordination experience with the new partner.
- The relief activities of our organization are well-coordinated with the new partner.
- The relief activities of our organization with the new partner are well-coordinated within the humanitarian network we belong to.
- There exists an effective centralized coordination body in our humanitarian network.
- The centralized coordination body can process all information from the network.
- The centralized coordination body can coordinate well with the new partner.

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