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Public-Private-People Relationship Stakeholder Model for disaster and humanitarian operations



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ABSTRACT

Better stakeholder management can improve the effectiveness and efficiency of disaster and humanitarian operations (DHO). Therefore, stakeholder management is emerging as a relevant research topic. Nonetheless, the plurality of stakeholder models and inconsistent use of stakeholder management concepts affect the progress of research in DHO. Thus, this paper aims to develop a stakeholder management model that embraces the visual representation of stakeholder management concepts covering all of the stakeholders involved in DHO and that addresses the current lack of a common understanding of the inter-relationships as well as a common vocabulary and its meanings related to the stakeholders' management in DHO. A systematic literature review is conducted, and after analyzing 326 abstracts and 174 full papers gathered from the Scopus database, 41 stakeholder models are identified in 28 papers. Then, the stakeholder nomenclature and definitions considered in the existing stakeholder models are analyzed to identify the main stakeholders of DHO. Next, stakeholder management concepts are linked to their respective visual representations based on an analysis of how these concepts are conveyed in these stakeholder models for DHO. As a result, this paper presents a new stakeholder model for DHO consistent with the main stakeholders and visual representation of the stakeholder management concepts, named the Public-Private-People Stakeholder Model for DHO, which can also be adjusted to fit different humanitarian and disaster scenarios. Finally, a research agenda is provided to enhance the conceptual foundations of stakeholder management in disaster and humanitarian contexts toward the formalization and improvement of the field for DHO.

1. Introduction

A disaster can be defined as a disruptive event related to a social change [53] that requires interaction among different stakeholders to resolve a wide range of interdisciplinary challenges [37,39]. A disaster embraces different stages that can be understood as a cycle of mitigation, preparation, response and recovery [5]. Along these stages, different relationships are shaped among the disaster stakeholders to meet the various beneficiaries' needs in the course of performing disaster and humanitarian operations (DHO) [8]. In general, the responsibility for DHO is charged to the public sector, particularly the government (Mankin and Perry [42]). Non-Governmental Organizations (NGOs) and other social networks also represent a group of significant stakeholders with growing importance in DHO engaging a

large number of organizations [13,14,33]. Nonetheless, the private sector involvement is increasing, and the private sector has also been recognized as a fundamental stakeholder in DHO [12,26,28,62,70,72].

Despite the increase in stakeholders' engagement in DHO, maintaining an effective relationship among stakeholders through the different disaster stages remains a challenge due to the large number and diversity of actors with distinct organizational cultures and structures [12,37]. Difficulty managing all stakeholders during DHO is associated with increased inventory costs, longer delivery periods and other logistics inefficiencies, which represent 60–80% of the overall operational costs [64]. Thus, better stakeholder management can improve the effectiveness and efficiency of DHO [65], reinforcing the relevance of stakeholder management as an important aspect of DHO. However, Heaslip et al. [24] analyze models presenting different

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stakeholders and their relationships in DHO and observe that this myriad of models affects the progress of research in DHO. They explain the importance of understanding the roles of each of the main stakeholders to construct a structured – and henceforth quality-based – model, arguing that visual representations are important tools for improving operations from both the academic and practitioner perspectives. Similarly, Tatham and Spens [65] also indicate that despite the recent increase in research on this subject, a common understanding of the inter-relationships related to the management of stakeholders in DHO, as are a common vocabulary and its meanings, opening avenues for future research.

Thus, the main goal of the paper is to develop a stakeholder management model that embraces the visual representation of stakeholder management concepts covering all the stakeholders involved in DHO, thereby connecting the stakeholder management concept to elements of visual representation of stakeholder models based on previous stakeholder models in DHO. The research method adopted is a systematic literature review, aiming to develop a holistic conceptualization and synthesis of an emerging topic (herein stakeholder management in DHO and Humanitarian Logistics), providing results to reinterpret previous research on the topic (previous stakeholder models in DHO) [58,67]. The present research aim is to contribute to the academic literature with three important outcomes, as proposed by Torraco [67]: a taxonomy, a conceptual framework, and a research agenda. First, based on the main concepts of stakeholder management and a critical analysis of existing stakeholder models for DHO, the paper classifies and enhances the understanding of such models. Next, a stakeholder model is proposed incorporating the main concepts of stakeholder management and synthesizing the different stakeholders reported in previous models. Finally, a research agenda is proposed for future studies on stakeholder management in DHO.

The paper is structured in six sections. After this introduction, Section 2 presents the main concepts regarding stakeholder management in DHO. Section 3 covers the research methodology adopted in the systematic literature review of stakeholder models. The fourth section presents a taxonomy to understand the concepts of stakeholder management, an analysis of existing models and an analysis of the stakeholders in these models. The following section proposes a Public-Private-People Relationship (3PR) Stakeholder Model for DHO, use examples of the 3PR model, implications for practitioners and academics, and a research agenda for future work in the field. The final section offers the authors' main conclusions.

2. Stakeholder management and models in DHO

A well-known definition of a stakeholder is provided by Freeman [19] as "all groups or individuals that affect or are affected by the business", regardless of the type of organization. The need to identify the nature and differentiation of stakeholders is acknowledged as essential to managing them (Mainardes et al. [40]); however, the number of models identifying stakeholders and their relationships in DHO affects the progress of research on the subject [24].

Tatham and Spens [65] also stress the lack of a common understanding on the vocabulary used to describe stakeholders' interrelationships in DHO and on its meanings. In this sense, the concepts of cooperation, collaboration, coordination and integration are often used interchangeably in the academic literature, both within and without the humanitarian context [27]. Gulati et al. [22] investigate this problem and identify cooperation and coordination as two facets of collaboration. Whereas cooperation is associated with the achievement of a common goal agreed upon by the stakeholders with a shared understanding of the contributions and payoffs, coordination is the deliberate and orderly alignment or adjustment of stakeholders' actions to achieve common goals [22].

In addition to the need to identify the stakeholders and their perspectives on collaboration, stakeholder management in DHO also

addresses the structure of the stakeholders' relationships. The recent literature review by Leiras et al. [37] on different aspects of Humanitarian Logistics indicates two main perspectives regarding stakeholder management: vertical/horizontal and centralized/decentralized management of the humanitarian supply chain. From the first perspective, Balcik et al. [6], based on the concept from commercial supply chains, define vertical management as the relationships among stakeholders located upward and downward on the supply chain, such as suppliers and donors, an international NGO and transport companies. Horizontal management is defined as the relationships among stakeholders located at the same level of a supply chain, such as different NGOs delivering aid to beneficiaries during a disaster response. Definitions related to the centralized/decentralized perspective are also imported from commercial supply chains by Akhtar et al. [4], who define decentralized management as the relationship that arises when no single organization or agency has authority over other organizations. Centralized management is defined as the existence of a pivotal stakeholder (represented by a person or an organization) with authority or involved in major decision making, leading and controlling the DHO. This type of management is exemplified by Day et al. [17] in explaining the need to acknowledge government authority in providing permission to enter and deliver aid in a country after a disaster.

In addition to identifying stakeholders and their relationship structures, McLachlin and Larson [43] assert that partnership in the Humanitarian Logistics field is addressed as both a dimension of different levels of relationships and the higher level of a relationship between organizations conducting DHO. Perry and Quarantelli [53] also highlight the importance of understanding the purposes considered in developing stakeholder models in DHO because the concept of disaster itself changes according to each stakeholder's perspective (e.g., members of the public, victims, researchers, policy-makers).

The concept of stakeholder management and their visual representation are also important for the improvement of DHO management [24]. Visual representations have some advantages, such as providing a better overview, better communication of concepts, exploration of new creative solutions to problems, faster access, and more efficient and memorable representation of knowledge assets, also useful in eliciting or referencing implicit knowledge and important tools to make knowledge more widely and easily available [20,24,68]. However, they are useless if they are not effectively communicated and understood [54] and if they fail to represent the relevant characteristics of the subject for their audience [1].

There are some specific attempts to classify visual representations or models according to their characteristics, such as nature, purpose, and audience [34]. However, there are only general issues that aid in identifying patterns among models [1,32,54-56,63,7]. Based on these indications and the context of stakeholder relationships for stakeholder management in DHO, the two main categories of referential component and characteristic component appear adequate. The referential component reflects an aspect of the context in which the observations or measurements are made [54,55]. One important subcategory is the ontological nature, which is determined by the theoretical or pure diagram perspective that stands in the context of and is determined by a theory and the mapping-relation or empirical diagram perspective that focuses primarily on the original representation or imitation, which is also characterized by a representational conception [32,63]. The characteristic component is a data component corresponding to a single attribute or property of the phenomenon reflected in the data [55]. Two subcomponents are important to this aspect: first, the relationship structure or nature, which is associated with the types of lines and arrows, such as style and direction, and the structures of objects or the model itself (based on [54-56]); and second, the nomenclature and definitions used in the models, which is explained by the fact that conceptual models or non-literal features need textual aids to identify the objects [56].

In summary, the main issues addressed by stakeholder management in DHO are stakeholder identification, stakeholder relationship

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