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A framework for performance evaluation in humanitarian operation based on the beneficiary perspective

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Abstract Performance evaluation in humanitarian operations is a vital issue as it contributes for better results and faster service. One of the evaluation perspectives is related to how humanitarian operations can be effective and efficient in helping beneficiaries. In this sense, this paper proposes a framework for evaluating the performance of humanitarian operations based on the beneficiaries' perception. The research applies a systematic literature review, which identifies twenty-five papers and six frameworks considered as a basis for the development of the proposed framework. Our framework is composed of five steps (i.e., organizational objectives, process selection, category selection, data collect, and principles and results of the evaluation) and correspondent detailed items to support its application by professionals in real-life scenarios.

Keywords: Performance evaluation, Humanitarian operation, Systematic Literature Review

1 Introduction

The impact of disaster occurrence around the world is expressive in numbers. In 2019, natural disasters affected more than 95 million people affected worldwide, causing losses of 130 billion dollars (CRED, 2020). The challenges that arises with the disaster event reinforce the relevance of humanitarian logistics in response activities (Holguín-Veras et al., 2013). Behl and Dutta (2018) emphasize this importance since natural disasters (e.g., droughts, hurricanes, floods, earthquakes), and human-made disasters (e.g., conflicts between and within nations, refugee crises, wars, fires) have a significant impact on society. Condeixa et al. (2017) states that strategic, tactical and operational decisions must be designed to mitigate short- and long-term effects in the event of a disaster.

In this context, Díaz et al. (2018) report the interest in the development of measures to assess the impact of disaster response is growing, both in the academic and professional communities. Neely et al. (1995) define performance assessment as the process of measuring actions. In the humanitarian context, this assessment is essential as it provides information for monitoring and evaluating processes that guide decision making (de Farias et al., 2020). Moreover, Neely et al. (2005) attest that indicators or measures must be implemented to ensure the reliability of performance measurement. The absence of criteria that describe the real performance of the organization can prevent the execution of objectives and goals (Fernandez et al., 2012).

Thus, scholars in the field are increasingly developing theoretical and empirical frameworks for measuring performance in the humanitarian context (Anjomshoae et al., 2018). In a more general perspective, Lima et al. (2013) highlight some frameworks as the main ones in the performance evaluation area, namely: Balanced Scorecard (BSC), Analysis, and Reporting Technique (SMART), and Performance

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Prism. The BSC structure allows a quick and easy view of the business from a balanced set of measures, which integrates structures and processes for the implementation of strategic management, and it is based on four fundamental perspectives: financial perspective, internal processes, customer, and innovation and learning (Tangen, 2004; Lima et al., 2013). The SMART structure aims to link an organization's strategy to its operations, by translating objectives from the top down (based on customer priorities) and measures from the bottom up (Tangen, 2004). The Performance Prism is the most recent among these frameworks and considers five performance dimensions: stakeholder satisfaction, strategies, processes, capacities, and stakeholder contribution (Tangen, 2004; Lima et al., 2013).

Humanitarian operations have different stakeholders: military, government, legislative and regulator, private sector, direct supplier, media, international aid network, donors, local aid network and the beneficiary (Costa et al., 2017; Fontainha et al., 2017; Melo et al., 2017). Although some researches related to performance management in the humanitarian context already exists, the subject is still little explored taking into account the perspective of the beneficiary. Beneficiaries are those affected by disasters that need immediate assistance during the emergency period such as food, water, shelter, sanitation and immediate medical assistance (Lovell et al., 2015; Bravo et al., 2019). The performance of Humanitarian Organizations (HOs) is significantly influenced by the beneficiary satisfaction (Shafiq and Soratana, 2019). Thus, there is still a need for studies considering the beneficiaries' perspective in assessing the performance of operations (de Farias et al., 2010).

This paper is organized as follows. After this introductory section, Section 2 presents the research objectives. Next, Section 3 shows the research methods. Section 4 presents the analysis of frameworks found in the literature. Section 5 presents the proposed framework. Finally, Section 6 presents the conclusions, and potential future works.

2 Objectives

Considering the importance of frameworks for the performance evaluation and the research gap on the beneficiaries' perspective, this paper proposes a framework for performance evaluation in humanitarian operations from the beneficiary perspective. Thus, the following research question is designed to guide the paper: how to synthesize the process of performance evaluation in humanitarian operations based on the beneficiaries' perspective?

3 Methods

The research applies ta Systematic Literature Review (SLR) methodology that can be structured according to eight steps detailed by Thomé et al. (2016) as: (i) planning and formulating the problem, (ii) searching the literature, (iii) data gathering, (iv) quality evaluation, (v) data analysis and synthesis, (vi) interpretation, (vii) presenting the results, and (viii) updating the review.

Considering the first step, the paper intends to answer the aforementioned research questions: How to synthesize the process of performance evaluation in humanitarian operations based on the beneficiaries' perspective?

The second step considers the bibliographic search in the Scopus and Web of Science (WoS) databases, and it considers the set of keywords defined by the combination of three groups that covers the topic broadly enough to avoid any artificial limitation of the documents obtained, at the same time providing limits to exclude undesirable results. The search string is: (disaster OR relief OR "humanitarian logistics" OR "development programs") AND (indicators OR "performance measure" OR "performance measurement" OR "performance evaluation" OR "performance assessment" OR KPIs) AND (beneficiary OR victim OR consumer OR customer OR client).

The search returns 487 documents in September 17 of 2019, and the documents are analyzed according to the following criteria to decide for the inclusion or exclusion in the present research:

- Inclusion criteria: addresses performance indicators in humanitarian operations; considers an approach according to the beneficiaries' perspective.
- Exclusion criteria: does not address performance indicators in humanitarian operations; does not

address indicators from the beneficiaries' perspective; develops research outside the humanitarian context; treats applications or algorithms for system optimization; deals with post-disaster medical assessments; duplicated documents; documents in other languages than English.

After full paper reading, twenty-five papers are selected, and six frameworks for assessing performance in humanitarian operations are identified. The data collection stage is performed by auxiliary tables to register bibliometric elements (title, authors, year of publication, publication channels, keywords, and main topics addressed) as well as the structure dimensions and other discussions of the frameworks identified. These elements are summarized and considered the basis for the proposed framework of this paper. The detailed description of the SLR ensured the quality evaluation stage.

The fifth stage, analysis and synthesis, are performed through full paper reading to identify essential aspects for the interpretation of the papers as indicated by Seuring and Gold (2012), which represents the dimensions of the frameworks in this research. Still, the paper synthesis is presented through a framework with the main characteristics found in SLR. The next step consists in interpreting the results that discusses how to apply the proposed framework to develop a performance evaluation considering a beneficiary perspective. The presentation of the results is described in this paper, and the updating of the revision (the last step) is proposed as future research.

4 Analysis of frameworks in the literature

The SLR identifies six important models for performance assessment in humanitarian operations, among the twenty-five papers. Medina-Borja and Triantis (2007) propose a structure that can be used for the creation and implementation of a performance evaluation system for non-profit service providers, especially for humanitarian operations agencies, addressing the main dimensions related to performance: efficiency (divided into revenue generation and capacity building), customer satisfaction and delivery of results. Schiffling and Piecyk (2014) propose a framework adapted from the BSC perspectives, in which donors and beneficiaries are the main clients of a humanitarian operation and need to be prioritized. Moe et al. (2007) also adapt the BSC for projects related to disaster management associated with natural risks, maximizing the desired results of the projects and establishing performance measures in the four areas – including the beneficiary perspective. This framework focuses on four aspects: time, quality, service performance, and costs (Moe et al., 2007). Anjomshoae et al. (2017) present a framework for the humanitarian supply chain based on the structure of the BSC. This framework offers a static structure that presents the performance indicators considered essential in the humanitarian chain, in the four perspectives of the BSC. Haavisto and Goentzel (2015) identify the measures used by Humanitarian Organizations (HOs) to assess the performance of operations, including some metrics aimed at the beneficiary: the quality control of the delivered supplies - which can be obtained through the level of satisfaction of the beneficiaries with the receipt of funds. Yilmaz et al. (2013) propose a framework for selecting indicators in post-earthquake housing projects in Turkey that classifies the indicators into four categories: physical, social, economic, and general. Other documents that do not have structural models but contribute to the discussion of parts of the proposed framework are detailed in the next subsection.

5 Proposed framework

Based on the analysis of the frameworks previously described, Figure 1 presents the framework proposed to synthesize the performance evaluation in humanitarian operations based on the beneficiaries' perspective. As indicated in the BSC, the proposed framework allows a simplified and quick view of the process, based on a set of measures, focusing on the customer's perspective. The connected alignment is based on the framework proposed by Haavisto and Goentzel (2015) in which the arrows indicate the direct flow of process, and the dotted lines indicate the supporting elements that are fundamental for the execution of the activity.

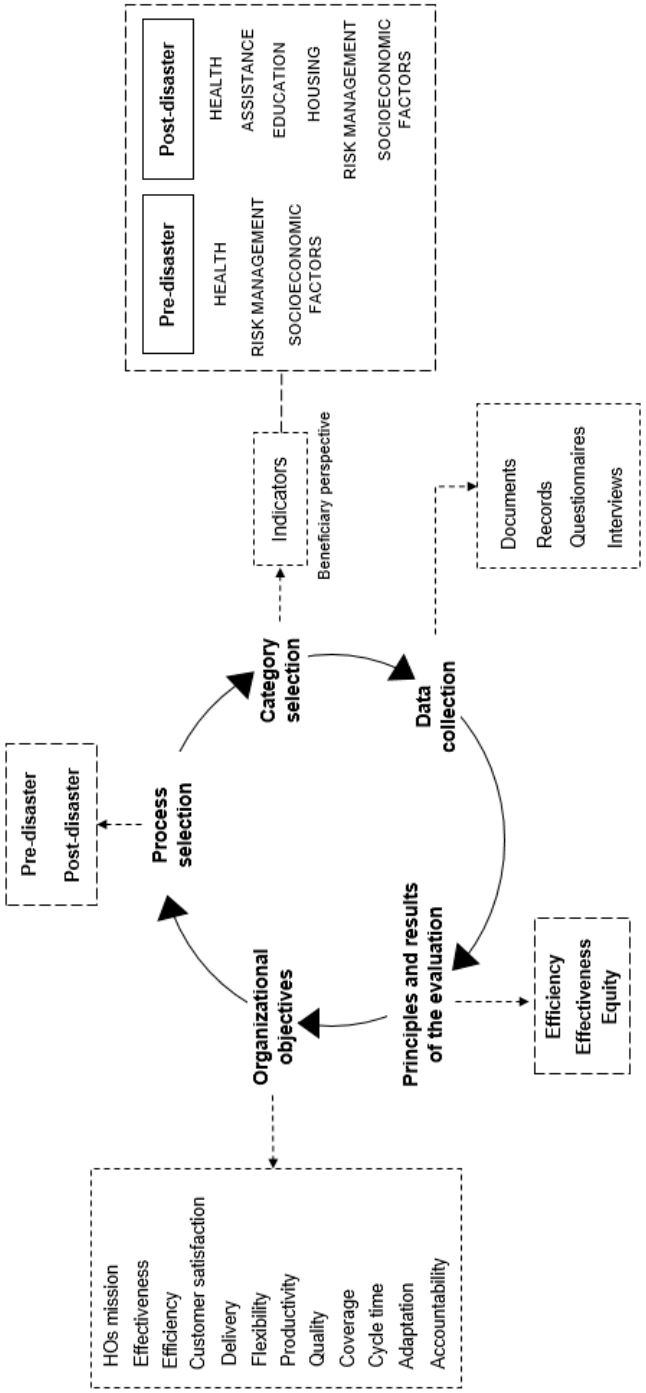

Fig. 1. Framework for evaluation performance

The initial step of the framework is the organizational objectives, which considers the dimensions indicated originally in the SMART and Prism frameworks, mainly the ones related to customer satisfaction. Anjomshoae et al. (2017), Haavisto and Goentzel (2015), Schiffling and Piecyk (2014), and Medina-Borja and Triantis (2007) also present objectives that included in the detailed level of this activity.

In the selection of processes, the proposed framework considers that distinction between pre-disaster and post-disaster categorization affects the remain steps – which is also indicated by Moe et al. (2007) and

Yilmaz et al. (2013). Moe et al. (2007) divide the framework according to the phases of the disaster life cycle and Yilmaz et al. (2013) divides the indicators according to categories of analysis.

The following step is the category selection, which refers the indicators selection and depends on the previous definition between pre and post-disaster. The possible areas of assistance are detailed in Table 1, However, since the proposed framework is general, it needs adaptations based on the disaster type or the service offered to the beneficiaries.

For the construction of the framework, six categories are considered: health (Morita et al., 2004; Westhoff et al.; 2008; Gandure et al., 2010; Lucchi, 2012; Stark et al., 2014; Amir Zal, 2017; du Mortier e Arpagaus, 2005); housing (Charoenkalunyuta et al., 2011; Yilmaz et al., 2013; Nath et al., 2017; Wijegunarathna et al., 2018; Leh et al., 2018; Fithri et al., 2018; Ramirez et al., 2018); education (Stark et al., 2014; Gouws, 1990); assistance (Medina-Borja e Triantis, 2007; Moe et al., 2007; Schiffling e Piecyk, 2014; Nath et al., 2017; Haavisto e Goentzel, 2015; Khazai et al., 2018); socioeconomic factors (Gouws, 1990); Flannery et al., 2007; Schiffling e Piecyk, 2014; Amir Zal, 2017; Eisenman et al., 2014; Eisenman et al., 2016); risk management (Lucchi, 2012; Charoenkalunyuta et al., 2011; Eisenman et al., 2014; Schiffling e Piecyk. 2014; Amir Zal, 2017).

Table 1. Processes and services for performance evaluation

Areas of assistance	Description
Health	The availability of medicines, medical care and treatments and food. Westhoff et al. (2008) state that health services are essential to guarantee the human well-being and dignity.
Housing	Assessment of the quality of the facilities and housing security. Nath et al. (2016) explain that the housing evaluation helps in detecting possible problems, which can allow for an improvement in meeting the needs of the beneficiaries.
Education	Educational services, such as access to schools and educational courses or lectures. Education is among the main aspects evaluated by world organizations (Stark et al., 2014).
Assistance	Elements related to the satisfaction of the services received in general, such as, for example, response time, reliability of information and quality of products or services. With an instrument for measuring the satisfaction of beneficiaries, it is possible to identify opportunities for improvement in the structure and processes (Morita et al., 2004; Medina-Borja and Triantis, 2007; and Moe et al., 2007).
Socioeconomic Factors	Relationship and engagement with the community in the pre and post-disaster. Flannery et al. (2007) and Charoenkalunyuta et al. (2011) point out the importance of actions to help community engagement, responsibilities, and information provision.
Risk management	Management activities, such as lectures, courses, programs and information dissemination. Assessments taking this category into account are important to create a resilient community Charoenkalunyuta et al. (2011).

Next, the proposed framework indicates optional methods to collect data (interviews, documents, records, and questionnaires) to identify the level of satisfaction of the beneficiary. Then, after the data collection, the framework discusses the principles and results of the evaluation. This step considers that the efficiency and effectiveness of the operations are sought, which significantly influences the assistance to beneficiaries (Beamon and Balcik, 2008; Çelik et al., 2012). It is noteworthy that the principles of efficiency and effectiveness are already debated in other frameworks of the literature; for example, Haavisto and Goentzel (2015). However, the equity principle arises from other references in the literature on performance evaluation in humanitarian operations and not from the frameworks identified in the SLR. Equity guarantees impartiality in the materials and services delivery, in addition to minimizing the disparity in the

beneficiaries' satisfaction, since everyone receives the same types of benefits (Gralla et al., 2014). Based on that results, the framework can start again the initial step related to the organizational objectives.

In comparison with the other existing models, the proposed framework is, up to our knowledge, the only one that provides a detailed indication of performance measurement according to the beneficiaries' perspective. Moreover, no current model categorizes the processes/services between pre and post-disaster. Furthermore, the proposed framework is presented in a closed-loop approach, with the identification of each stage for the strategical implementation of framework for performance assessment from the beneficiary perspective. Also, the framework addresses the need to meet the humanitarian principles of efficiency, effectiveness, and equity of operations as a form of the evaluation result. Last, besides the efficiency and efficacy, the framework also adds the equity element that are not discussed within the existing frameworks identified in the SLR.

6 Conclusions

This paper proposes a framework to synthesize the performance evaluation in humanitarian operations based on the beneficiaries' perspective. The SLR procedures lead to the analysis of twenty-five papers and six frameworks obtained in the Scopus and Web of Science databases, selected according to main aspects of performance assessment.

Considering the frameworks identified in the literature, it is possible to identify that existing frameworks/models adapt widely known structures in performance management (e.g., BSC) for the disaster context (Moe et al., 2007; Schiffling and Piecyk, 2014; Anjomshoae et al., 2017). Also, some works propose frameworks to create and implement an evaluation system for humanitarian organizations (Medina-Borja and Triantis, 2007). Others focused on structures for selecting housing indicators (Yilmaz et al., 2013) and to obtain the satisfaction of the beneficiaries (Haavisto and Goentzel, 2015).

Based on these findings, the proposed framework in this paper considers five steps: organizational objectives, process selection, category selection, data collection, and principles and results of the evaluation. Each of them can be adjusted according to a particular disaster context when considered by researchers and professionals interested in performance evaluation based on the beneficiaries' perspective.

The future research suggestions involve the update of the literature review and incorporation of other databases, including gray literature; the measurement of the impact on the social and economic aspects of people benefited by operations and programs; and the development of empirical studies to validate the results obtained.

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